Child Care Utilization and Stability of Quality: Implications for System Management and Oversight

by

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A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy

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2020

Abstract

Child care can be a public service tool capable of supporting multiple social and economic goals including improving gender equity and reducing the inter-generational transfer of poverty through high quality early learning and care for all children, but especially those in low-income families.

Recent estimates indicate that almost 60% of preschool-aged children regularly spend time in non-parental care (Statistics Canada, 2019b). Yet, Canadian families also rank very low on the OECD's measures of child care affordability and access to licensed care. This means that families must use unlicensed care, which receives virtually no government oversight.

Current government statistics provide accurate counts of child care centre capacities. However, little is known about licensed home child care (HCC). Even less is known about the families who utilize unlicensed care, or do without any non-parental care. Beyond access, with very few exceptions, little is known about the quality of care most families use. Such data must form the basis for a social investment strategy that reduces existing inequalities.

The dissertation consists of three papers that address important gaps in our knowledge of child care in Canada.

The first study used data from the 2011 General Social Survey on Families to develop understanding of child care utilization with focus on children in full-time working families. Study findings show substantial heterogeneity in usage of licensed and unlicensed child care across the country as well as inequality whereby the families with the fewest resources are more likely to use unlicensed care or to have no non-parental care at all.

The second study outlines a model for individually licensing and ensuring quality in HCC providers, including requirements for annual health and safety inspections, independent quality assessments, and a wide-ranging system of quality supports and enhancements. Cost estimates are provided which are substantially lower on a per provider basis than the current agency-based licensing approach to HCC used in a number of provinces.

Using administrative data from the City of Toronto the third study investigated the stability of quality ratings of 1,019 preschool classrooms over a three-year period. The results show significant levels of instability, suggesting that the frequency of ratings cannot be reduced if such assessments are intended to function effectively as a form of quality assurance.

Implications for service oversight, system management and further research are discussed.

Acknowledgments

This dissertation would not be possible without the encouragement and support of many individuals.

First of all, I owe much gratitude to my thesis advisor Prof. Michal Perlman who generously and patiently provided guidance and support throughout my tenure at OISE.

Second, much credit belongs to my thesis committee members, professors Linda White and Jane Bertrand; having a multi-disciplinary committee created a fertile environment for discussion of ideas and constructive criticism.

External reviewers, Dr Donna Lero and Dr. Olesya Falenchuk provided several meaningful comments that, I hope, are well reflected in the final version of this dissertation.

Of all the many colleagues who have contributed to my prolonged and entirely enjoyable experience at OISE, I have to mention Charles Pascal, Olesya Falenchuk and, of course, the infinitely patient and helpful Jennifer Cho.

A very special thank you must go to Laura Coulman, my study-buddy, sounding board and co-author of submissions directed at Ontario's policy establishment. Our shared background in municipal child care management and belief in public delivery of this essential service is surely reflected in many ideas that found their way into this dissertation.

To my friends and former colleagues at the City of Toronto Children's Services I owe the gratitude for inspiring me to focus on the municipal role in system management of ECEC services, and allowing me to access to the AQI database.

Finally, to my spouse, Professor Emerita Sue Varmuza I owe thanks for her gentle support in this long process. Although she, a hardcore bench scientist, may have different understanding whether my field of study is worthy of being called a science, we do share the belief in that data should speak for itself. Together with our daughters Nataša and Julia, we are probably all surprised that this dissertation was ever brought to this final stage.

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1 General Introduction

A large proportion of young[1] children in Canada live in families where both parents or a single-parent work, often full time. It is therefore not surprising that according to recent estimates, almost 60% of Canadian children aged 0 to 5 regularly spend some time in non-parental care (Statistics Canada, 2019b). Most of these children spend thirty or more hours per week in these settings, not counting the time spent in a full day kindergarten. Research has shown that quality of care disproportionately influences the wellbeing of children from low SES backgrounds and those who are at risk for other reasons (Hansen & Hawkes, 2009; McCartney et al., 2007; Melhuish et al., 2015; Speight et al., 2010). The goals of this dissertation was to contribute to the limited Canadian research about child care utilization and oversight through an equity lens.

Despite this extensive exposure and its importance, very little is known about the quality of the services that children from different backgrounds receive in Canada and even less is known about the quality of unlicensed care to which some of them are exposed. In the Canadian Multilateral Early Learning and Child Care Framework (Canada & Employment and Social Development Canada, 2017), quality is identified as a priority and is implied through process and structural initiatives. 'Quality' is part of the ELCC mantra; however, measurement of quality through accepted tools is not. In this dissertation I explore the issues of child care utilization and of oversight in support of ensuring equitable access to quality care. First, I focus on inequity of access to child care as a function of cumulative disadvantage and then I turn my attention to specific issues related to licensing and quality assessment in child care as elements in a broader strategy within the social investment paradigm.

Throughout this dissertation I adopt the Social Investment (SI) paradigm to focus in investigating and proposing possible pathways to reducing the inequality in access to child care. The SI paradigm, in contrast to the neoliberal approaches advocated in the last part of the 20th century by supranational organizations such as the Organization for Economic Co-operation and Development (OECD), the World Bank and International Monetary Fund (IMF), advocates for active state involvement in

[1] For the purpose of this introduction, unless otherwise specified, the term 'young children' refers to children from birth to 5 years old; to the extent that two of the studies comprising this dissertation include consideration of unlicensed care, I have chosen the term child care rather than the terms preferred in academic circles – Early Childhood Education and Care (ECEC) or Early Learning and Child Care (ELCC).

facilitating increased maternal labour force participation. State investment in high quality child care and lifelong human capital investment (Esping-Andersen, 2002; Gingrich & Ansell, 2015; Anton Hemerijck, 2018; Jenson, 2006) are deemed to be essential to reforming labour markets, eliminating gender inequality and interrupting the intergenerational transfer of poverty. However, SI-based policies, if inadequately resourced, have the potential to propagate the very phenomenon they attempt to eliminate: the reinforcement of cumulative disadvantage, often referred to as the Matthew effect (Cantillon & Van Lancker, 2013; Pavolini & Van Lancker, 2018; Vandenbroucke & Vleminckx, 2011). Although first formally discussed in the context of the European Union (Esping-Andersen et al., 2002), the SI approach is relevant to the Canadian child care landscape due to its recognition of the heterogeneity of individual jurisdictions responsible for ECEC. While fundamentally situated on the side of proactive government intervention, the paradigm itself is noticeably silent on the role child care markets and actual methods of expanding access to high quality child care (Deeming & Smyth, 2015; Hemerijck, 2015; Hemerijck, 2018; Jenson, 2010; Kuitto, 2016; Szelewa & Polakowski, 2020).

Turning specifically to child care, in order to avoid the potential pitfalls of misdirecting scarce resources or even possibly widening the inequality gap, it is important to have a good understanding of the current status of child care utilization. In order to gauge the levels of inequitable access, the first paper in my dissertation uses 2011 General Social Survey data (GSS) to examine utilization rates of child care by families with different demographic characteristics across Canada[2]. I then use information from paper 1 and cost estimates from the City of Toronto to propose a more rigorous, yet cost effective oversight model for all home child care in paper 2. Finally, in the third paper, I use administrative data from the City of Toronto to study stability of child care classroom quality ratings across a three-year period to inform child care centre oversight practices.

Many Canadian families face enormous challenges in finding and paying for child care services. The Organization for Economic Cooperation and Development (OECD, 2014) reports that in Canada a two-parent family would have to spend 18 per cent of their net income on regulated child care for a two-year-old child. This puts Canada in 25th place out of 30 OECD countries in terms of child care affordability. For single-parent families the percentage of income spent on child care rises to 48 per

[2] In 2017 Statistics Canada carried out a new edition of the family-focused GSS; however, at the time of the research and writing of this study, the data were not as yet available to researchers.

cent, putting Canada in the second last place. In contrast, the average for both types of families across OECD countries is 12 per cent. Beyond cost, there is a widespread belief that parents are well equipped to make decisions about their labour force participation and have choice in their child care arrangements. Too often, however, these choices are shaped by the opinions of their peers, faith groups, upbringing, education and, above all what is within their reach financially and geographically (Coley et al., 2014; Cornelissen et al., 2018; Debacker, 2008; Japel et al., 2005; Kim & Fram, 2009; Tang et al., 2012).

Below I review available information about child care utilization in Canada and in the individual provinces. Where this information is not available it is necessary to turn to data and research from other jurisdictions. Throughout I examine the supply and demand of child care through an equity lens that encompasses equitable access to child care, a well-trained and compensated workforce and, quality of care.

1.1 Access to child care

Equitable access means that services are available without financial and geographical barriers while respecting parents' choices. Canadian and international data show that low-income parents often have fewer child care choices because of costs, working non-standard hours, or lack of services. The spatial inequality of access to child care has been a longstanding concern in communities across Canada (Metropolitan Toronto, 1986; Metropolitan Toronto, 1997; Macdonald, 2018a; Prentice & White, 2019). Addressing inequity of access has implications for infrastructure and affordability investment priorities.

1.2 Child Care Workforce

The child care sector requires a well-educated, fairly compensated and motivated work force. A national survey of child care workforce wages, benefits and working conditions (Flanagan et al., 2013) has identified that ECE wages lag behind inflation and that the sector suffers from high levels of staff turnover. Ontario's Expert Panel on Quality and Human Resources (Lero & others, 2007) made a number of recommendations aimed at improving qualification expectations, ongoing training, compensation and career progression - most of which were not implemented. The introduction of full-day kindergarten in 2010 in Ontario resulted in a large number of Registered Early Childhood Educators (RECEs) choosing to work within the school sector. Consequently, in 2018 the Ontario Government reported that in 19% of licensed child care centre supervisors did not meet minimum qualification requirements, 38% of centres did not fill at least one mandatory RECE position and 19% of HCC agencies were missing at least one qualified home visitor (Ontario Ministry of Education, 2018). Neither the shortage of properly qualified early childhood educators, nor the high cost of child care can be solved by continuous depression of wages and working conditions for the child care workforce. Addressing the issues of recruitment and retention of qualified ECE workers is essential to program quality including developing and maintaining consistent child and educator relationships (D. Lero & others, 2007; Loeb et al., 2004).

1.3 Child care quality

Child care services must be of high quality, especially for children from low-income families or who are at risk. Research has demonstrated that the most vulnerable children benefit the most from access to high quality care (Magnuson, Ruhm and Waldfogel, 2007; McCartney, Taylor and Bub, 2007). Unfortunately, evidence suggests that the most disadvantaged groups end up with lower quality child-care arrangements (Debacker, 2008; Japel et al., 2005; Porter et al., 2010; Raikes et al., 2005; Torquati et al., 2011). This is unlikely to be by choice, and is almost always due to the nature of market-based child care (Debacker, 2008).

While there is some survey information about the types of child care used by Canadian families, very little is known about the quality of licensed programs and even less about the unlicensed care delivered by persons other than the child’s parents. Notable exceptions are the “You Bet I Care!” studies (YBIC) (Doherty et al., 2000; Goelman et al., 2000) and several Quebec studies – the “Grandir en Qualité” (Québec, 2003, 2014) and the “Étude Longitudinale de Developpement des Enfants du Québec” (ELDEQ) (Japel et al., 2005). While YBIC studied licensed centre-based and licensed home child care, only the ELDEQ study has included unlicensed home child care in its scope. By design, all the studies mentioned above explored the auspice dimension, uniformly finding that non-profit programs deliver higher quality care than their for-profit counterparts. Cleveland et al. (2007) re-analyzed the YBIC, 2003 Grandir en Qualité and ELDEQ together with City of Toronto administrative data to provide a more nuanced view that differentiates between thick and thin markets where higher quality and non-profit advantage primarily occurs in high demand areas.

1.4 The role of government oversight

The development of child care in Canada has been driven by the belief that the market is capable of meeting the needs of families with young children. The economy of the 1970s, stressed by high inflation and high unemployment which elsewhere led to the rise of neo-conservative ideologies, pushed both the Liberal and Progressive Conservative parties towards a succession of neo-liberal and welfare-liberal, market-based approaches to meeting the child care needs of Canadian families (Prentice, 2001; Mahon, 2010; White & Friendly, 2012; Prentice et al., 2017; White, 2017; Prentice & White, 2019). However, child care was never at the very top of the agenda of any political party and the fulfilment of any electoral promises was often left to languish until the close of the government's term.

Cost and availability tend to dominate current policy discussions, with less attention paid to issues around regulatory mechanisms to ensure all children are in good quality child care (Macdonald & Friendly, 2020). Even when the cost of child care is not an issue, parents are left to their own devices with respect to making child care decisions. In the neo-liberal tradition of the free market, it is posited that informed customers make a choice of a product that, while not necessarily being the most desirable product on the market, meets their needs and ability to pay for it. However, child care is what economists refer to as a "post-experience good" where the quality of service cannot be readily observed or ascertained, resulting in information asymmetry between the service provider and user (B. K. Bushouse, 2011; Camehl et al., 2018; Morris & Helburn, 2000; Mocan, 2007). Because of this information asymmetry, current information about the quality of child care services should be readily available. From this point of view, it is not only important that governments set the standards of service, but also enforce standards through regular monitoring and providing information to parents to support their decision-making. Additionally, the failure of the market is evident in the existence of child care deserts across Canada, within individual provinces and even inside the major cities (Macdonald, 2018b; Prentice & White, 2019). Government intervention through managing the supply of child care is required to ensure equitable access to service, especially in low-income areas.

It is a misconception that licensing of child care providers means that they are of high quality rather than simply indicating a basic level of protection in terms of safe care environments, child:staff ratios and staff qualifications. Even in the academic literature, the presence of a license is sometimes taken as a proxy for quality (for example see Romano et al., 2010). At the same time, many US based researchers (Bassok et al., 2016; Blau, 2007; Gorry & Thomas, 2017; Hotz & Xiao, 2011; Loeb et al., 2004; Scarr, 1998) argue that regulations unnecessarily increase the burden on operators and reduce licensed child care services for low-income families in particular. Blau (2007) also finds that regulations negatively affect child care workers' wages, possibly contributing to lower program quality. This view argues for reducing the regulatory burden on operators as a way of reducing costs to users (Gorry & Thomas, 2017) and promoting creativity in service delivery. One way that has been proposed for reducing this perceived burden of oversight is to decrease the frequency of oversight visits. An increasing number of US jurisdictions (The National Center on Early Childhood Quality Assurance, 2015) engage in differential monitoring, both in licensing and in Quality Rating and Improvement Systems (QRISs), which are accountability systems in the child care sector that are built on top of licensing based on previously assessed levels of compliance. This means longer lags between visits for providers who have a consistently high track record in terms of regulatory assessments. Among Canadian provinces, Ontario adopted a tiered licensing approach in 2016, while Saskatchewan proposes to do so as a part of the quality improvement initiatives funded through the bi-lateral ELCC agreements (Canada, 2018a).

In Ontario, as in many other provinces, home child care (HCC) providers can operate legally without a license provided they do not exceed a small number of regulations regarding ratios and children's ages. The only pathway to licensing for HCC providers is to join a HCC agency that is licensed by the Ontario Ministry of Education. Provincial oversight of HCC is limited only to the licensed sector and even then only a small percentage of homes get visited during the provincial licensing visits. Actual oversight is left to the private agencies that contract with individual HCC providers. For the users of unlicensed HCC, any provincial oversight is complaints driven. This lack of oversight of unlicensed HCC is in stark contrast to the highly regulated childcare centres and licensed HCC agencies that experience strict provincial oversight regimes including regular monitoring that can also include additional site visits from municipal bodies such as public health agencies. Thus, child care regulation is bifurcated, with much of the sector being highly regulated, but with a portion of HCC providers permitted to operate legally with virtually no regulations and oversight (Perlman, Varmuza, & White, 2017; White et al., 2018).

Ontario is the only provincial jurisdiction where the municipal level of government has a role in funding, planning and managing of child care services.[3] However, local service delivery priorities and system development plans are constrained by overall provincial legislation, policy frameworks and

[3] Provincial legislation designates higher order municipalities (i.e. counties, regions and large cities) as Consolidated Municipal Social Service Managers (CMSSM) with responsibility for, among other areas, child care. In northern Ontario this responsibility may be assigned to District Social Assistance Boards (DSAB).

funding allocations (Jenson & Mahon, 2002; Mahon, 2007). The City of Toronto operates a QRIS which includes mandatory unannounced annual assessments for all programs eligible for the placement of subsidized children. The Environment Rating Scale (ERS) used to assess classroom quality in Toronto is the Assessment for Quality Improvement (AQI) tool which was developed and validated in Toronto (M. Perlman & Falenchuk, 2010). To be eligible to provide care for children receiving a subsidy, providers must score a minimum of 3 out of 5 on the AQI. This minimum acceptable score approximates provincial licensing requirements. The AQI results are reviewed with the child care program and subsequently published on the City of Toronto website to provide parents with information to help choose a child care centre for their child. The AQI mechanism is an important part of accountability to users and other stakeholders in terms of the quality of service and the expenditure of public funds.

1.5 The heterogeneity of child care across Canada

The child care landscape in Canada is complicated by variation in geography, economic resources, and the history of political philosophies in the individual provinces. Not least confounding is the constitutional division of responsibilities which situates child care at the provincial level while providing the greater fiscal levers at the federal government level. Thus, provincial and territorial governments depend to a large degree upon funding transfers from the federal government to fund social programs such as child care.

Over the last decade much has changed in Canada's ECEC's landscape. The dominant government approach to assist individual families with their child care costs now includes a number of jurisdictions experimenting with supply funding of ECEC services. In addition, there have been significant changes and divergence in how provinces and territories organize kindergarten education in their jurisdiction. The reason for drawing attention to these developments at this point is that they make it difficult to draw a comprehensive national ECEC picture. Unfortunately, detailed (including geographical) surveys on the provincial and territorial level that ask questions using local terminology are not available. Instead, available data, especially about child care types other than licensed centre-based care, are woefully inadequate and out of date. And with rare exceptions, such as in the City of Toronto, program quality data are not available, largely because systematic quality assessments are almost never conducted. Although some provinces publish results of licensing visits and complaints, their availability is often limited to search engines designed to identify individual locations only.

The lack of current data, especially concerning program quality has several repercussions, including forcing use of old data in current policy arguments.

1.6 A note on terminology

As I discovered during the research for the first study in this thesis, over time, individual jurisdictions developed different service delivery models, using terminology that is not necessarily consistent across Canada. The terminology associated with home child care and regulations determining when licences are required is a good example of such an inconsistency.

Throughout this dissertation I often switch between the terms child care and ECEC (Early Childhood Education and Care); it is inauthentic for me to refer to unlicensed and informal care as ‘early learning’. Over the last forty years the language used to describe the care of children has changed several times. Most academic literature has moved away from ‘daycare’ to ‘child care’ and then, at least partially due to the focus on school readiness, to various versions of ‘preschool’, ‘early childhood education’ and finally to ‘early learning and child care’ (ELCC) in the language of the latest federal government initiative. Yet for most parents, especially for those who grew up in one, the term ‘daycare’ remains most relevant. None of these terms are perfect and their use varies with particular circumstances.

The increasing focus on ‘early learning’ and ‘school readiness’ is a driving force behind the emergence of ‘pre-K’ programmes in the USA (Barnett et al., 2018; Yoshikawa et al., 2013). Such programs are primarily for low-income children, but are also delivered by way of private upscale preschool programs for the more affluent parents who are attempting to secure every possible advantage for their children. In Canada, and especially in Ontario, the 2010 introduction of full-day kindergarten for four- and five-year-old children has been alternately portrayed, depending on the audience, as a universal early learning (read school readiness) and free child care program (Ontario, n.d.). An unfortunate by-product of this bifurcation is the loss of ‘preschool’ as a licensed child care service for all children below the age of entry to mandatory school entry.

These definitions might be much easier to understand if we had a reliable picture of the child care landscape. Unfortunately, such a picture does not exist yet and therefore cannot support timely research, planning and system development.

1.7 The Three Studies Papers

1.7.1 Study 1 - Understanding Child Care Usage in Canada

To develop appropriate policies and to inform future research, more data are needed about child care utilization across the country. Equity of access to ECEC services for families with different demographic characteristics is understood to be a problem, but data to substantiate this are undeveloped. Data on the supply of licensed services have been available through periodic publications (e.g., (Akbari & McCuaig, 2014; Friendly et al., 2015, 2018) or by way of provincial reporting mandated by the *Multilateral Framework Agreement on Early Learning and Child Care* (Canada, 2012). However, very little is known about unlicensed services, including those provided by home child care providers, relatives and nannies.

In general, utilization patterns of child care services by Canadian families are difficult to discern, but particularly opaque are the utilization patterns of those outside the licensed sector. Available information is usually based on telephone surveys such as the General Social Survey on Families (GSS) which asks child care related questions approximately every 5 years. Only one recent survey, ‘The Survey on Early Learning and Child Care Arrangements’ (SELCCA) was specifically focused on the child care arrangements used by Canadian families.

At the time of this research, the 2011 General Social Survey of Canada was the most up-to-date source of information. I opted to use the GSS, rather than the 2008 NLSCY, because it was more recent and, most importantly, had information on all children in the family.

Of special interest to me were the child care arrangements used for 1) children below the age of mandatory school entry and 2) children in families where all the adults were working full time. Because the labour force participation rate of women with children less than one year old is much lower than that of the rest of families with young children, the actual age of the youngest child at the time of the survey had to be at least 12 months.

Families were selected for inclusion in my study based on the presence of children who were not yet in school because these children and families are likely to need child care. Provinces[4] differ in cut-off

[4] The GSS coverage excluded Northwest Territories, Nunavut and Yukon.

dates for eligibility or the requirement to begin Grade 1[5]. As a result, to identify children who had not yet started school across the country, each child's inclusion in the survey frame had to be individually calculated. The final sample consists of approximately 1,100 family records; after the application of household weights, our sub-sample represents 1.44 million families with 2.18 million children over the age of 12-months at the date of the survey.

Given the small sample size (sub-population of the GSS with children) it was often not possible to provide estimates for every province, especially when attempting to control for variables such as parental education, work schedules and income level. However, the results generated through the study demonstrate the role of SES and suggest possible directions for future federal and provincial investments in order to reduce system barriers to equal access to ECEC services. The implications of these finding are discussed in Study 1 and motivated the development of the HCC oversight model presented in Study 2.

1.7.2 Study 2 – Licensing Home Child Care

Building on findings from Study 1 (Varmuza et al., 2019), Study 2 focuses on issues surrounding the oversight and quality of home child care (HCC). The results from Study 1 strongly suggest that parents do not necessarily understand the licence status of their HCC arrangements, and that low-income working families are less likely to report accessing licensed care. With few exceptions (Goelman & Pence, 1988; Goelman et al., 1993; Japel et al., 2005), in Canada the quality of unlicensed HCC has rarely been investigated. In licensed HCC settings the quality is mediocre at best (Bigras et al., 2010; Doherty et al., 2000, 2006; Japel et al., 2005). These findings are similar to those in the US (Bassok et al., 2016; Galinsky & others, 1994; Hatfield et al., 2015; Hillemeier et al., 2013). In Study 2 I present a proposal for individual licensing of all HCC, defined as arrangements where an unrelated person cares for a child for a fee outside the child's home. Understanding that a licence alone does not represent high quality care, the proposal also includes a system of program supports and regular independent monitoring of quality in HCC settings.

[5] At the time of the survey, the expansion of full day kindergarten programs in various provinces was only in its beginning implementation.

Study 2 focuses on Ontario for several reasons. First, the published data from SELCCA and the government's own published data clearly demonstrate the difficulty of establishing the actual number of children in HCC and the number of providers who operate in the province. Second, licensed HCC in Ontario is delivered through an agency model which dilutes oversight of the services; working through an agency is the only pathway for a HCC provider to become part of the licensed system. However, as evident from findings from Study 1, a much larger proportion of HCC providers operate outside of the licensed system and are subject only to the legal constraint on the number and ages of children they are allowed to have in their care at any one time. Third, the previous provincial government implemented a base funding approach to agencies, thereby removing some of the financial disincentives full fee clients had for using licensed HCC by having to pay for agency overhead costs. Fourth, both the previous and current Ontario governments envisioned expanded HCC as a major route to meet demand for licensed care. Finally, since 2014, the HCC sector has seen increasing levels of deregulation by: 1) eliminating the ratio of homes to a Home Visitor; 2) relaxing the qualifications of Home Visitors by reducing the required number of qualified Home Visitors per agency to one, regardless of the number of homes the agency is licensed to manage; 3) lowering the age of the provider's own children who are not counted within the caregiver/child ratios; and, finally 4) increasing the number of children under two-years of age who can be cared for from two to three.

In Study 2 I present a two-step model of licensing and support of all HCC in Ontario. Step one includes provision for an annual health and safety assessment as well as an independent quality assessment. The implementation phase for assessments will provide a baseline against which all improvements can be measured. Step two includes the implementation of a model for provider and child support, delivered primarily through a community hub model in which the HCC is integrated with other ECEC services. Study 2 concludes with a sample costing calculation demonstrating the efficiency and effectiveness of the proposed model.

1.7.3 Study 3 – Stability of quality ratings over time

The child care sector is not different from others (e.g., long-term care homes) where the potentially dire consequences of initiatives to reduce oversight costs have been increasingly evident. A common approach of child care regulators is to reduce the frequency of visits to service providers who score consistently well on quality assessments. However, child care as a sector that suffers from information asymmetry requires government oversight and, when necessary, timely intervention is required in order to protect the users of services and to ensure accountability from a quality and from a public expenditures perspective.

There is a dearth of published evidence supporting government initiatives of reducing the frequency of independent monitoring and assessments. This study sets out to answer questions about stability of classroom quality assessments over time and to identify factors that might be associate with the stable assessments of high quality child care programs.

Using the City of Toronto’s administrative database, I use multilevel modeling to investigate the stability of program quality ratings for 1,019 preschool classrooms to determine the stability of these ratings across time. Findings about stability can inform whether the frequency of assessments can be reliably reduced. The City of Toronto is rare among Canadian jurisdictions in that it collects program quality data and posts the results on its website annually. There is evidence of extensive use of this data by the public to aid in finding suitable childcare (Perlman et al., 2017).

The study makes recommendations about the frequency of monitoring assessments and the role of system management in minimizing differences in quality based on program auspice.

1.8 Introduction Summary

The underlying concern binding together the three studies that form this dissertation is whether we know enough about the status quo in order to develop policies and funding approaches to proactively address the inequities that are inherent in the current market based child care economy.

Two of the studies (Studies 1 and 3) use various statistical methods ranging from purely descriptive and correlation techniques to a number of logistic, multinomial and multi-level regression analyses to broaden our understanding of characteristics of child care users (see Study 1) and, where data are available, the quality of care they receive (Study 3). Study 2 focuses on a part of the unlicensed sector where unrelated children are cared for by home child care providers outside the child’s home with little oversight or programmatic supports. Together the three studies provide evidence that informs research, practice and policy in this important area.

2 Study 1- Understanding Early Childhood Education and Care Utilization in Canada: Implications for Demand and Oversight

2.1 Note

Study 1 is a Copyrighted Material. The article was published in the International Journal of Child Care and Education Policy, and can be accessed on the journal website https://ijccep.springeropen.com/articles/10.1186/s40723-019-0063-8

2.2 Abstract

This study examined early childhood education and care (ECEC) utilization in Canada, focusing on use of unlicensed home child care (HCC) from an equity perspective. Data from the 2011 cycle of the General Social Survey (GSS) were used. Across Canada, parent responses reveal that 16.6% of all children between the age of 12 months and entry to school were in unlicensed care (care by a relative or stranger either in the child's home or in the provider's home). Among full-time working families 24% of children were reported as having no regular form of non-parental childcare. Families with higher incomes were more likely to report using centre-based care. Conversely, lower income working parents with lower levels of education were more likely to use unlicensed HCC or report using no non-parental care at all. Comparison of parent responses in Ontario, however, where government estimates for the number of licensed and unlicensed HCC spaces are available, revealed that more parents report that their children are in licensed HCC than is possible. The lack of accurate parental reporting calls into question a key assumption of current regulatory systems, which is that parents are informed consumers of ECEC services. Given that many parents misreport the type of HCC their children use, and the equity concerns raised by the overall utilization patterns, the study concludes with a recommendation that governments need to take a more active role in oversight and support of HCC.

2.3 Introduction

Many young children in Canada spend a substantial proportion of their day being cared for by someone other than their parents (Friendly et al., 2015; Sinha, 2014). However, only a small proportion of these children attend centre or regulated home-based Early Childhood Education and

Care (ECEC) services. The remaining children are in informal care by relatives or unlicensed home child care (HCC), or their parents "make do" without any form of non-parental care.

The types of experiences children have in ECEC services have been shown to impact their development (Burchinal, 2018; Burchinal et al., 2015; Côté et al., 2008). This is especially true for children from low-income households for whom high quality ECEC may serve as a buffer for negative outcomes associated with coming from at risk backgrounds (Bassok et al., 2016; Loeb et al., 2004; Phillips et al., 2017; Weiland & Yoshikawa, 2013). However, research suggests that a lot of child care in Canada and the USA is of mixed quality (Brunsek et al., 2017; Japel et al., 2005; Kamerman & Gatenio-Gabel, 2007). For example, in a recent systematic review, Brunsek et al., 2017, integrated research linking the Early Childhood Environmental Rating Scale and its revised form (ECERS/ECERS-R; (Harms et al., 1998)) to child outcomes. They found that the vast majority of the programs in the 73 papers they reviewed were of just above minimal quality with only nine studies reporting average ECERS/ECERS-R scores that were are considered "good". Furthermore, as I describe in more detail below, children from low-income families are more likely to be cared for in ECEC contexts that have been found to generally be of lower quality (Pavolini & Van Lacker, 2018; Van Lancker & Ghysels, 2016), including HCC (Gingras, 2012; H. Goelman et al., 1993; Japel et al., 2005; Kohen et al., 2008). Yet few studies track ECEC utilization patterns of low-income families in Canada, especially the use of unlicensed home childcare (see Kohen et al., 2008 for a noteworthy exception). In general, beyond national data on licensed centre-based and home care spaces (e.g. Friendly et al., (2018)), and a recent Statistics Canada survey (Findlay, 2019), very little information is available about arrangements used by Canadian families with young children.

Recent announcements in some provinces such as British Columbia (Government of BC, 2018) about plans to expand licensed ECEC spaces raise concerns about the type and quality of care that will emerge with expansion. Given the infrastructure and financial challenges of creating and operating centres, a substantial portion of this growth will likely occur through licensed home childcare, not centre-based care. We argue, therefore, that this is an opportune moment to take stock of the current state of ECEC services available to different types of families in Canada. We begin to close these gaps in this paper by using national data from parents surveyed as part of the General Social Survey in 2011 (Statistics Canada, 2011).

The GSS was chosen because it provides ECEC information for all the children within the family, not just one selected child, as is the case with other Canadian national datasets that ask parents about this topic (e.g., the National surveys such as the National Longitudinal Survey of Children and Youth (NLSCY) and the Survey of Young Canadians (SYC)). The structure of the questions on the GSS allowed us to classify care into licensed versus unlicensed. It was then possible to categorize unlicensed care into four subtypes of ECEC based on where such care takes place and who delivers it. Given that in Canada oversight and regulation of ECEC services is the responsibility of the provinces, to the extent possible using GSS data, regional differences in utilization of such services were examined, as well as whether there are regional differences in the types of families who use different types of care.

Substantial regional differences were found in ECEC utilization in both levels of access and types of care available to children and families. Furthermore, a significant proportion of full-time working families relied on care by parents alone. Parents with lower incomes, lower levels of education and those who work irregular hours are also more likely to use unlicensed home child care compared to higher income, better educated parents, who work regular hours.

2.4 Background

Existing evidence from across a number of OECD countries reveals quite varied patterns in child care usage. Higher income families have access to more regulated forms, and generally better quality ECEC services while the most disadvantaged segments of the population use lower quality ECEC arrangements (Debacker, 2008; Pavolini & Van Lancker, 2018; Porter et al., 2010; Raikes et al., 2005; Torquati et al., 2011; Van Lancker & Ghysels, 2016). Researchers in British Columbia (BC) (Goelman & Pence, 1988) found that level of family resources were highly correlated with the quality of ECEC services parents secure for their children. Furthermore, families in higher income neighbourhoods (Cloney et al., 2016; Malik & Hamm, 2017) have access to higher quality programs. These usage patterns raise important equity concerns since the most compelling evidence about the impact of ECEC quality on children suggests that children from disadvantaged backgrounds are the ones who are most likely to benefit from receiving high quality care (Magnuson et al., 2007; McCartney et al., 2007). Thus, while high quality ECEC services can serve as a protective buffer for low-income children (Weiland & Yoshikawa, 2013), it appears that it is precisely the children who need it most who are least likely to receive high quality care.

Numerous studies highlight the severe shortage of ECEC services throughout much of Canada, with regulated spaces available for only 27% of Canada's approximately 4.9 million children ages 0-12 and 29% of children ages 0-5 as of 2016 (Friendly et al., 2018, p. 146). Even parents who can afford centre-based care may not be able to secure it because of lack of availability. For many low- and middle-income families, the cost of care presents a significant barrier that frequently is overcome only by using relatively cheaper, unlicensed HCC – or no non-parental care at all. This is problematic as it pushes lower income parents into care that has been found to be of lower quality. For example, Goelman and Pence (1988) found that licensed HCC providers tend to be of higher quality when compared to unlicensed HCC. Findings from Quebec (Bigras et al., 2010; Japel, Tremblay & Côté, 2005) suggest that quality of centre-based programs generally exceeds that of HCC (Laurin et al., 2015). Finally, quality scores have also been found to be much more variable in both licensed and unlicensed HCC than it is in centres (Goelman and Pence, 1988). Thus, it is important to explore whether type of care is distributed equitably across families with different demographic characteristics.

For all these reasons, this article focuses on the unlicensed portion of the ECEC sector. By unlicensed I mean care by an unrelated person (sometimes labeled "non-relative" or "stranger") that is provided outside the child's home (label as 'elsewhere'), typically in a provider's home. We intentionally steer away from using the term family childcare to describe this form of care because "family" mischaracterizes the market relationship that exists in the business transaction between parents who pay providers, who are running a small business, to look after their children in a group setting. Instead, we use the term home childcare (HCC) and make further distinctions with respect to the license status when necessary. It is important to note, however, that there is substantial variability in the terms used in surveys and in the policy and regulatory language used across provinces and territories. Government reports and other policy documents refer to home childcare in Ontario; family childcare in Manitoba; community day care home in New Brunswick; and family day home in Alberta. The use of inconsistent language provides a methodological challenge in national surveys including the GSS that use a single term when asking parents about childcare utilization across the country.

We are particularly interested in learning more about parental use of unlicensed HCC, for a number of reasons. First, within the Canadian context, very little is known about unlicensed HCC; however, as noted above, research in other jurisdictions has found that unlicensed care is of lower quality than licensed services (Bassok et al., 2016). And while there is, undoubtedly, a range of quality in all care, including unlicensed HCC operating outside provincial licensing frameworks, there are also examples of egregious safety violations occurring in unlicensed settings. For example, in 2014 alone, as the Ontario government was in the process of modernizing its child care act, four infants and toddlers died of unnatural causes in unlicensed HCC (Ontario Ombudsman, (2014). Yet, the government proceeded to update provincial child care legislation and regulations without requiring an individual licensing scheme which even the independent child care providers supported (White et al., 2018).

In the Canadian context, since the National Childcare Study carried out in 1998 (Goelman et al., 1993) large scale studies of unlicensed HCC have been rare. Local studies, be they on municipal or provincial provision, are very rare as well with some notable exceptions including Goelman and Pence (1988). Only in the province of Quebec are there government-funded studies evaluating ECEC in a variety of settings (Japel et al., 2005). Most studies utilizing the NLSCY and SYC either categorize centre-based and licensed HCC under the “regulated” category (Cleveland et al., 2008; Kohen et al., 2008) without differentiating between the two types of care, or make a general distinction between centre-based and HCC services (Cleveland et al., 2008; Haeck, Lefebvre, & Merrigan, 2015; Lefebvre, Merrigan, & Roy-Desrosiers, 2011; Lehrer, Lemay, & Bigras, 2015) without differentiating based on licensing status.

One reason for the absence of information about unlicensed HCC is precisely because it is unlicensed: there are no records of unlicensed providers operating across the country making it very difficult to study such care. As a result, virtually nothing is known about even the most basic facts such as their number and the number of children they serve. Furthermore, beyond limiting the ages and number of children that a caregiver can care for, unlicensed HCC is unregulated and unmonitored, save for in the instance of a health and safety complaint that would trigger a provincial official’s visit.

It is also worth noting that in Ontario, as is the case in Alberta, Nova Scotia, Quebec and parts of Newfoundland and Labrador, the only way a HCC provider can become licensed is by joining an agency. Individual licensing is not available to HCC providers in those jurisdictions. The agency is licensed by the province and, in exchange for a non-trivial daily per-child fee, provides oversight and support that ranges from referral and billing services to regular home visits. Provincial oversight may be limited to licensing visits to agency headquarters and an inspection of a small number of homes.

This lack of oversight of unlicensed HCC is in stark contrast to the highly regulated childcare centres and licensed HCC providers that experience strict provincial oversight regimes including regular monitoring that can also include additional site visits from municipal bodies such as public health agencies. Thus, ECEC regulation is bifurcated, with much of the sector being highly regulated, but with a portion of HCC providers permitted to operate legally with virtually no regulations and oversight (Perlman, Varmuza, & White, 2017; White et al., 2018).

Other forms of childcare, including care provided by a relative, be it the child's home or in some other place, fall outside all provincial regulatory frameworks as long as no unrelated children are present. Care by a nanny in the child's home is similarly unregulated, although the relationship between the nanny and parent/employer is covered under provincial labour laws.

The presumption behind the very loose regulation of unlicensed HCC is that parents are savvy consumers of childcare services (see White et al., 2018). However, research demonstrates that, at best, parents are constrained consumers of ECEC services. Specifically, parents' choices are constrained by cost (relative to parental income), location, availability, and scheduling (Forry et al., 2014; Sandstrom & Chaudry, 2012). While some research has found that parents can accurately assess the characteristics of care arrangements for their children (Gamble et al., 2009; Lehrer et al., 2015), other research has found that parents have incomplete or inaccurate knowledge of their child's care experience (Howe et al., 2013; Mocan, 2007). Other research demonstrates that parents' decision to use unlicensed HCC may not be related to quality as much as to other factors such as availability, cost and convenience. Gable and Halliburton (2003) report that in general, parents tend to choose HCC because it provides "a personal relationship with a consistent caregiver, and warm, individualized care in a home setting" (see also Kontos et al., 1995). In contrast, parents tend to choose centres because they are perceived as more educational (Gable & Halliburton, 2003). Finally, Han (2004) finds a dynamic two-way relationship between work schedules and type of care. Parents tend to revert to regulated ECEC arrangements when their work schedules allow. This suggests that many parents use informal care as a last resort, rather than as a preferred child care choice, especially for preschool children. It is also worth noting that the whole discussion of parent "choice" is moot in places where there is a scarcity of child care and parents may simply take the first viable option available to them.

Economic research characterizes the ECEC market as one of asymmetric information (Blau, 2007; Mocan, 2007) where parents are the purchasers of services but their children are the recipients. For markets to regulate quality and ensure minimum health and safety, consumers of these services must have full information so that they can comprehensively weigh both cost and quality in choosing between care providers. Research has found that parents have difficulty comprehensively assessing risk for services they themselves do not receive (Blank, 2000). As noted above, parents often have gaps in their knowledge about their child's ECEC services (Howe, et al., 2013). Asymmetries in information make it difficult for parents to accurately assess quality as they may not know what qualities to look for in a provider. They also may not have the time or be permitted to closely monitor the ECEC staff or premises (Walker, 1992) and they may not know whether their provider is licensed or whether the premises meet basic health and safety standards.

Although licensing status of HCC has sometimes been taken as a proxy for program quality, research reveals that parents often fail to accurately describe the licensing status of their childcare provider (Davis et al., 2014). In 2013, amid a rash of incidents in licensed and unlicensed ECEC programs, the Canadian Broadcasting Corporation (CBC, 2013) reported the results of an online survey of 1,000 Canadian families by Léger Marketing in which 74% of parents understood that their ECEC arrangement was licensed by the provincial government. Although the CBC survey was not methodologically rigorous (for example, like much of the research in this area, the sample is not representative), it is clear that survey respondents vastly overstated the proportion of ECEC providers that was licensed under various provincial regulations. Even provincial governments may have difficulty estimating different usage patterns. For example, in the 2017 Early Learning and Childcare Agreement between the Government of Canada and the Province of Ontario, the Ontario Ministry of Education estimated that about 30,000 children of all ages are in licensed HCC (Canada, 2017, Annex 2). However, based on the Ministry of Education surveys of licensed child care operators conducted in 2015 and 2017, the numbers appear to be significantly lower. To our knowledge such estimates are only available in Ontario.

To develop more appropriate policies and to inform future research, it is clear that more data are needed about ECEC utilization across the country, as well as the equity of access to ECEC services for families with different demographic characteristics. In keeping with these needs, the goals of this study were to examine: 1) ECEC utilization in Canada with a particular interest in national use of unlicensed HCC; 2) ECEC utilization in Canada from an equity perspective with the expectation that children from lower income, less educated families would be more likely to be cared for in unlicensed HCC; 3) regional differences in ECEC utilization in different regions across Canada; and finally 4) differences in government estimates, based on sector surveys, of the number of spaces in licensed HCC with the number of parents who report that their children are in such care in the GSS. Since government estimates are only available for Ontario I also present GSS data on this topic for Ontario.

2.5 Methods

2.5.1 Data

In order to begin to answer these questions, we examine data from the 2011 General Social Survey (GSS).[6] The GSS is an annual cross-sectional stratified survey of 25,000 individuals in ten provinces that focuses on a different social issue every year. This study uses GSS Cycle 25 collected over a ten-month period in 2011 because it included questions on use of child care services. GSS data collection took place between February 1st and November 30th of 2011. We used the "analytical" data file through the Statistics Canada Research Data Centre (RDC). All processing of the raw data was done in the RDC located at the University of Toronto. RDC staff vetted exported tables to ensure that minimum cell size criteria for protection of individual information were met.

For the purpose of this study families were selected based on the presence of children who were not yet in school because these children and families are likely to need ECEC services. Provinces differ in cut-off dates for eligibility or the requirement to begin Grade 1. As a result, to identify children who had not yet started school across the country, each child's inclusion in the survey frame had to be individually calculated. Because of the interest in the ECEC choices of parents who were likely to be in the work force and many Canadian mothers (and some fathers) take advantage of Canada's parental leave policies, we focused on children who were a year or older. Our final sample consists of approximately 1,100 family records; after the application of household weights, our sub-sample represents 1.44 million families with 2.18 million children over the age of 12 months at the date of the survey.

The following variables were used or created from items in the GSS. ECEC arrangement information was categorized from different questions that tapped into type of care (centre, licensed home childcare, care by non-relative and care by relative including a sibling); who provided care; where the

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[6] A detailed description of the methodology and the questionnaire for the GSS Cycle 25 can be found at the Statistics Canada website: http://odesi1.scholarsportal.info/documentation/GSS25/c25_userguide_eng.pdf

care took place; and the relationship of the respondent to the caregiver. This resulted in seven categories of care: centre-based; licensed home childcare; care by a non-relative in child's home (i.e., nannies); care by a relative in the child's home; care by a relative outside child's home; care by non-relative outside of the child's home (i.e., HCC); and no care.

Other extracted or calculated variables included geographic location where individuals lived, family status (single or two-parent), full-time working status (30 or more work hours per week), whether parents worked "regular" work hours, and individual education and income for parents as reported by the respondent. Parent income was dichotomized into above and below the median for the province in which the family lived. Inasmuch as wages, cost of living (including child care) vary across Canada, adopting a median income specific to each province provided a more accurate measure of ability to pay child care costs. The data was not of a sufficient granularity to allow segmentation of income into more tranches. Individual provincial income medians were used rather than one national median to account for income variability across Canada**.** Parents' work schedules were categorized as regular (Monday to Friday, 9 am to 5 pm) or irregular. Respondent education was categorized as: 1) some university; 2) some college/trade school; and 3) some high school or other**.**

2.5.2 Missing Data

The missing data rate was low in our sub-sample of the GSS (for example, the rate for education was .74%). The only variable for which it was necessary to impute data was family income. In that case, a two-step procedure was used: when total household income data was missing, the answer to survey questions identifying individual income categories for the respondent and the spouse (when present) were used to provide a basis for the assignment into the above or below median categories. When all of the income variables were missing, data was imputed on the basis of probabilities of belonging to either category computed from the education, and working status of the families in the given province.

2.5.3 Data Analysis

Data processing and analysis was conducted in Stata 15 (*Stata Statistical Software:Release 15*, 2017). Each table from the GSS was generated three times, first, to ensure that the individual cell counts met the Statistics Canada minimum requirement of five units in a cell. In a second step, household weights provided for each record were applied. Lastly, a "svy:tabulate" module was run to provide coefficients of variation in order to determine the reliability of the data within individual cells.

The results presented in this article are primarily descriptive. In many cases, percentage distributions are presented rather than actual numerical estimates to emphasize the focus on the distributional characteristics of individual types of care and families who are using it. Odds ratios with 95% confidence intervals are shown to identify effect sizes when illustrating a particular characteristic of interest within individual figures and tables.

To test differences in family characteristics by type of care used we ran three multinomial regression analyses. In the first the family characteristics of parents who reported having no care at all were compared to those of parents who reported using either licensed or any form of unlicensed care including care by nannies and relatives. In the second analysis the outcome variable was nominal with four categories as follows: licensed centre-based, licensed HCC; unlicensed care, and no care. The third analysis built on the second analysis by specifically including only full-time working families.

When child care centres (which in Canada are always licensed) and licensed HCC are grouped together, the grouping is referred to as the "licensed" sector; the "unlicensed" sector is comprised of all other care delivered within private home settings. Not using any care was used as a reference in both sets of analyses. The independent variables included in all models were number of preschool aged children in the family, family income level compared to a provincial median, full-time work status, combined level of family educational attainment, and age of the youngest non-infant child. The results from these analyses are used to identify the contribution of the individual variables to the type of care used.

In each model we show a Relative Risk Ratio (RRR) which can be interpreted as the percentage that the outcome – that is, the type of care of interest – is more or less likely to occur compared to the base outcome of not using any child care if all the other variables are held constant. For ease of interpretation the terms 'odds ratio' and 'likelihood' rather than 'Relative Risk Ratio' are often substituted.

The analysis first describes child care usage across Canada. This is then followed by an exploration of some of the family characteristics associated with using different types of care to address the equity in ECEC utilization question. Whenever possible without transgressing Statistics Canada's confidentiality restrictions and reliability guidelines, the same analyses are then replicated on a regional level. Regions are defined as follows: the four Atlantic provinces; Quebec; Ontario; the Prairie provinces and BC. In reporting the regional level data, the overall patterns for Canada serve as a comparison. In addition, we present the data for Canada without Quebec since availability, cost and usage rates are dramatically different in that province compared to the Rest of Canada (ROC). Finally, we present data for Ontario only to allow a comparison of the use of unlicensed HCC as reported in the GSS for that province to estimates based on Ontario government surveys.

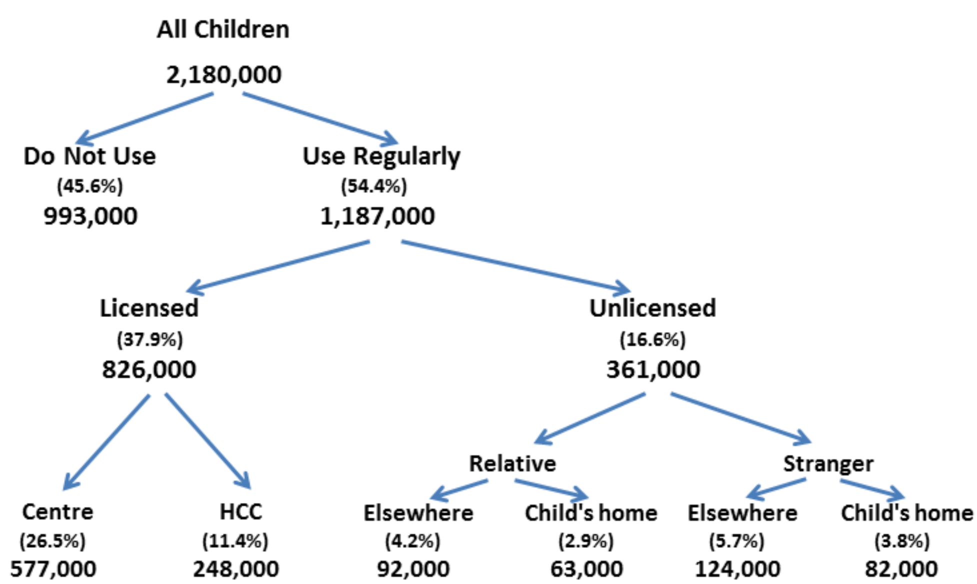
2.6 Results

2.6.1 Part I – Utilization across Canada

Figures 2.1a and 2.1b describe utilization patterns across the country for children from all families and for children from families in which all parents work full-time. **Figure 2.1a** tracks child care utilization for all children who are older than 12 months but have not yet enrolled in the formal schooling in their province. All children are included regardless of their parents' work status. The majority of children (54.4%) across the country are in some form of child care. Parents report that more than twice the number of children is in licensed compared to unlicensed care. Among the four types of unlicensed arrangements, care by a stranger outside the child's home is the most prevalent with parents reporting that 124,000 children (34.3% of all care that is not licensed) across the country receive such care; in both figures, care by an unrelated person is referred to as a care by a stranger.

Figure 2.1a

Child Care Usage for Children Aged 12 Months to School Entry

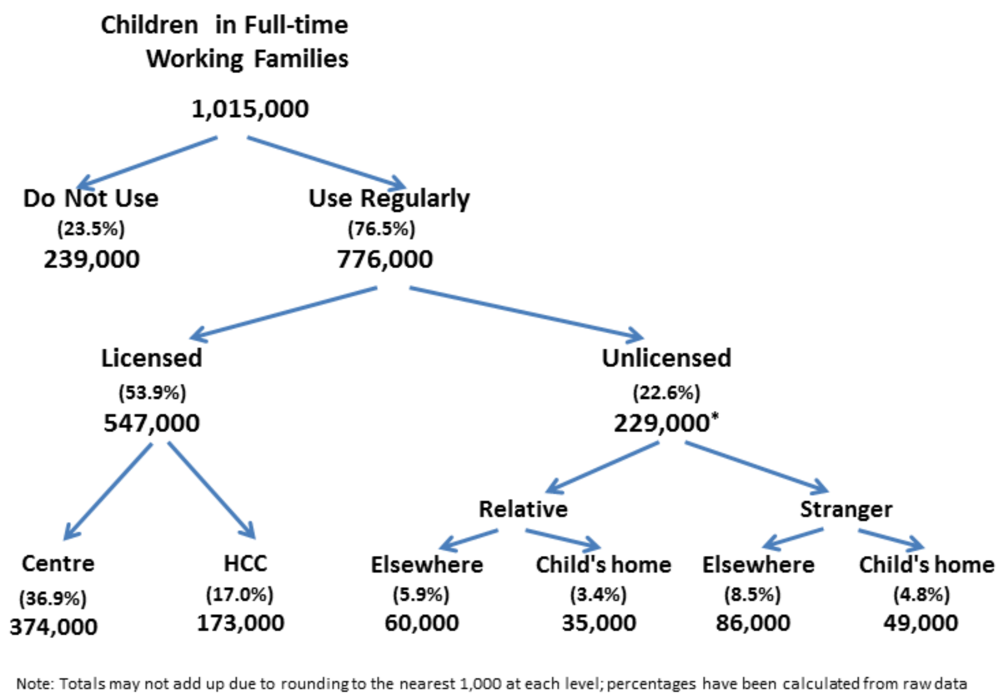


Note: Totals may not add up due to rounding to the nearest 1,000 at each level; percentages have been calculated from raw data

Figure 2.1b focuses on children whose parents worked full-time. Not surprisingly, a much higher proportion (76.5%) of children from working families attend some form of child care on a regular basis. Nearly one quarter (23.5%) of children below the age of school entry whose parents work 30 or more hours per week do not access regular non-parental care.

Figure 2.1b

ECEC Usage for Children with Full-time Working Parents



2.6.2 Part II – Who uses what type of care across Canada?

Table 2.1 provides the results of three multinomial regressions. The first, Model 1, compares family characteristics of parents who report that their children experience no regular form of care to characteristics of parents who report that their children attend licensed or unlicensed care. Model 2 presents results from parsing the licensed care sector into centre-based and HCC. Finally Model 3 replicates Model 2 for a sample constrained to full-time working families only.

In Model 1, with the exception of the higher odds of being employed and having incomes above their provincial median, the users of unlicensed care are strikingly similar to families who do not use any child care. The comparison of users of licensed care to families who report using no care at all reveals significant differences in all variables with the exception of the age of the youngest child. These differences include having fewer children under the age of six and significantly higher education attainment for users of licensed care.

Results for Model 2 indicate that parent education is associated with higher odds of using either form of licensed care (i.e., centre-based and HCC). Parent education does not predict use of unlicensed care versus no care at all. Families with more children under age six are less likely to use licensed HCC compared to using no care at all. The number of children under age six did not predict centre or unlicensed care compared to no care at all. Families in which the youngest child was closer to school entry had higher odds of using centre care compared to no-care all.

In contrast, having a relatively younger child was associated with higher odds of being in licensed HCC compared to having no-care all. Finally, higher income was predictive of using both centre care and unlicensed care compared to no care at all. Income did not increase the odds of being in licensed HCC compared to no care at all.

Overall, the pattern of results is similar for the sub-sample of working families presented in Model 3. One exception is that parent education was not a significant predicator of use of HCC versus no care at all; conversely, higher levels of educational achievement increase the likelihood of using centre-based care.

A closer examination of Table 2.1 reveals relatively large standard errors for the dummy variable of 'Income above median'. These high standard errors might reflect the fact that many low-income families in Canada have access to child care subsidies. However, because every province has different financial eligibility criteria and also controls the amount of subsidy funding, it is difficult to identify the contribution of subsidies to the large standard errors and confidence intervals.

In a supplementary analysis we investigated the ECEC usage of full-time working families classified according to their work schedules. Whenever at least one parent typically worked shifts other than the usual Monday to Friday during day-time hours, the family was classified as having irregular work schedule; 42.3% of children were in families in which one or both parents worked non-standard work schedules.

As shown in **Figure 2.2**, children in families with standard work schedules used centre-based care with a higher frequency (*OR*=1.70 95%*CI*[1.69, 1.71]), while experiencing lower levels of not having any non-parental care. Children in families with non-standard schedules were more likely to be in unlicensed care (*OR*=1.35, 95%*CI*[1.34, 1.37]) or receive parental care only (*OR*=1.43, 95%*CI*[1.41, 1.44]).

Table 2.1

Type of ECEC Used by the Youngest Child in the Family

Type of Care	Model 1		Model 2		Model 3	
	All families		All families		Full-time working	
	(N=1,810)		(N=1,810)		(N=915)	
Licensed (centre and home)	Odds ratio	SE	Odds ratio	SE	Odds ratio	SE
# of children under age 6	.704**	.094				
Income above median	1.538**	.221				
Full-time working	5.843***	.798				
Family education	.890***	.022				
Age of youngest child (years)	.983	.046				
Centre - based						
# of children under age 6			.849	.125	.781	.184
Income above median			1.595**	.250	2.480***	.592
Full-time working			5.736***	.862	1.000	(omitted)
Family education			.878***	.024	.870**	.038
Age of youngest child (years)			1.111*	.057	1.055	.085
HCC (licensed)						
# of children under age 6			.494***	.099	.542*	.148

Income above median			1.421	.294	2.30**	.651
Full-time working			6.160***	1.212	1.000	(omitted)
Family education			.915*	.033	.932	.044
Age of youngest child (years)			.756***	.047	.750**	.070
Unlicensed Care						
# of children under age 6	.920	.137	.921	.138	.751	.171
Income above median	1.442*	.241	1.441*	.240	1.844*	.439
Full-time working	5.593***	.942	5.591***	.942	1.000	(omitted)
Family education	.948	.027	.948	.027	.963	.042
Age of youngest child (years)	1.047	.062	1.048	.063	.990	.084
Not using any child care	(base outcome)					

* = p<.05, ** = p<.01, *** = p<.001

Notes: 1. Family education is a composite variable where lower values represent higher educational achievement for both parents
2. Income above median is a dummy variable where “1” represents income above the median income of families with children above 12 months old and below the age of entry to Grade 1.
3. Odds Ratios are interpreted as follows: value above 1.000 represents a percentage that the outcome is more likely for that particular group compared to the base outcome, assuming that all other variables are held constant. Conversely, a value below 1.00 represents a less likely outcome.
4. Unlicensed care includes care by a relative outside the child’s home, care by a relative in the child’s home, care by an unrelated person outside the child’s home and care by an unrelated person in the child’s home.

The heterogeneity of incomes is also reflected within the unlicensed sector. **Figure 2.3** shows that lower-income families are over represented in the care by a relative outside the child's home category at 62% (*OR*=2.17, 95%*CI*[2.13, 2.20]), while families who use nannies - care by a stranger in the child's own home - are found primarily in the higher income category at 68% (*OR*=2.37, 95%*CI*[2.33, 2.45]).

Figure 2.2

ECEC Type by Family Work Schedule

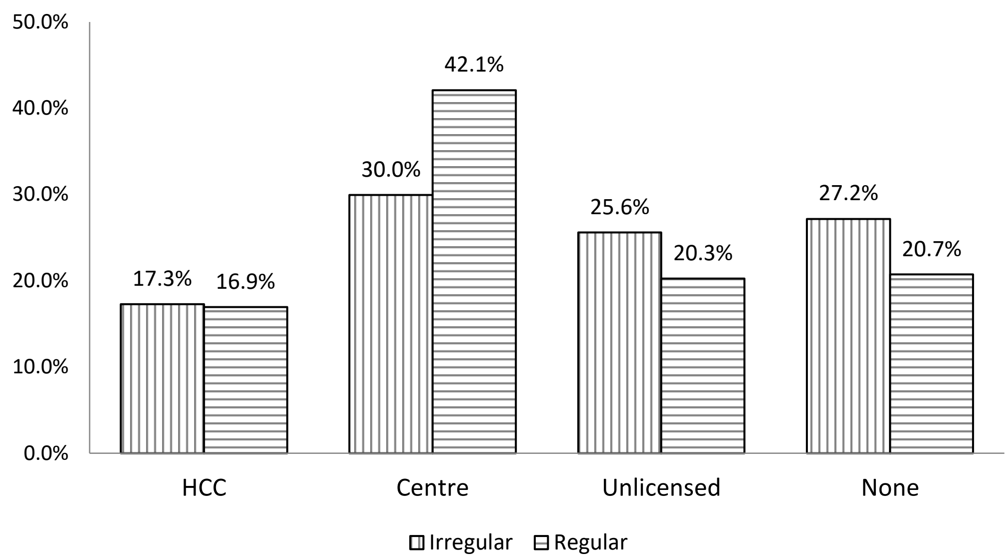
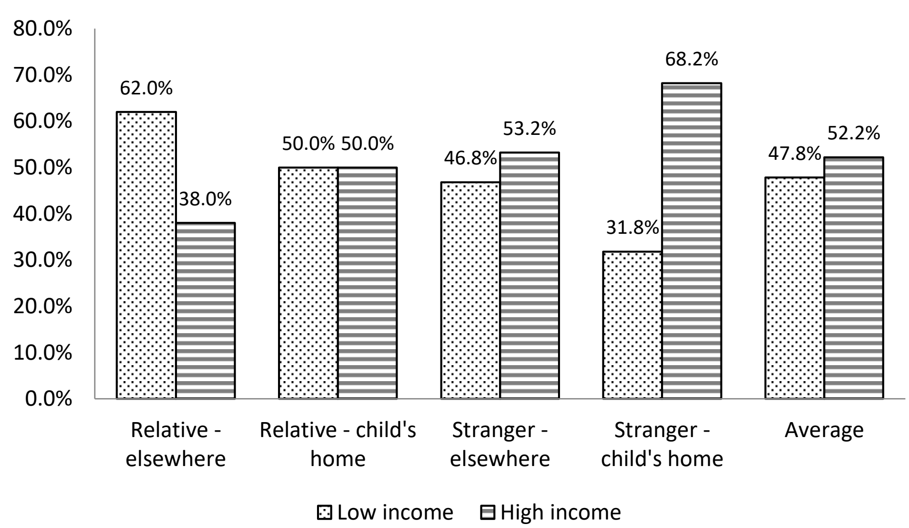


Figure 2.3

Children Using Unlicensed Care by Income Category



For unlicensed care by a stranger outside the child's home, the proportions of lower and higher income families are relatively close (47% versus 53%). Not surprisingly, a comparison of care by a relative (regardless of whether it takes place in child's home or elsewhere) and care by a stranger (regardless of whether it takes place in child's home or elsewhere), the odds are almost twice as high of care by an unrelated caregiver being provided to children from more affluent families than children from less affluent families (*OR*=1.93, 95%*CI*[1.91, 1.96]). Notably, the proportion of children in the category of care by unrelated stranger person outside the child's home is similar for both income groups.

2.6.3 Part III – Child care utilization across Canadian regions

It is worth noting that because approximately 37% of children in our sample reside in Ontario, the general pattern is that Ontario's statistics are similar to the rates in ROC and the country as a whole. The proportion of parents who reported using any non-parental child care on a regular basis varies across the regions of Canada. As shown in **Table 2.2**, it ranges from 44% of children in the Prairie region to a high of 71% in Quebec.

Excluding usage in Quebec, the average use of ECEC in the rest of Canada (ROC) is 50%. There is a large gap between Quebec and the rest of the country in the proportion of children who are in some form of licensed care (*OR*=4.32, 95%*CI*[4.28,4.36]). The country percentage of children in licensed care drops by almost eight points if Quebec's contribution is removed. However, even after accounting for Quebec's unique usage patterns, Table 2.2 shows that, across the country, more children attend licensed than unlicensed care. At the same time, the reported rates of accessing licensed care are significantly higher in the eastern part of the country than in the Prairie region or BC. In Western Canada, the rates of licensed and unlicensed care are very similar.

Turning to ECEC usage by children with full-time working parents, as shown earlier, across Canada, 24% of children in families with full-time working parents are cared for by their parent(s) only. British Columbia stands out with the highest percentage of children exclusively in care by parents; at 37% the odds of not having any non-parental care are more than twice as high as in the rest of the country (*OR*=2.08, 95%*CI*[2.05, 2.11]). However, even in Quebec, almost one fifth of children with full-time working parents are cared for by their parents only.

The majority of children using some form of non-parental care on a regular basis spend more than 30 hours per week in care. Children in Quebec spend the most hours in both licensed and unlicensed care. Removing Quebec's usage reduces the percentage of children spending more than thirty hours per week in child care from 60% for licensed care and 51% for unlicensed care to 53% and 49% respectively. BC is the only region where the reported proportion of children with thirty or more hours in care is higher in the unlicensed sector.

Table 2.2

Patterns of ECEC Utilization across the Regions of Canada

	Atlantic (%)	Quebec (%)	Ontario (%)	Prairies (%)	B.C. (%)	Canada (%)	ROC (%)
ECEC utilization							
Licensed	39	62	35	22	24	37	30
Unlicensed	24	9	18	22	21	17	20
None	38	29	48	56	56	46	51
Full time working							
Licensed	48	73	38	39	31	49	38
Unlicensed	31	8	40	34	32	28	36
None	21	19	22	27	37	24	25
In care 30+ hours							
Licensed	54	69	53	62	44	60	53
Unlicensed	52	64	49	46	50	51	49
Unlicensed HCC provided by							
Relative	36	18	32	28	33	30	31
Non-relative	64	82	68	72	67	70	69
Unlicensed HCC place of care							
Child's home	36	11	42	39	51	39	42
Elsewhere	64	89	58	61	49	61	58

The majority of children using some form of non-parental care on a regular basis spend more than 30 hours per week in care. Children in Quebec spend the most hours in both licensed and unlicensed care. Removing Quebec's usage reduces the percentage of children spending more than thirty hours per week in child care from 60% for licensed care and 51% for unlicensed care to 53% and 49% respectively. BC is the only region where the reported proportion of children with thirty or more hours in care is higher in the unlicensed sector.

As seen from the Figure 2.1b and Table 2.2, unlicensed care is a significant component of the ECEC landscape across the country. The two lower sections of Table 2.2 provide a regional look at the composition of the unlicensed sector by focusing on who provides care and where the care takes place. Statistics Canada's data confidentiality restrictions and reporting guidelines prevent us from presenting the four categories of unlicensed child care identified in Figures 2.1a and 2.1b for the individual regions. They also require us to present the data for children from all families, regardless of their parents' work status. Instead the data has been aggregated according to who provides the care (a relative or an unrelated person), and where care takes place (in the child's home or elsewhere).

Care by a non-relative is the most frequently used type of unlicensed care in every region of Canada (70%), with the largest share occurring in Quebec (82%) and lowest in Atlantic Canada (64%). While most of the care is provided outside the child's home, in Quebec the odds of unlicensed care being provided outside the child's home are 6 times more likely than in rest of the country (*OR*=6.13, 95%*CI*[5.95, 6.32]). On the other side of the spectrum is BC where the proportions of ECEC in and outside of child's home are very similar.

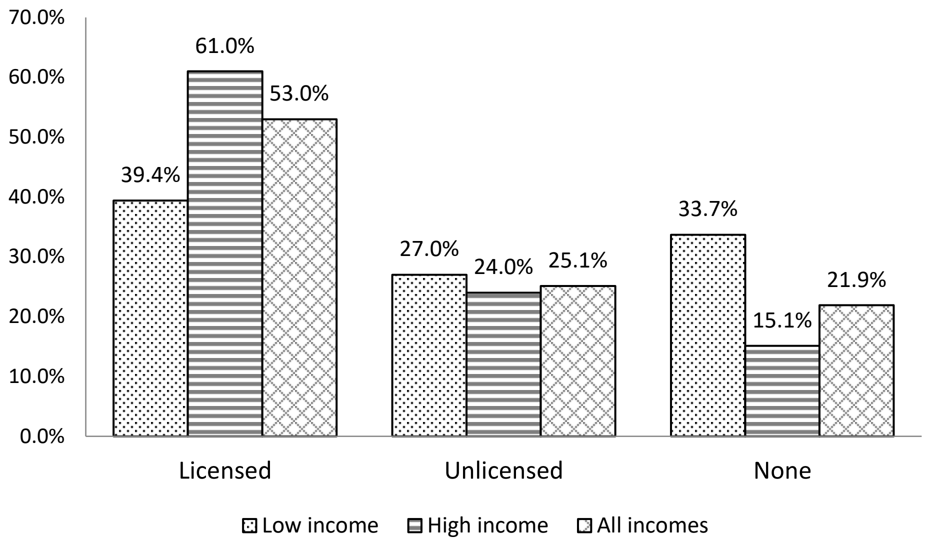
2.6.4 Part IV – Child care utilization in Ontario

In the 2011 GSS parents reported (**Table 2.3**) that 51% of Ontario's children who attend some type of child care are in centre-based care. Fifteen percent of children are in licensed HCC and another 10% are in unlicensed HCC, thus a total of 25% of children attend some form of HCC. The remaining 23% of children are in some other form of unlicensed care including care by a relative or care by a nanny.

Working parents with lower incomes in Ontario, as reported in **Figure 2.4**, are far more likely to report having no regular form of child care compared to their higher income counterparts (*OR*=2.73 95%*CI*[2.69, 2.77]). They are also less than half as likely to report that their children are in licensed care (*OR*=0.44, 95%*CI*[.44, .44]). At the same time the rates of unlicensed care are somewhat comparable (27% for lower income vs. 24% for higher income parents).

Figure 2.4

Ontario children in working families by sector of care and income *(GSS data)*



The best government estimate available for comparison with the GSS data is a survey of licensed child care operators conducted in 2015 by the Ontario government (Ontario Ministry of Education, 2015). In that survey, HCC agencies reported enrollment in licensed HCC spaces broken down by children's age groups.

A total 12,374 children were classified in the age groups below the school entry. However, their age grouping includes an "infant" category of children between the ages of 0 and 18 months with a total count of 2987 infants enrolled in licensed HCC. Our sample from the GSS includes only infants who are older than12-months of age. In an effort to increase the comparability of the two estimates, we corrected for this difference in our age categories by dropping half of the infant spaces (2,987) reported in Ontario's survey to operations. This resulted in a rounded estimate of 11,000 spaces in licensed HCC for children meeting our criteria of being older than 12 months and not yet in school. This number is far exceeded by the 65,000 children whose parents reported that they attended a licensed HCC provider in Ontario based on the GSS. The revised estimate reduces the licensed HCC share of all non-relative, outside the child's home care from 60.7% to 10.2%; in other words almost ten times as many children were cared for in unlicensed HCC as in licensed HCC.

Table 2.3

Ontario Child Care Usage from the GSS and Revised Estimates based on 2015 Ontario survey of HCC agencies

	GSS results			Revised Estimates based on 2015 Ontario survey of HCC agencies		
	Children	Regular users	Within HCC Category	Children	Regular users	Within HCC Category
Use Regularly	424,000	100%		424,000	100%	
Centre-based	218,000	51%		218,000	51%	
HCC -licensed	65,000	15%	32%	**11,000**	**3%**	**5%**
Different forms of unlicensed care:						
Care by Relative	64,000	15%	31%	64,000	15%	31%
Out of Home	38,000	9%	18%	38,000	9%	18%
In Child's Home	26,000	6%	13%	26,000	6%	13%
Care by Non-relative	77,000	18%	37%	**131,000**	**31%**	**64%**
Out of Home	42,000	10%	20%	**96,000**	**23%**	**47%**
In Child's Home	35,000	8%	17%	35,000	8%	17%
Licensed and unlicensed HCC	107,000	25%	52%	107,000	25%	52%
Care by Relative or Nanny	99,000	23%	48%	99,000	23%	48%

2.7 Discussion

Nearly one quarter of full-time working parents in our sample report that they do not use any type of non-parental child care on a regular basis. Full-time working parents reported that just over half of all children in these families are in licensed child care, and almost 23% were reported to be in some form of unlicensed care (see Figure 2.1b). In the families that reported using child care on a regular basis, just over 70% reported using licensed child care, both centre and HCC. Of the 30% who reported that they used some form of unlicensed, non-parental care, 42% of children in this sample were cared for by relatives, while 21% were cared for by an unrelated person in their own home. Finally, approximately 38% of children of full-time working parents who used unlicensed child care on a regular basis were cared for by non-relatives outside the child's home.

In general, children from families with higher incomes, who are better educated, who work full time and have fewer young children are in licensed care, compared to children in families who use no care at all. The pattern of results is similar when parents with children in unlicensed care are compared to those who do not use any care. In addition, parents with irregular work schedules are more likely to place their children in unlicensed care or to have no regular non-parental care at all.

Analysis of child care utilization patterns across different regions of Canada revealed a highly variable landscape. Notably Quebec, with its very different policies and government investments in ECEC services, is an outlier in many respects including high rates of utilization of ECEC services but low rates of use of unlicensed care. When Quebec's data is removed from the rest of Canada, utilization patterns in Ontario drive the pattern of results for the rest of the country. Ontario usage patterns drive those of Canada as a whole, at least to some extent, because it is so large. It is not possible to disaggregate data to the provincial level because of Statistics Canada data restrictions but Table 2.2 provides a breakdown by region. These figures highlight how policy interventions such as those implemented by the Quebec government can shift usage patterns. A large proportion of Quebec parents - 62% - report using licensed care (73% of full-time working parents), whereas in the rest of Canada only 30% report using licensed care. Only 9% of Quebec parents use unlicensed care, whereas in the rest of Canada 20% report using unlicensed care. At the same time, many fewer parents report using no care at all in Quebec when compared to parents in the rest of Canada where over half of parents reported having no care.

This highlights the need to consider policy options individually within each province. Regions are too different from one another to be grouped together and policy options must take their current status into account. With regards to the amount of time children spend in ECEC, Quebec is also an outlier with nearly two thirds of children spending 30 or more hours per week in care (69% in licensed and 64% in unlicensed care) compared to 53% in licensed care and 40% in unlicensed care in the rest of Canada.

In terms of who provides care in different regions in Canada, it is striking that Quebec has by far the lowest reliance on relatives for the provision of child care at 18%, whereas about 30% of children in unlicensed care are being cared for by a relative in the rest of Canada.

While the available evidence shows that vulnerable children benefit most from access to high quality centre-based care (Bassok et al., 2016; Loeb et al., 2004), the GSS data reveal that across Canada, children who come from lower-income families or have parents with less education are likely to be in care that has been found to be of the lowest quality. Of those children in HCC, families with the very lowest incomes who receive provincial childcare subsidies, in all likelihood, are in licensed HCC.

This is because in many parts of Canada subsidy dollars can only be spent in licensed child care. That means that low-income working parents without subsidies are likely to be the biggest users of unlicensed HCC. Ontario Government data highlight the prevalence of low-income families in the licensed HCC sector (Ontario Ministry of Education, 2015, 2017a). In 2015, 66% of children in licensed HCC were subsidized compared to only 28% in the centres. The difference between the two types increased even further by 2017 when 75% of children in licensed HCC were receiving a child care subsidy, compared to 30% in the licensed centres. Furthermore, the incomes of parents receiving a subsidy tend to be lower in licensed HCC than in centre-based care. For example, examination of incomes of parents who receive a subsidy revealed that the "poorest of the poor" send their children to HCC (51% of subsidy recipients in HCC had incomes of $20,000 or less, while only 18% of subsidy recipients had such low levels of income).

A surprising finding from the survey is the high percentage of working parents who report having no regular form of non-parental care. The GSS data reveal that, in Ontario, for example, 19% of families in which both parents work full-time (or one parent in the case of single-parent households), representing 21.9% (or approximately 79,000) of children between the ages of 12 month to school entry, report not using any form of non-parental ECEC services on a regular basis. These families are not regularly using grandparents or other relatives as that response is recorded separately in the GSS. Cost, availability, and a host of other factors may lead working parents to not use these services (Findlay, 2019). Working parents may merely be "making do" by juggling their shifts or using occasional babysitting. I hypothesize that families feeling the biggest squeeze are those in the middle-income range who are not eligible for a subsidy, and for whom cost and lack of availability leave few options. In addition, securing ECEC services is very difficult for lower-income families who are on waitlists for subsidies or are not able to find or afford a childcare space even with a subsidy. Clearly, more research is needed to understand why full-time working parents are not utilizing ECEC services and what the consequences are to children and families of being in this situation.

The results reported here suggest that irregular working hours, which 44% of families in our sample experienced, may act as a barrier to accessing any kind of regulated care (see Figure 2.2). Research in the US (Han, 2004) reveals that parents with previously non-standard work schedules will switch from informal care to a regulated arrangement when their work schedules permit utilization of such care. Furthermore, having no child care is associated with lower incomes as families with above median income are far less likely to report having no care compared to families with income below the median. For example, in Ontario, 34% of low-income parents report having no child vs. 15% of high-income parents. Together, these results strongly suggest that, for the most part, the use of parent-only childcare is a function of necessity rather than parental preference.

In BC, the combination of high fees and capping of subsidies substantially below the full fee costs likely explains the high use of unlicensed HCC (32%), as well as the high proportion of children of working parents without childcare (37%). In contrast, the data from Quebec where ECEC services are much more affordable, suggest that, when given the option, working families prefer accessing licensed ECEC services. This suggests that fee subsidies enabled parents to move away from using unlicensed care. More recent data is needed to examine whether changes in the tax system allowing families to claim reimbursement for cost of care in the unlicensed HCC sector (Friendly et al., 2015) will lead to increases in parent utilization of such services in Quebec. Furthermore, it is important to note that, while compared to the rest of Canada, more children of working parents in Quebec are in some form of non-parental care on a regular basis, there is a segment of families in Quebec who choose to arrange their work schedules in ways that enable them to accommodate all of their childcare needs within the family unit.

We speculate that the discrepancy between the number of available licensed HCC spaces reported by the Ontario government and parents in the GSS is due, at least in part, to the lack of clarity of the survey questions and variety of definitions provincial officials employ. It is possible that for various self-presentation and other issues, parents do not want to identify as sending their child to an unlicensed HCC provider. While the GSS data does not allow us to disentangle the reason for this misreporting it does suggest that at least some parents mistakenly think that their children attend licensed HCC when in fact they are in unlicensed HCC. This raises big concerns, especially around any reliance on parents as informed consumers of early childhood services.

Past governments, including Ontario's, shied away from increasing oversight of the unlicensed sector due to various issues such as concerns about reduced access and an emphasis on enabling parent choice (White et al., 2018). Yet, very little is known about the actual factors that Canadian parents consider in weighing their childcare options (Gamble, Ewin & Wilhelm, 2009), including whether they will choose unlicensed care when licensed care options are available. Meanwhile, allowing unlicensed childcare to continue at least, in part, based on what appears to be a mistaken assumption that parents are free and informed consumers of childcare services, is problematic to say the least.

Several issues need to be considered with regard to the estimates from the Ontario government's survey of licensed child care operators. First, some HCC providers may take "private" clients in addition to those provided by the licensed HCC agencies; in those cases, the agencies would not necessarily include these children in the counts provided to the government. Second, a licensed provider may also be a relative of the child, creating further confusion, especially if little or no payment for care is made. Third, the regulated capacity of a home does not prevent sharing of spaces between different families as in the case where one child comes in the morning and another one in the afternoon. Together these create further ambiguity in available utilization estimates.

2.8 Limitations of the Current Study

While the GSS provides an important lens into ECEC utilization across Canada, it has several limitations. First, it uses the same terminology across the country in the survey questions posed, even though, as mentioned above, terminology varies across the country. Second, the GSS relies on parents' understanding of the care services they use; yet, it is clear from comparing survey responses to the number of licensed HCC spaces in Ontario that parents misreport whether their HCC provider is licensed. One possible source of confusion is the lack of differentiation between "regulation" and "licensing". Even unlicensed HCC is subject to at least minimal regulations regarding the maximum number of children for whom care can be provided legally at any one time.

In addition, due to confidentiality concerns caused by small sample sizes in the GSS, it was not always possible to provide the data by province or by forms of care and can only report national aggregates or information for Ontario only. The low usage rates of informal care in Quebec means that the sample size for Quebec was too low to reliably classify the unlicensed care into the four types. That necessitated presenting the data for regions as either "who provides care" or "where care is provided". Finally, the GSS does not shed light on why parents make some of the choices they make. Finally, increasing divergence in provincial policy and affordability initiatives represents a challenge for a national level survey, including the GSS, to accurately capture the changing nature of ECEC. Despite these limitations, the GSS data provides a useful source of parents understanding of their utilization of ECEC services.

2.9 Conclusion and Directions for Future Research

Our findings reveal a number of issues that raise concerns about child care utilization patterns across the country. One is the high rates of working parents who report no regular non-parental child care at all, a situation that is likely to be very stressful for many families. Another is parents' over-reporting of children in licensed HCC. Parents' lack of accurate responses regarding basic information about their child's care arrangement suggest that parents should not be considered gatekeepers of quality, but rather that government has a key role to play in the licensing, support and oversight of ECEC services. However, more research is clearly needed to get information regarding parents' knowledge and preferences. The variability in the types of care used across different regions in Canada highlights the need for data, research and policy development at a provincial/territorial level where the ECEC landscape can look quite different. While a broad strokes picture can be gleaned from national level surveys like the GSS, more nuanced and timely data is required to support provinces in their ongoing efforts to improve access to quality early learning and care for all children in their jurisdictions.

Finally, the finding that lower-income, less educated parents use unlicensed HCC at higher rates than higher income, better educated families raises important equity concerns about ECEC utilization in Canada. The existing regulatory system magnifies that gap in allowing a large portion of HCC to remain unlicensed and largely unregulated. Any policy interventions to expand the HCC supply need to recognize the inequities that can be exacerbated absent greater regulatory intervention.

Governments across the country are struggling with the need to increase the availability of ECEC services. Across the partisan political spectrum, HCC has emerged as a key part of such plans. For example, in Ontario, the previous Liberal government proposed to increase access to licensed childcare services by, at least in part, increasing the role of HCC, including base funding of home childcare agencies (Ontario Ministry of Education, 2017b). Expansion of Ontario's licensed HCC may appear to the government to be the fastest way to meet the demand for care. More recently, the new Progressive Conservative government proposed in its election platform to introduce a refundable tax credit that could be applied toward child care costs in the licensed and unlicensed sectors. However, there is no evidence that, on the whole, unlicensed HCC is perceived as a desirable choice by parents. In fact, evidence from Quebec suggests that given the choice, parents use licensed care. All families, including the lowest income families, deserve access to good quality ECEC services. To level the playing field, governments need to ensure quality of care through research, licensing, support and oversight.

3 Study 2 - Ontario as a case study for modernizing Home Child Care licensing and support

3.1 Abstract

In this study we demonstrate why oversight and monitoring of the home child care (HCC) sector deserves more scrutiny and policy attention in Canada. Focusing on Ontario as a key case given its population and particular licensing model, we propose a model of licensing which would bring HCC in line with requirements in child care centres and ensure all HCC providers are licensed and monitored. Recognizing that licensing alone does not guarantee quality child care, we propose a system of program supports to accompany licensing. Finally, we estimate the costs associated with implementing our proposal and demonstrate that on a per provider/child basis our model is much more cost effective and equitable than the current system.

3.2 Introduction

Early Childhood Education and Care (ECEC) services play an important role in the lives of Canadian working families, especially those with young children who have not yet reached the age of mandatory school entry (Sinha, 2014; Findlay, 2019; Lero & others, 2019; Varmuza et al., 2019). Cost and availability tend to dominate current policy discussions, with less attention paid to issues around regulatory mechanisms to ensure all children are in good quality child care (Macdonald & Friendly, 2020). In this study we focus on a largely unregulated part of the sector – unlicensed home child care (UHCC) – and demonstrate why oversight and monitoring of this part of the ECEC sector should receive more policy attention. In Canada, recent policies have focused on expanding access to ECEC services, and the expansion of home child care (HCC) may appear appealing to provincial governments as a fast and inexpensive way to meet the demand for access to care. Below, we explore some of the quality and equity concerns around the use of HCC in general and UHCC in particular. Next, we describe the current approach to oversight of HCC in Canada, and draw on the province of Ontario as an example to map out a plan for a more rigorous and cost-effective approach to licensing and oversight of all HCC. The final section of the paper provides a costing for our proposal.

3.3 Brief background: HCC regulation in Canadian provinces and territories

By UHCC we mean the care by a person who is not related to the child provided outside the child's home (hereafter "elsewhere"), typically in a provider's home. Centre-based care is subject to strict regulation and oversight in all provinces and territories in Canada, with regular monitoring that may include additional site visits from municipal bodies such as public health agencies. Licensed HCC (LHCC) providers are also subject to strict regulation and, at least on paper, oversight. In Ontario (as well as Alberta, Nova Scotia, Quebec, and parts of Newfoundland and Labrador), this oversight is delivered by agencies that are licensed by the province and provide intensive oversight and support to affiliated HCC providers. In these provinces, with the exception of Newfoundland and Labrador, licensing of individual provider homes is not available. Agencies responsible for oversight are licensed by the province: in exchange for a non-trivial fee either paid by the user, or (as in Ontario) through base-funding by system managers, they provide oversight and support that ranges from referral and billing services to regular home visits. Provincial oversight may be limited to licensing visits to agency headquarters and inspection of a small number of homes.

In all Canadian provinces and territories, a portion of HCC providers can operate legally without a license. Thus, ECEC regulation is bifurcated, with much of the sector highly regulated, while the majority of the sector is permitted to operate legally with virtually no regulations and oversight other than limits on the number of children who can be cared for at one time (Perlman et al., 2017; White et al., 2018). Extant research found that in Ontario the unlicensed HCC sector serving preschool children outnumber the licensed HCC by approximately 10:1 ratio (Varmuza et al., 2019). Other forms of child care, including care provided by a relative (either in the child's home or elsewhere) fall outside all provincial regulatory frameworks, as long as no unrelated children are present. Care by a privately hired nanny in the child's home is similarly unregulated, although the relationship between the nanny and parent/employer is covered under provincial labour laws.

A growing body of literature has focused on quality in HCC settings (Bromer & Korfmacher, 2016; Doherty et al., 2006; Porter et al., 2010; Raikes et al., 2005; Tonyan et al., 2017). Almost universally, ongoing provider support and education are seen as essential components of any effective HCC system (Bromer et al., 2009). In Ontario, the government's own Expert Panel on Quality and Human Resources (Lero & others, 2007) recommended strengthening entry qualifications for HCC providers with eventual progression to mandatory post-secondary qualifications. Thus, in addition to the need for regulation, we argue that additional support is needed to ensure that the quality of all HCC is sufficient to support the children and families they serve.

3.4 Provincial governments are reluctant to increase HCC oversight

In Canada, provincial governments have shied away from increasing oversight of this sector for several reasons. White and colleagues (2018) conducted a content analysis of legislative hearings in 2014 that were part of revisions to the act that governs child care in Ontario. Their analysis revealed that among the reasons given by those in favour of continuing to allow UHCC was that parents want access to such care. Opponents of greater regulation also expressed a fear that requiring all HCC providers to be licensed would drive up costs and therefore reduce families' access to child care.

The choice to allow UHCC to continue is, at least in part, based on the assumption that parents as consumers can also act as the regulators responsible for the quality of care that their children receive. This assumption leads directly to the conclusion that, aside from price, parents are free choosers of the child care arrangements they make. However, the extent to which this is true is unclear, due to a surprising lack of data related to UHCC, including parents' preferences for licensed versus unlicensed care (although see (Davidson et al., 2020)).

There will likely always be some families whose personal beliefs and particular circumstances will lead them to arrange their work schedules so that all of their child care needs can be accommodated within the family unit. However, evidence from Quebec and other jurisdictions with substantially more affordable child care fees suggests that working families generally prefer accessing other types of child care when possible. For example, an analysis of the 2011 General Social Survey of Canada (GSS) revealed that in Quebec, where licensed care is far more available, less than 10 percent of all children regularly accessing care were in the informal care sector, compared with 48 percent in Ontario (Varmuza et al., 2019).

A second factor driving government reticence to impose more rigorous oversight may be the perception that because so many children are currently in UHCC, the administrative burden of oversight would be too great and therefore it would be simplest to permit the continuation of unlicensed care. Yet, as noted above, few data are available on this topic and even the most basic facts such as the number of children cared for in UHCC settings or the number of UHCC providers operating across Canada are unknown.

A third argument is that businesses such as Uber and Airbnb reflect the nimbleness by which services can thrive without stringent oversight. Yet, the vulnerability of recipients – and the fact that many other services such as dog walkers in Toronto are subject to more licensing requirements than UHCC providers (White et al., 2018) – suggest that something is amiss in our regulatory priorities.

3.5 Areas of concern

Research has demonstrated that the most vulnerable children benefit the most from access to high quality care (Magnuson, Ruhm & Waldfogel, 2007; McCartney, Taylor & Bub, 2007). However, the reality is that in Canada the quality of care children receive in most HCC settings is mediocre at best (Bigras et al., 2010; Doherty et al., 2000, 2006; Japel et al., 2005). These findings are similar to those in the US (Bassok et al., 2016; Galinsky & others, 1994; Hatfield et al., 2015; Hillemeier et al., 2013).

Unfortunately, evidence suggests that the most disadvantaged groups end up with lower quality child-care arrangements (Debacker, 2008; Japel et al., 2005; Porter et al., 2010; Raikes et al., 2005; Torquati et al., 2011). This is unlikely to be by choice, and is almost always due to the nature of market-based child care (Debacker, 2008).

Data released by the Government of Ontario (Ontario Ministry of Education, 2019, Figures 15 and 16) indicate that LHCC providers are far more likely to serve subsidized families than centres. Specifically, 67% of children in LHCC setting are subsidized, compared to 29% of children in centres. Among families receiving a subsidy, the percentage of those with incomes below $20,000 is almost three times higher in HCC than in centre-based care: 46% vs. 17%.

Our analysis of GSS data (Varmuza et al., 2019) confirmed previous research findings from other countries: well-off and well-educated parents tend to select centre care or nanny care in their own homes. Among the families using any form of home-based child care, those using care by relatives outside the child's home were most likely to have low-incomes and low education levels. Thus, the choice of informal care is related to income inequality (Van Lancker & Ghysels, 2016).

LHCC providers with subsidized children are usually paid standard rates determined by their local service managers. In high-demand markets, a provider associated with an agency is likely to earn much less than an independent provider, especially when caring for children under the age of three. As a result, this agency model of HCC licensing which was originally intended to provide care for the very youngest children (Perlman et al., 2017), becomes very unattractive from the provider's point of view. Not surprisingly, few LHCC serve very young children or children needing weekend or overnight care (Ontario Ministry of Education, 2019).

The low wages, lack of income security, decreasing demand and the lack of a system approach to ECEC make the implementation of recommendations of Ontario's Expert Panel on Quality and Human Resources (Lero & others, 2007) unlikely. The call for upgrading requirements for entry and ongoing participation in the HCC field remains unheeded even to this day.

To examine a policy solution to these issues, we use Ontario as a case study in developing and costing out an oversight and support model that would require all HCC to be individually licensed.

3.6 Why focus on Ontario?

Ontario recently went through a process of legislative and regulatory reform that, in the end, left a portion of HCC unlicensed (White et al., 2018). As noted above, a content analysis of the hearings that took place during this 'modernization' process revealed a focus on parent choice and the cost of agency affiliation as the primary arguments for maintaining the status quo. Furthermore, while the independent HCC association in Ontario (CICPO) was open to the possibility of direct licensing, it opposed an expansion of the current agency model.

Other than specific requirements applying to provider homes and qualifications, Ontario makes few regulatory distinctions between LHCC and UHCC providers; the major difference concerns the number of children a provider can care for at one time. UHCC providers can care for a maximum of five children at one time, while a licensed agency-affiliated provider can care for up to six children at one time. New regulations also permit all HCC providers to care for three children under the age of two regardless of provider affiliation.

All HCC providers are self-employed and have the ability to determine their working conditions, including the number of children they want to care for (within the scope of provincial regulation) and compensation. They do not have employee status, guaranteed income, or benefits (Doherty et al., 2000; Cox, 2005;).

It is difficult, if not impossible, to enforce curriculum and pedagogy standards without calling into question the self-employment status of the HCC providers. HCC agencies provide some level of quality assurance regarding health and safety, regulation requires quarterly visits by an agency home visitor. Some municipalities, in their purchase of service agreements for subsidized placement of children, may require more frequent visits and/or have municipal staff conduct additional assessments. In contrast, the provincial annual licensing process focuses mainly on agency administration, with only a small percentage of homes actually being assessed by a provincial licensing inspector. Thus, despite the regulatory environment covering child care outside of a child's home, there is virtually no oversight of UHCC – and the little oversight that is implemented is the result of complaints or incidents requiring the involvement of emergency services.

The context in Ontario differs from that in the rest of Canada in one way: higher-level municipalities[7] operate under legislated mandates in the planning and delivery of ECEC services. This division of responsibilities allows for stronger provincial regulation while also recognizing diverse urban and rural environments, permitting community-level planning and integration of services that are essential to the delivery of high quality, healthy, and safe environments for all children enrolled in HCC.

Based on the information above we argue that in order to serve children and families well, every HCC provider must be licensed and supported. This proposal is consistent with the 2017 provincial goals of concentrating on licensed care for preschool children, extended hours, and weekend care (Ontario Ministry of Education, 2017b). Below we provide the key principles and specific components of our licensing and support model as well as provide basic estimates of the costs of implementing such a model.

[7] The legal definition is "Consolidated Municipal Services Manager", usually a county, region or amalgamated city. In some more remote areas the ECEC system is managed by District Social Assistance Boards.

3.7 Model for licensing and support of all HCC providers

3.7.1 Model Principles

- Individual licensing of all HCC locations where one or more children unrelated to the provider receive care on a regular basis must be mandated by provincial legislation and regulations. This legislation will encompass health and safety, as well as pedagogy and curriculum requirements.
- Annual licensing of individual homes alone is not enough; ongoing support of all providers is required (Bromer & Korfmacher, 2016; Tonyan et al., 2017).
- It is important to attract currently unregulated providers to the system rather than drive them underground (Doherty et al., 2000).
- HCC staff and providers must have appropriate training/qualification. Education and career paths should be provided for caregivers (Doherty et al., 2006; Lero & others, 2007).
- HCC services must be planned and managed within local service plans and must complement, rather than compete with, licensed centre-based care.
- HCC must be integrated into the overall service system that includes centre-based care and Ontario Early Years Centres in local neighbourhoods and communities.
- Integration, rather than co-location of services, is important to ensure sustainable long-term delivery of quality child care; whenever possible, administrative structures should be integrated to maximize program effectiveness and efficiency.
- The Government of Ontario's agenda to improve the working conditions of the ECEC workforce should be supported (Ontario Ministry of Education, 2017b).
- All aspects of this system must incorporate an equity lens so it can be applied consistently across geographic and culturally diverse contexts.

3.7.2 Model Components

Our model requires <u>all</u> HCC providers to be licensed. We expect the current health and safety provisions contained in the provincial regulation to continue. Responsibility for ensuring them will rest with the appropriate level of government. Regulations regarding the number of children and hours of care for which a license is not required must be determined. For example, children cared for by a babysitter outside their home for three hour per week could be exempted under this licensing/support model. We also assume that the maximum number of children, age group composition, and rules for inclusion of the provider's own children will continue to be regulated.

In addition to licensing and regulation, our model emphasizes the need for supporting high quality and developmentally appropriate care, while accommodating the differences between child care centres and HCC. We thus propose that, to be licensed, a HCC provider must: provide a developmentally appropriate child care setting, including regular access to an outdoor play area; undergo annual health and safety checks conducted by municipal Public Health and Fire Prevention officials; undergo annual in-home quality assessment conducted by independent trained observers; and participate in regular playgroup activities at an integrated ECEC site. Model components requiring independent annual quality monitoring are above and beyond those currently in place for the licensed ECEC services in Ontario; however they are consistent with OECD (2015) recommendations for all ECEC settings.

We propose that integration with other ECEC and family support services is essential to developing and maintaining high quality HCC services; we refer to these integrated sites as "hubs" (Dear et al., 1994; OMSSA, 2015). We recommend that hubs should be located in accessible, public locations such as schools ((Corter & Pelletier, 2010; Pascal, 2009)), child care centres, and Ontario Early Years Centres; if necessary, hub staff rather than caregivers will be required to travel to hub program sites. Subject to conformity with local service plans and service contracts, existing service providers, including agencies currently responsible for licensing HCC providers, could be designated to manage individual hubs.

A typical hub staff complement dedicated to HCC should consist of an appropriate number of early childhood educators with additional training in working with HCC providers. The actual hub staffing will vary according the number of homes within the designated service area but, as a team they will: provide professional development opportunities; observe individual children's development; help develop individual plans and arrange for special needs assessment and supports as required; conduct unscheduled in-home visits to support individual child care providers on an as-required basis.

Hubs will support providers through provision of registry/referral services, equipment loans, administrative support, possibly including fee collection, and back-up service arrangements.

Under this system, especially when integrated with sites providing before and after school care, staff at each hub who are currently working split shifts may be hired to fill some of the new roles set out in this model, thereby substantially improving their employment conditions, but specialized training appropriate for the HCC environment will be essential.

Hub staff will consist of highly trained Registered Early Childhood Educators (RECEs), equivalent to child care lead teachers or supervisors with additional training as required. Implementation of the hub model may vary based on local circumstances such as urban/rural differences.

3.7.3 Model Costs

In order to estimate the cost of implementing our model it is necessary to first establish the number of UHCC providers and the number of children in their care. Given the lack of data in this area, this complex and rather imprecise task required triangulation of data from Ontario Ministry of Education and HCC usage estimates from the “Survey on Early Learning and Child Care Arrangements” (SELCCA) (2019).

The SELCCA indicates that approximately 15.5% (95%CI 12.6% – 18.5%) or 73,690 of Ontario’s children, between the ages of 0-5 years of age, were cared for in both LHCC and UHCC (Statistics Canada, 2019b); a 2017 Ontario Ministry of Education report (Ontario Ministry of Education, 2019) indicated that 12,641 children were in LHCC (2017). Based on these numbers we calculate that 61,050 children are in UHCC. Applying the ratio of 3.4 children per LHCC in Ontario (12,641/3,715 (Ontario Ministry of Education, 2017a)), we calculate the total number of providers as 73,690/3.4 = 21,673. This estimate also allows for having school age children or the provider’s own children under the age of four. These estimates, rounded to the nearest 100 are summarized in Table 3.1. A comparison to the reported number of self-employed workers in the Child Day Care Services (NAICS 624410) in the 2016 Census of Canada suggests that approximately one half of providers do not report their income from HCC.

Table 3.1

Estimate of Children and HCC providers in Ontario

	Total	Licensed	Unlicensed
Children (0 - 5)	73,700[b]	12,700[a]	61,000
Providers	21,700	3,700[a]	18,000

Note: [a] reported by Ministry of Education, 2017
[b] SELCCA estimates, Table 4

Appendix 1 presents the assumptions underlying the calculations for the proposed model. Regardless of the hub size, the cost for health and safety inspections for each provider remains the same. Based on the City of Toronto's full recovery costs for fire and public health inspections in 2020 we estimate this cost to be $464. The cost of the annual quality assessment has been estimated at $100.

Program support costs, including home visits, administration, travel, and supplies will vary upon the budgeted number of home visits and play groups. The calculation in the Appendix budgets for 6 annual, unscheduled home visits and up to 24 play group attendances for each provider. In addition, there is one day per week per staff reserved for program planning, administration, training and, as needed, focused provider support. The program support costs could reach as high as $4,584. Together with the health and safety costs and quality assessment, the total per home cost of $5,148 compares favourably with the provincial based funding of $6,900 or the higher actual costs currently claimed by the HCC agencies; based on estimated average of four preschool children per HCC provider the cost per child is $4.93 per day. Similar to the current base funding of agencies, we believe that these costs should be fully funded by the provincial government.

Supporting the projected 21,700 homes serving almost 74,000 young children would cost approximately $112 million annually. The cost of the existing system, which covers only 17% of all HCC, is estimated to be between $29 to $39 million, depending upon the amount subsidized by CMSSMs above the provincially mandated base funding. This additional cost to ensure the oversight and quality of HCC providers who likely serve our most vulnerable children we think is a very worthwhile investment.

3.8 Barriers to Implementation

Aside from the substantive changes to Ontario's *Child Care and Early Years Act* (2014) and its regulation (137/15), the main challenges to implementing our proposal lie in overcoming the resistance of the current HCC agencies and those UHCC providers who wish to remain outside the ECEC system.

It will be difficult to transition to the proposed model without a human resource strategy that would establish and support the core competencies for Home Visitors and providers.

Information systems to adequately monitor and support the new model will also have to be developed and tested prior to full model roll-out.

Resolving issues resulting from the market basis of Ontario's ECEC system such as provider employment status and compensation issues will require careful consideration, planning, and a commitment to a substantial level of base funding. These important and complex issues go beyond the scope of the current dissertation. Finally, it is important to decide whether all providers will retain the ability to set rates and/or enter into a contract with the system manager for the provision of subsidized child care. Equity considerations would suggest a standardized set of rates, as well as provisions for guaranteed income exceeding minimum wage for a full-time provider. On one hand, the ability to set rates is an essential characteristic of the current market-based provision; trying to constrain the ability of providers to set rates would probably drive those in high-demand areas underground. On the other hand, permitting variable rates and subsidizing them could cause substantial administrative complexities.

3.9 Discussion

Licensing of individual HCC providers is not by itself a novel idea. Most provinces in Canada and many jurisdictions around the world have adopted this approach to oversight. However, at least in the Canadian context, the proposed model to ensure that no child is left on a regular basis in unlicensed care outside the child's home is novel; only British Columbia comes close with its limit of a maximum of two unrelated children in home.

The current system of LHCC has been essentially unchanged since the early 1970s. Our model for ensuring a more central role for all HCC providers could affect the expansion of the centre-based system of child care which extant research reveals to be of higher quality (Bassok et al., 2016; Bigras et al., 2010; Petitclerc et al., 2017). Nonetheless, our concerns about the current state of care provided to so many children in Ontario have forced us to suggest actions that will accelerate improved health, safety, and quality standards in a portion of the child care sector that many Canadian families rely on. Indeed, provincial governments may perceive expansion of LHCC as the fastest way to meet demand for access to regulated care. We propose a model to expand the quality care provided in *all* HCC settings.

We are positioning HCC as an integral component of a managed Early Years system rooted in integrated local service delivery. But it is also designed to reduce or eliminate the role of informal, UHCC provided outside the child's home. Existing government oversight involves only a small percentage of LHCC providers. This situation is unacceptable. Complaint-based enforcement of existing regulations, including those specifying the maximum number of children in care suggests that the main problem is not the lack of regulations, but rather the lack of pro-active enforcement of existing regulations (Gormley, 1999).

In the current era of rapidly expanding access to licensed child care, it is vitally important to consider equity for all types of families. Without rapid increases in licensed centre care capacity, children risk being segregated based on their socio-economic status and the working arrangements of their parents. Based on the evidence of rapid increase in centre-based before-and-after-school services, far too many children are accessing UHCC settings not by choice but by necessity. Our estimates, based on the latest data, suggest that the task of requiring all HCC providers to be licensed will be less daunting than previously thought. It must be noted that our estimates of total costs of the proposed model are probably on the high side. It seems likely that the demand for HCC service will further decline in line with the projected increased capacity of the licensed centres. In addition, some current providers - licensed and unlicensed - may opt to leave the HCC sector as a result of increased oversight or inability to meet the regulatory requirements.

Health and safety issues can be relatively easily addressed through a more comprehensive licensing and oversight regime. It will be more challenging to develop a system of quality assurance and improvement that focuses on the developmental aspects of care. Given the lack of information about and monitoring systems for HCC, we recommend additional research on the actual use of various types of HCC, parental choice and preferences, and implications for equity in access to high-quality early learning for low-income children and families.

The model presented in this paper is consistent with the Government of Ontario's call for greater accountability/transparency, greater access, and an emphasis on quality in the ECEC sector. We believe that its potential benefits far outweigh the costs involved in disrupting the outdated system, which serves only a very small proportion of the many children who need access to high-quality early learning care environments.

3.10 Appendix 1

3.10.1 Costing an example model

The model presented here for illustration purposes is in many ways the simplest, but also most challenging. It consists of approximately 30 HCC providers, each with four preschool children (0 to 4 years old), supported by one Home Visitor (HV). The model is built around an integrated hub set in an ECEC site, be it a child care centre or an Ontario Early Years site.

3.10.2 Licence conditions:

The ability to obtain and retain a HCC license depends on the results of an annual Health and Safety inspection (HSI) according to the standard defined by provincial regulation. In addition, and respecting the HSI results, the HV will determine the maximum capacity of each location; the HV shall consider the provider's experience and training in establishing the home's capacity.

In order to maintain the license, each HCC has to undergo an annual quality assessment. The costs for the annual HIS and AQ for each HCC are estimated below:

Health & Safety: $464 (annual inspection costs, City of Toronto 2020 budget)

Quality assessment: $100 (independent annual assessment, 2 hours per site, my estimate)

3.10.3 Program

Every HCC shall be visited on an unannounced basis at least once every two months; The length of the visit will depend on individual circumstances; for budgeting purposes we estimate up to one half of a day per visit. We estimate an average of four visit per week, with the other half of the HV's time being devoted to group programming (play groups, 4 providers at a time) at the hub site.

One day per week of HV's time has been budgeted for preparation, training, networking, provider recruitment and administration.

Minimum number of contacts per year between the HV and the HCC provider consists of 6 visits and 24 play group for a total of 30 contacts per year.

3.10.4 Program costs

Staff: 1 full time Home Visitor

Salary:	$90,000	(incl. 25% benefits, maximum HV compensation, City of Toronto)
Transportation	$6,000	($500 monthly)
Program supplies	$7,200	($10/provider/playgroup attendance= 30*2*12*$10)
Administration	$10,320	(10% of program costs)
Occupancy cost	$24,000	($2,000 marginal costs of co-location)
Total program cost	137,520	
Health and safety	$16,920	
Cost per Hub	$154,440	
Cost per Home	$5,148	
Cost per child	$4.93	(based on average four 0-5 children per HCC provider)

3.10.5 Cost comparisons

Provincial base funding = $6,900 per home

Toronto additional funding = $1,100 - $5,100 per home based on actual costs

CICPO estimate = $10.00 child/day (2017)

Total model cost for 21,700 homes ~ $112.2 million

Total cost of Health & Safety only ~ $10.1 million

Required province-wide staffing ~ 730 Home Visitors

4 Study 3 – How Stable is Global Classroom Quality Within Early Childhood Education and Care Settings?

4.1 Abstract

In the Early Childhood Education and Care (ECEC) sector there is a move to reduce oversight costs by assessing the quality of providers who score consistently highly on quality assessment instruments less often. However, virtually nothing is known about the stability of ECEC quality assessments over time. Using a validated measure of global classroom quality, we examined stability of quality in a sample of over 1,000 classrooms in licensed child care centres in Toronto, Canada over a three year period.

Multilevel mixed-effects linear regressions revealed substantial instability across all types of ECEC centres, although publicly operated centres were somewhat more stable and tended to have higher quality scores. We also found substantial variance between classrooms within ECEC centres. We did not find any significant structural, user or neighbourhood characteristics contributing to stability of quality ratings.

Our results do not support a risk-based approach to quality oversight in ECEC even in high quality classrooms. Large classroom quality variances support the recommendation that all classrooms within a centre should be assessed individually and the assessment results be published accordingly. Future research should, in addition to administrative data used in our study, explore how additional factors such as educator training, participation in program planning, reflective practices and ongoing learning might improve stability of quality over time.

4.2 Introduction

A substantial and growing number of children attend Early Childhood Education and Care (ECEC) services (Friendly et al., 2018; Government of Canada, 2019; Kamerman & Gatenio-Gabel, 2007; Laughlin, 2013; Sinha, 2014). Jurisdictions in the US, Canada and elsewhere are pro-actively expanding ECEC access both through licensed child care and introduction of full-day kindergarten with wrap-around before and after school programs (White, 2017). At the same time, public spending on these programs is increasing around the globe (OECD, 2017). However, any rapid expansion of the supply of ECEC spaces poses challenges including ensuring safe and developmentally appropriate environments, an ample supply of qualified teaching staff, and consistent, high program quality.

To try to ensure minimal standards, all jurisdictions have at least some licensing mechanism in place for ECEC services. With increased demand for ECEC services and public investment in these services, many US states and other jurisdictions have adopted some version of a Quality Rating and Improvement System (QRIS) to achieve better program quality and accountability and to provide information to current and potential ECEC users (Boller et al., 2015; Cannon et al., 2017; The Build Initiative & Child Trends, 2018; Tout et al., 2010). Both licensing and QRISs involve quality assessments that are conducted at the classroom and/or program level at regular intervals. However, quality assessments are costly and reducing their frequency is one way to contain costs. The goal of this paper is to examine the stability of classroom quality scores across time to inform whether it is possible to reduce the frequency of assessments without reducing the effectiveness of accountability systems. We also examine a number of ECEC characteristics that may predict stability in quality over time.

Program quality is generally defined as consisting of structural (e.g., educator/child ratios) and process dimensions (quality of educator/child interactions) (Early et al., 2007; Phillipsen et al., 1997). Structural quality is generally easier to measure and regulate (Layzer & Goodson, 2006; Slot, 2018). It is thought to set the stage for the processes that children experience directly (Bigras et al., 2010; Melhuish & Gardiner, 2019; NICHD Early Child Care Research Network, 2002; Phillipsen et al., 1997; Slot, 2018). It includes contextual factors such as funding and payment to educator which impact stability of the workforce and therefore influence the kinds of interactions children experience. In this paper we focus on consistency across time in the Assessment for Quality Improvement (AQI) which is an observational measure of global classroom quality that is used as part of the QRIS implemented in Toronto, Canada. Below we describe the rationale, focusing on frequency of assessments, behind various ECEC accountability mechanisms including QRISs as implemented across the USA, Toronto, Canada and examples from Europe, Asia and Australia. We then describe the potential predictors of stability included in this study and conclude this introduction with the research questions examined in this study.

4.2.1 Accountability mechanisms in the ECEC sector

While the consensus about the need for quality and for monitoring of ECEC services is clear (OECD, 2012, 2015), the actual initiatives undertaken by individual jurisdictions can greatly vary. Licensing requirements usually cover structural components such as staffing ratios, qualifications, group sizes as well as health and safety requirements; the possession of a license rarely means anything more than having met the minimum acceptable standard of service at the time of the inspection. In many countries outside USA and Canada, additional requirements may also include program planning, curriculum implementation, financial and human resource management and working conditions (OECD, 2015). Unlike most developed countries, the practices in USA and Canada appear to be different by de facto separation of mandatory licensing from ongoing program assessment and supports.

Compared to other developed countries, including Canada, licensing regulations in most US jurisdictions are weak (Karoly, 2014; Michal Perlman et al., 2019). For example, according to Child Care Aware (2013) in 31 out of 50 states the minimum qualification for a lead ECEC educator was a high school diploma or less; five years later the number decreased marginally to 29 (Whitebook et al., 2018). In order to improve quality standards, many US jurisdictions have added QRISs as another layer of voluntary oversight. QRISs involve in-depth assessments of ECEC providers that serve multiple goals, including giving ECEC providers useful quality improvement feedback, using ratings for accountability purposes and enabling parents to make more informed decisions for their children. While participation may be required to maintain eligibility for state funding, in most states less than 50% of child care centres participate in QRIS (The Build Initiative & Child Trends, 2018). Minimum ratings for a QRIS tier/level are often established by local consensus. In many jurisdictions, an observational assessment known as an Environmental Rating Scale (ERS) (Sylva et al., 2006; Vermeer et al., 2016)) that captures, among other things, the quality of educator/child interaction, is required only for the higher QRIS tiers (The Build Initiative & Child Trends, 2018).

The ERS scores, together with structural indicators are used to create a composite score reflecting different tiers of quality that are usually reported as a one to five stars. The QRIS ratings in individual USA states are usually valid for one to three years, with three years being the most common duration (The Build Initiative & Child Trends, 2018). According to the OECD Starting Strong IV study (2015) the frequency of monitoring practices can vary from several times per year (Luxemburg and Mexico) to annual (e.g. Japan, Chile, Mexico, Netherlands), to every two or three years (e.g. Ireland, France, Korea, Belgium).

Many researchers (Bassok et al., 2016; Blau, 2007; Gorry & Thomas, 2017; Hotz & Xiao, 2011; Loeb et al., 2004; Scarr, 1998) argue that regulations unnecessarily increase the burden on operators and reduce access to ECEC services for low-income families in particular. Blau (2007) also finds that regulations negatively affect ECEC workers' wages, possibly contributing to lower program quality. This view argues for reducing regulatory burden as a way of reducing costs to users (Gorry & Thomas, 2017) and promoting creativity in service delivery. One way that has been proposed for reducing the burden of oversight is to decrease the frequency of oversight visits.

The cost of assessments is high and different jurisdictions have explored different ways to reduce those costs. For example, some allow for selecting a smaller number of classrooms to be assessed within a centre (Tout et al., 2010). However, this approach is problematic because the limited research that exists on this issue suggests that there is substantial variability in quality between classrooms within centres (Karoly et al., 2013; Perlman et al., 2019; Sabol et al., 2019). Another approach that is gaining in popularity is reducing the frequency of assessments. An increasing number of USA jurisdictions engage in "differential monitoring", both in licensing and in QRISs, based on previously assessed levels of compliance (The National Center on Early Childhood Quality Assurance, 2015). This means longer lags between visits for providers who have a consistently high track record in terms of regulatory assessments. Similarly, in many countries including Australia, England, and New Zealand, the frequency of assessment visits is based on previous rating and risk assessment (OECD, 2015).

The differential monitoring approach assumes that ECEC providers maintain a stable level of quality across time and therefore a longer interval between visits of high functioning ECEC settings will still accurately capture ECEC provider performance. While this may allow a rechanneling of oversight resources to higher risk programs, to our knowledge this assumption of stability, which underlies increasing lags between assessments for the licensing and QRIS's has yet to be empirically tested.

4.2.2 Toronto's QRIS

In Ontario, where the current study took place, the provincial government provides the majority of funding as well as the regulatory framework including control over staffing, group sizes and issuance of licenses for all types of ECEC services. The government has recently introduced a tiered licensing system based on the approaches advocated by the National Administration for Regulatory Administration (NARA).

Upper tier municipalities (counties and regions) are designated as local service managers of the ECEC system in Ontario, of which licensed centre-based care is only one component. The City of Toronto is the largest municipality in Canada with approximately 170,000 children below the age of six. At the beginning of 2014, the City of Toronto reported having 41,646 licensed child care spaces in 852 centres. Approximately 70% of these centres were eligible to provide care for subsidized children and represent the frame of our study. Child care subsidies (24,264 in January 2014) (City of Toronto Children's Services, 2014) are portable vouchers accepted by any eligible provider. To be eligible for a subsidy, parents must be either working or studying full-time and meet income requirements. The value of the voucher is set by the actual costs of delivering care reported by each specific ECEC provider. This means the cost of child care should not play any role in selecting the location and organizational characteristics of the service provider.

The City of Toronto operates a QRIS that, together with other components, includes mandatory annual ERS assessments for all programs eligible for placement of subsidized children. The ERS used in Toronto is the Assessment for Quality Improvements (AQI) which was developed in Toronto. To be eligible to provide care for children receiving a subsidy, providers must score a minimum of 3 out of 5 on the AQI. The AQI was developed to be relatively efficient (it takes approximately 90 minutes to administer, which is far more efficient than the 3-5 hours of other frequently used ERSs) and the preschool version used in the current study has been shown to significantly correlate to other measures of ECEC classroom quality (e.g., it is correlated to the ECERS-R at .61, $p<.01$). Results are posted online to enable parents to use ratings when selecting ECEC providers for their children. They are also used as a basis for providing tailored quality improvement supports provided by City of Toronto coaches/consultants. The cost of assessments is covered by the municipality and at the time of data collection was approximately 8 cents per child per day (A. Hepditch, personal communication, January 8, 2020). This represents less than .02% of a median price of a preschool space in Toronto. Given the policy context of this research (i.e., the trend towards reducing the frequency of quality assessments) we set out to examine whether certain centre and classroom characteristics may predict higher/lower stability over time.

4.2.3 Factors that Might Impact Stability of Classroom Quality

In the absence of published literature on the stability of quality ratings, and because the assumption of the tiered licensing and quality assessments links quality to stability, we selected a number of age group and centre characteristics for inclusion in the analysis because we hypothesize that they may mediate global quality, as well as the stability of quality rating. These include centre type (auspice and organizational status), neighbourhood status, percentage of service delivered by educators with a qualification in Early Childhood Education, hourly wages for early childhood educators and centre supervisors, program size, presence of infant service, proportion of subsidized children and proportion of subsidized children who come from single-parent families. These variables have been examined in the context of studies on quality; here we focusing on their implications for the stability of quality over time. The rationale for inclusion of each of the covariates is discussed in more detail below.

In Canada, as in many other countries, there is an ongoing debate about the differences in program quality related to program auspice (Morris & Helburn, 2000; Sosinsky, 2007; Brennan et al., 2012; Cleveland, 2008; Cleveland & Krashinsky, 2009; Penn, 2011; LLoyd & Penn, 2012; Mitchell, 2012; Moss, 2012; Paull, 2012; Sosinsky & Kim, 2013). Although the majority of researchers find that there are some differences in quality, often they are confounded by the market conditions (Bassok et al., 2016; Cleveland & Krashinsky, 2009) or neighbourhood conditions (Sosinsky et al., 2007; Small et al., 2008). Based on previously published research in Canada (Cleveland, 2008, Cleveland et al., 2008) we expect the non-profit centres will show greater stability in terms of quality over time. We also distinguish between single centre and multiple centre organizations, expecting that multi-site organizations may be more stable over time since they may have better policies and procedures in place. We hypothesize that larger, multi-site operations would exhibit smaller standard deviations in AQI scores and, presumably, higher AQI scores.

Neighbourhood status has been known to relate to the type and quality of available child care ((Bassok & Galdo, 2016; Burchinal et al., 2008; Hatfield et al., 2015; Vandenbroeck & Lazzari, 2014). The actual mechanisms of neighbourhood effects are not clear and are empirically difficult to prove (Galster, 2012; Galster et al., 2011; Ham et al., 2012; Manley et al., 2013). Some have even questioned whether they exist within the Canadian context at all (Oreopoulos, 2008). Nonetheless, given past findings, we control for neighbourhood effects by deploying a composite neighbourhood inequity measure developed at the City of Toronto. The Child and Family Inequity Score (CFIS), described in detail below, has been developed through a collaboration of various City of Toronto departments concerned with services to children, Boards of Education, community service providers and academics from local higher learning institutions.

Educator qualification is an important contributor to the quality of care (Arnett, 1989; Manning et al., 2019; Whitebook et al., 2001). Ontario's child care regulations require at least one fully qualified staff with a minimum two-year degree or diploma in early childhood education (ECE) in every preschool classroom; however, many ECEC programs operate with a higher number of ECEs in all classrooms. We expect that the higher level of commitment and professionalism associated with higher levels of training will be associated with greater stability. Similarly, better remunerated staff provide higher levels of care (Phillips et al., 2001). We expect that higher rates of pay would be associated with higher rates of stability in quality across time.

From the authors' ongoing work with City of Toronto administrative data on an unrelated study, we learned that majority of subsidized children who start care as infants remain enrolled at least until they reach the kindergarten age. Child care centre programs that serve infants in effect generate their toddler and preschooler enrollment from the children who started in the centre as infants. Given what the literature suggests about the positive effects of early child care enrolment (Sylva et al., 2011), we hypothesize that, besides the individual child effects, the preschool programs potentially composed of children who were enrolled as infants should exhibit higher and more stable quality scores.

Every centre in our database accepts subsidized children as a condition of its contract with the City of Toronto. However, the proportions of subsidized children and the proportions of subsidized children who live in single-parent families vary greatly between centres, primarily as a result of the neighbourhood status. Centres with a higher proportion of children from low-income, predominantly single-parent families experience a higher level of enrolment turnover due to changes in families' subsidy eligibility. We theorize that these family characteristics will negatively affect the quality and stability of quality in centres with a high proportion of subsidized and single-parent families.

4.2.4 The Research Questions

Our primary goal was to examine the stability of preschool classroom quality over time. Our secondary goal is to test whether specific classroom characteristics might predict stability, enabling the identification of classrooms that might be good targets for less frequent and, therefore, less costly oversight through longer lags between quality assessments.

To do this we examine classroom level stability in quality over a three-year period. We use the population of centres that are part of the City of Toronto's QRIS based on their ERS (the AQI). Specifically, our research questions are:

1. Are classroom quality scores stable across the three-year period?
2. Are quality scores in some programs more stable than others over time?
    a. Is stability related to program quality? Specifically, we expect that higher quality classrooms would be more stable over time.
    b. If high quality classrooms are more stable, what are their distinguishing characteristics? We expect that covariates associated with high quality (specifically auspice, neighbourhood, proportion of educators with ECE degrees, hourly wage rate, presence of centres with infant classrooms, proportion of children receiving a subsidy, and proportion of subsidized children in single-parent families) would also be associated with stability.
    c. Are high quality classrooms sufficiently stable to reduce the frequency of assessments?

4.3 Methods

4.3.1 Data

The present study includes all preschool child care classrooms in the City of Toronto that were part of the City of Toronto's QRIS every year between 2014 and 2016. The municipal government maintains an extensive administrative database which includes budget information, staffing, public and subsidy fees, as well as data on adherence to performance standards measured using the AQI. Any program interested in delivering subsidized child care in Toronto must be part of the City's QRIS. As a result, our study consists of the entire population of centres that took part in this system. The author requested and obtained permission to access the data in raw form from the City of Toronto Children's Services. In 2014, the first year of the data utilized in this study, 70.3% of preschool programs, 73.9% of toddler programs and 82.8% of infant programs in Toronto participated in the City's QRIS. The remaining centres either did not wish to provide access to subsidized children or were deemed ineligible by either City of Toronto policy on restricting growth of the commercial child care sector or a Council approved Child Care Service Plan.

The final study frame consisted of 501 centres with 1,019 preschool classrooms. **Table 4.1** shows the number of centres and classrooms for which three years of data are available for the analysis presented in this article. The table distinguishes between different types of operators based on auspice and whether the operator owns multiple sites.

Table 4.1

Study Frame – Child Care centres and Number of Rooms by Operator Type

	Commercial		Non-profit		Public	Total
	Single	Multi	Single	Multi		
Centres	50	43	162	205	41	501
	10.0%	8.6%	32.3%	40.9%	8.2%	100.0%
Classrooms	88	94	358	414	65	1,019
	8.6%	9.2%	35.1%	40.6%	6.4%	100.0%

4.3.2 Measures

4.3.2.1 AQI – the Assessment for Quality Initiative

The preschool version of the AQI is a global measure of quality consisting of 31 items (see the list of individual items in Appendix 1). Similar to the ECERS-3, the scoring system requires that all sub-item scores on one level meet the standard before moving to the next higher level. The original validation study (Perlman & Falenchuk, 2010) found a one factor solution in which the mean of all individual items is taken as the reported score. It also found that a factor comprised of the mean score of items related to the quality of teacher-children interactions can be calculated and used as a stand-alone factor. The Spearman correlation between the measure and ECERS-R was r=.61 p<.01. The Spearman correlations for the CLASS subscales of Emotional Support, Classroom Organization and Instructional Support were r=.39 p<.01, r=.36 p<.01 and r=.47 p<.01 respectively. The current version of the AQI is measured on a five-point scale where scores of 1 and 2 represent inadequate quality, a score of 3 meets the City's minimum standards to maintain a service contract, and individual item scores of 4 and 5 exceed minimum expectation. Any items with scores below three identified during the assessment are subject to a remediation order and further sanctions if the identified problems persist.

AQI assessments are conducted unannounced annually by trained observers who are randomly assigned to ECEC centres. Raters' interrater reliability is established every four months and assessors must achieve 80% or higher agreement with gold standard expert ratings. For publication on the City of Toronto website the AQI scores are aggregated to the age group level; however, classroom level scores were available for analysis in our dataset. In this paper we focus on the cross-sectional and longitudinal characteristics of global AQI ratings.

Descriptive statistics for the cross-sectional data for each of the three years is presented below in **Table 4.2**. The overall mean AQI value for all classrooms has increased over the three years by .09, or approximately 5% of the acceptable range of 3-5. The standard deviations have changed only marginally over time; given that the effective range of acceptable scores is between three and five, we interpret the standard deviations as large. Finally, we note that the mean scores differ between the individual centre types as does the rate of change over type.

Table 4.2

AQI Scores by centre Type and Year

		Year 0		Year 1		Year 2	
Centre type	Rooms	*M*	*SD*	*M*	*SD*	*M*	*SD*
Commercial Single	88	4.01	0.37	3.97	0.33	4.07	0.37
Commercial Multi	94	4.11	0.41	4.12	0.33	4.28	0.38
Non-profit Single	358	4.00	0.43	3.97	0.37	4.10	0.38
Non-profit Multi	414	4.07	0.41	4.06	0.39	4.12	0.38
Public	65	4.39	0.24	4.39	0.23	4.47	0.26
All centre types	1,019	4.06	0.41	4.05	0.38	4.15	0.39

4.3.2.2 Independent and control variables

Centre type. Centre type is defined based on the combination of auspice and the number of centres operated by individual service providers. Auspice is defined as commercial, non-profit, and publicly operated. Any organization that comprises three or more preschool sites is categorized as multi-site operator.

The Child and Family Inequity Score (CFIS). CFIS is an index developed by the City of Toronto in co-operation with representatives of community and post-secondary institutions. The index is composed of the following items: incidence of children in low-income families, female education unemployment rate, lack of affordable housing and proportion of families with English as a second language. The individual items are assigned weights by consensus and calculated for each of Toronto's 140 neighbourhoods. In this sample CFIS scores range from -1.5 to 2.14 with the lower values representing more child and family friendly and affluent neighbourhoods.

Centre and staff characteristics. The number of preschool spaces in each centre, as well as the presence of infant and kindergarten age groups are used as indicators of size of each centre. Staff characteristics include the percentage of care hours delivered by Early Childhood Educators (ECE) with a minimum two-year post-secondary degree, trained staff (ECE), and average ECE and centre supervisor hourly wage.

Client profile. The proportion of subsidized children in this study is extracted from the administrative database for 2015 to match the centre profile and neighbourhood data. We include the proportion of subsidized children in one parent families as an additional proxy of low family income. As with the case for educator level variables, this information is only available at the program level (i.e., the same score is used for all classrooms that serve preschool aged children within a centre).

4.3.3 Analytic approach

We begin with a cross-sectional analysis of mean AQI scores for each of the three years by individual centre type. Because of the unequal group sizes and variances, where appropriate we analyze individual centre types separately as opposed to including centre type as a predictor.

To answer our first research question, we use Stata 15 (*Stata Statistical Software:Release 15*, 2017) software to build a multilevel model specifying random slope and random intercept to partition within and between variances over the three year period.

To analyze further the characteristics of classrooms with stable scores we compute the maximum difference between the highest and lowest classroom score and define as stable those classrooms with differences below -1 standard deviation. We then conduct a visual analysis to investigate the distribution of stable classrooms across the range of AQI scores.

An OLS regression using the maximum score difference as a dependent variable with a full set of independent variables described above is performed in order to answer RQ 2-a. To validate our conclusion we also execute separately for each centre type a logistic regression with AQI stability as the dependent variable. Finally, to answer question RQ 2-c we calculate the percentages of classrooms in each centre type that retained a position in the top 75th percentile of AQI scores in each year.

4.4 Results

4.4.1 Description of the data

The distribution of centres and classrooms by type of centre is found in Table 4.1. The reason for deploying this typology becomes clear with examination of Table 4.3, which presents the differences of average values of individual covariates between the different centre types at year zero (2014) with the exception of CFIS component data originating primarily from 2016 Canadian census data.

Table 4.3

Study covariates by centre type

		Commercial		Non-profit		
Covariates	All centres (N=501)	Single (N=50)	Multi (N=43)	Single (N=162)	Multi (N=205)	Public (N=41)
ECE hours (%)	71.25	59.53	62.22	74.43	71.99	77.86
ECE hourly wage	22.52	17.90	18.16	23.46	22.21	31.85
SUP hourly wage	34.16	28.26	30.89	36.14	31.85	50.71
# preschool spaces	31.05	32.70	40.21	30.27	29.16	31.83
Infant (%/100)	0.36	0.50	0.59	0.25	0.33	0.71
Kindergarten (%/100)	0.62	0.38	0.57	0.77	0.63	0.14
Subsidized (%)	44.97	64.87	67.23	31.70	42.69	73.40
1 parent family (%)	53.22	63.16	62.80	47.88	51.97	63.02
Neighbourhood CFIS	0.18	0.55	0.56	-0.08	0.16	0.46

Pairwise comparison of means finds that CFIS for public, and commercial centres of either type are not significantly different from each other. Non-profit centres, both single and multi-site, are primarily located in neighbourhoods with significantly lower CFIS values (i.e., more affluent neighbourhoods). At the same time, the mean CFIS of multi-site non-profit centres is significantly higher than that of single site non-profits ($F(1,365) = 8.49$. $p<.01$). In other words, single site non-profit centres are generally located in the more affluent neighbourhoods of Toronto. Although there is a large correlation (r=.58, p<.001) between CFIS and proportion of subsidized children with the preschool age group, the proportion of children receiving a subsidy is included because it reflects the characteristics of the actual children in each centre. The histograms presented in **Figure 4.1** demonstrate the substantial differences in distributions of subsidized children, with an overall effect of almost even representation when all centre types are combined.

Figure 4.1

Distribution of subsidized children by type of centre

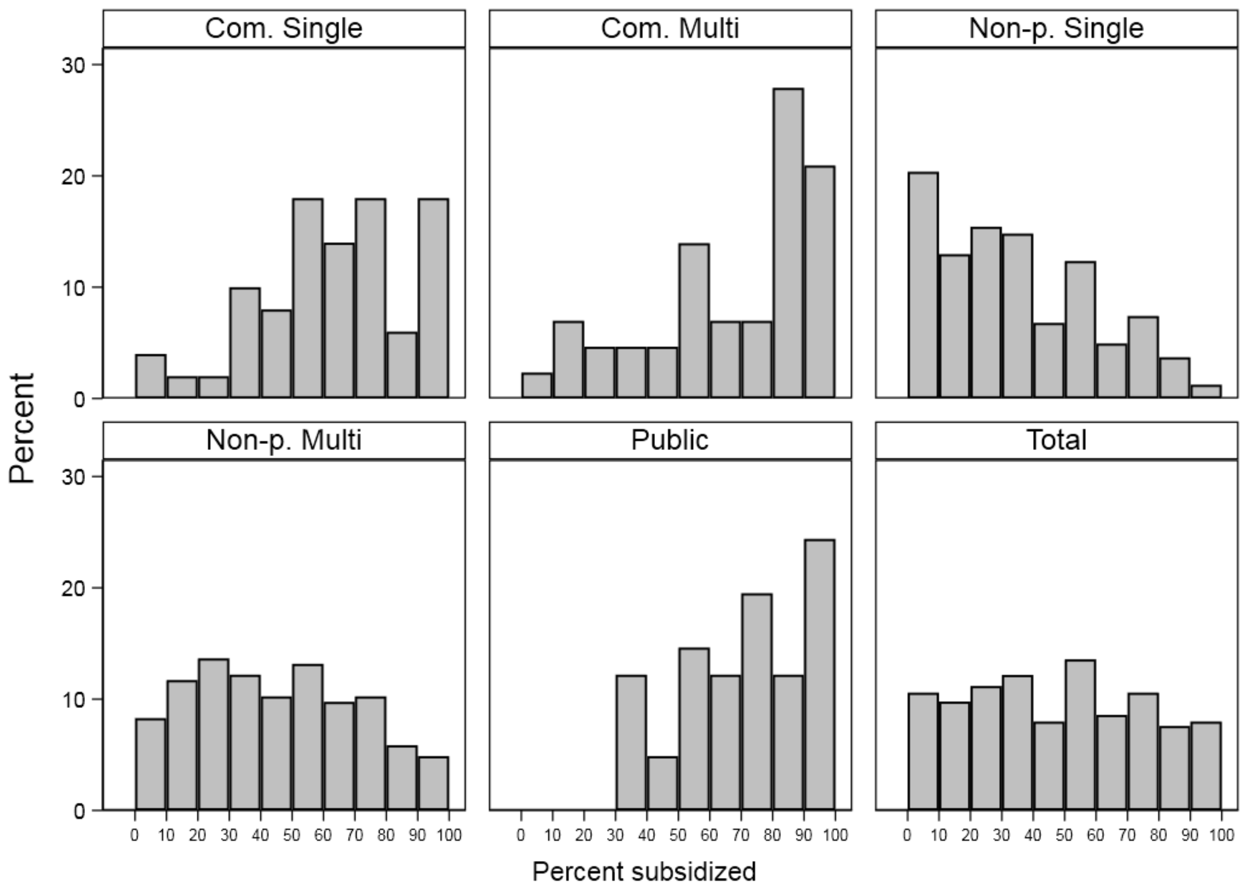


Table 4.3 also illustrates several other important differences related to the type of centre, notably hourly wages, percentage of care delivered by educators with ECE credentials as well as proportion of centres that deliver infant care. Based on these differences, centres of different types are analyzed separately; Appendix 2 compares covariate means while controlling for unequal group sizes and variances. It is important to note that these variables are only available at the program level (i.e., the same score is used for all classrooms that serve preschool aged children within a centre).

Three-hundred and seventy-one (36.4%) out of the 1019 classrooms are in centres that provide service to the infant age group. The presence of younger age groups is associated with different levels of AQI scores. Specifically, using a t-test with unequal variances option we find that these classrooms (M = 4.19, SD =.41) were rated significantly higher than classrooms in centres without infants (M = 3.99, SD = .40), $t(1) = -7.22$, $p<.001$).

4.4.2 Can classroom AQI scores be aggregated in centres with multiple preschool classrooms?

The quality assessments in QRISs usually require aggregation across classrooms within centres. These aggregations make assumptions about homogeneity in classroom quality that have received only limited attention from researchers (Karoly et al., 2013; Pauker et al., 2018). To determine whether it is appropriate to combine across preschool classrooms within a centre, we examine the variability in classroom quality within centres. In the 345 centres that had more than one preschool classroom, the mean range between the lowest and highest score is 0.32 with a standard deviation of 0.25. A decomposition of variance into between classrooms and across centres shows only a moderate level of intraclass correlation between classrooms (ICC=.597, SE=.030 CI95(.536, .654). Not surprisingly, the mean range of values increases with the number of rooms. However, even centres with only two rooms have an average range of 0.26. A range of 0.32 represents 16% of the acceptable range between 3.00 and 5.00.

4.4.3 Descriptive Results: AQI scores by type of centre and year

Given this level of heterogeneity in the quality scores of classrooms within centres, we analyzed stability across time for individual classrooms. Average AQI scores were comparable across centre type with one exception. Using a method that adjusts for unequal variances and unequal sample sizes, a pairwise comparison of AQI means between individual centre types (**Table 4.4**) reveals that only publicly operated centres score consistently higher than the other centre types. Multi-site commercial operators show increasing, statistically significant differentiation from the non-profit and single commercial centres over the study period.

4.4.4 RQ 1 - Are classroom quality scores stable across the three-year period?

In order to avoid potential problems of different sample sizes and unequal variances, we have estimated the multilevel model separately for each individual centre type as well as for the entire sample. The results of all estimation including the intraclass correlations are presented in **Table 4.5**.

Table 4.4

Comparison of AQI means by Type and Year with adjustment for unequal variances and sample sizes with Tamhane's T2

	Year 0				Year 1				Year 2			
	Diff.	*SE*	*t*	*adj. P>t*	Diff.	*SE*	*t*	*adj. P>t*	Diff.	*SE*	*t*	*adj. P>t*
CM vs. CS	0.10	0.06	1.76	n.s	0.14	0.05	2.92	<.05	0.21	0.06	3.86	<.001
NS vs. CS	-0.01	0.06	-0.22	n.s	0.00	0.04	0.01	n.s	0.04	0.04	0.83	n.s
NM vs. CS	0.05	0.04	1.22	n.s	0.09	0.04	2.27	n.s	0.06	0.04	1.26	n.s
P vs. CS	0.38	0.05	7.74	<.001	0.41	0.05	9.15	<.001	0.40	0.05	7.87	<.001
NS vs. CM	-0.11	0.05	-2.32	n.s	-0.14	0.04	-3.58	<.01	-0.18	0.04	-4.05	<.001
NM vs. CM	-0.05	0.05	-1.02	n.s	-0.05	0.04	-1.34	n.s	-0.16	0.04	-3.69	<.001
P vs. CM	0.28	0.05	5.34	<.001	0.27	0.04	5.99	<.001	0.19	0.05	3.71	<.001
NM vs. NS	0.06	0.03	2.11	n.s	0.09	0.03	3.26	<.05	0.02	0.03	0.66	n.s
P vs. NS	0.39	0.04	10.49	<.001	0.41	0.03	11.81	<.001	0.37	0.04	9.60	<.001
P vs. NM	0.32	0.04	9.15	<.001	0.32	0.03	9.35	<.001	0.35	0.04	9.31	<.001

Note: CS = Commercial Single, CM = Commercial Multi, NS = Non-profit Single, NM = Non-profit Multi, P = Public

Table 4.5

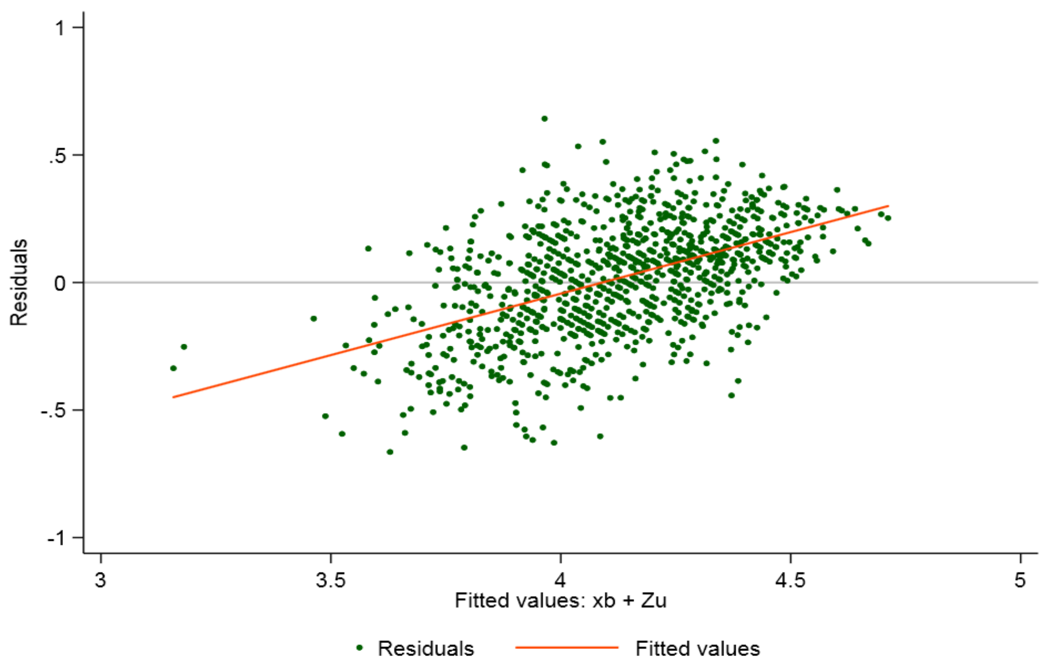
Multilevel model of fixed and random effects by centre type

Fixed effects	All Classrooms		Commercial single site		Commercial multi site		Non-profit single site		Non-profit multi site		Municipal	
Rate of Change	.04		.03		.08		.05		.03		.04	
Std. Error	.01		.02		.02		.01		.01		.02	
T - score	6.07		1.16		4.33		4.01		2.59		2.01	
95% Conf. Interval	.03	.05	-.02	.07	.04	.12	.03	.07	.01	.05	.00	.08
Initial status	4.05		3.99		4.09		3.98		4.06		4.38	
Std. Error	.01		.03		.04		.02		.02		.03	
T - score	335.81		115.07		107.89		186.91		218.40		162.38	
95% Conf. Interval	4.02	4.07	3.92	4.06	4.01	4.16	3.94	4.02	4.02	4.09	4.32	4.43
Random Effects												
Var(Rate of Change)	.01		.01		.00		.01		.01		.01	
Std. Error	.00		.01		.00		.01		.00		.01	
95% Conf. Interval	.00	.02	.00	.10	0.00	.21	.01	.03	.00	.02	.00	.04
Var(Initial Status)	.08		.04		.08		.09		.08		.02	
Std. Error	.01		.02		.02		.01		.01		.00	
95% Conf. Interval	.07	.19	.01	.10	.05	.13	.07	.12	.06	.10	.00	.05
cov(Rate of Change, Initial Status)	-.01		-.00		-.00		-.02		-.01		-.00	
Std. Error	.00		.01		.01		.01		.01		.01	
95% Conf. Interval	-.02	-.00	-.02	.02	-.014	.01	-.03	-.01	.07	.09	-.01	.01
Variance - Residual	.08		.08		.07		.09		.08		.04	
Std. Error	.00		.01		.01		.01		.01		.01	
95% Conf. Interval	.07	.08	.06	.10	.06	.08	.07	.10	.07	.09	.03	.05
Intraclass Correlation	.52		.35		.53		.52		.51		.30	

The fixed effects part of the model across all classrooms shows an intercept of 4.05 with a slope of 0.04; in the random effects part of the model the variances for year and intercepts are displayed together with the residual variance. The total variance of random effects is used as a numerator in the calculation of intraclass correlation (ICC) with the denominator being the total variance of random effects plus residual variance. The ICC value of .5204 suggests that slightly more than half of the total variance originates between classrooms, while the remainder represents the within classroom variance. In other words, the chance of accurately predicting the next score is only slightly better than 50%[8], thus allowing us to answer the Research Question #1 in negative.

Figure 4.2

Distribution of residuals against Year 2 fitted values



[8] However, a note of caution is required in interpreting the ICC, especially in cases where the random effects variances (Rabe-Hesketh & Skrondal, 2008) are very low as is the case regarding publicly operated centres where both random effects variance are low (especially for the AQI score) and residual variance is less than one half of that for all classrooms combined.

As can be seen from Table 4.2, the AQI scores of publicly operated centres have a substantially smaller standard deviation than other programs. This, combined with higher intercept scores, leads to lower variances of the intercept; in this case 0.0160 for public centres vs 0.0837 for all centres combined. Thus, despite having the lowest variance of residuals, it also has the lowest ICC scores.

The magnitude of the residual variances suggests possible issues with the estimation itself. To begin with, although the residuals are approximately normally distributed, a plot of residuals against fitted values (**Figure 4.2**) reveals a lack of random distribution around zero. Positive residuals indicate that the fitted value underestimates the actual value, while a negative residual indicates overestimation. Because there is an upper bound on positive residual values that is equal to fitted value plus residual being less or equal to 5.00, the plot shows a reduction in positive residuals around the 4.50 level of the AQI. At the same time, the strong correlation between residuals and fitted values ($r=0.5040$, $p<0.001$) suggests that the linear estimation process does not represent well the actual AQI trajectories.

4.4.5 RQ 2 - Are quality scores in some programs more stable than others over time?

4.4.5.1 RQ 2.a - Is stability related to program quality?

In order to determine the stability of scores we calculate the difference between the highest and lowest scores for each classroom in the three-year period. The mean difference between the highest and lowest score for all rooms is .49 with standard deviation of .27 (**Table 4.6**) with municipal centres' mean difference being significantly lower than that of the other centre types. All classrooms with difference values lower than minus 1 SD (.22) are then deemed to be "stable". Using this approach, 192 or 18.8% of the 1,019 classrooms are deemed stable. This percentage varies by type of centre, ranging from a low of 16.2% for non-profit single site centres to a high of 32.2% for the municipal programs.

Table 4.6

Average differences between lowest and highest AQI scores of individual classrooms by centre type

Centre type	*M*	*SD*	min	median	max	IQR
Commercial Single	0.47	0.29	0.03	0.39	1.61	0.39
Commercial Multi	0.46	0.25	0.04	0.39	1.16	0.39
Non-profit Single	0.53	0.30	0.03	0.50	1.93	0.41
Non-profit Multi	0.49	0.26	0.04	0.46	1.43	0.39
Public	0.35	0.18	0.01	0.36	0.75	0.32
All centre Types	0.49	0.27	0.01	0.46	1.93	0.40

Note: IQR refers to Interquartile Range

As **Figure 4.3** shows, there is no easily discernible relationship between the maximum score difference and the AQI at Year 0 for stable classrooms; in other words classrooms with stable scores can be found across the whole range of AQI scores. However, the Pearson correlation between the Year 0 score and the maximum difference is weak at *r*= -.2703, p<.0001. We confirm this finding by plotting the results of separate logistic regressions with stability as the dependent variable and AQI score at Year 0 for each centre type as the independent variable; while the probability of any classroom having stable scores increases with their initial (Year 0) scores, it never reaches even a 40% level (**Figure 4.4**).

Figure 4.3

Distribution of Year 0 AQI scores of stable classrooms

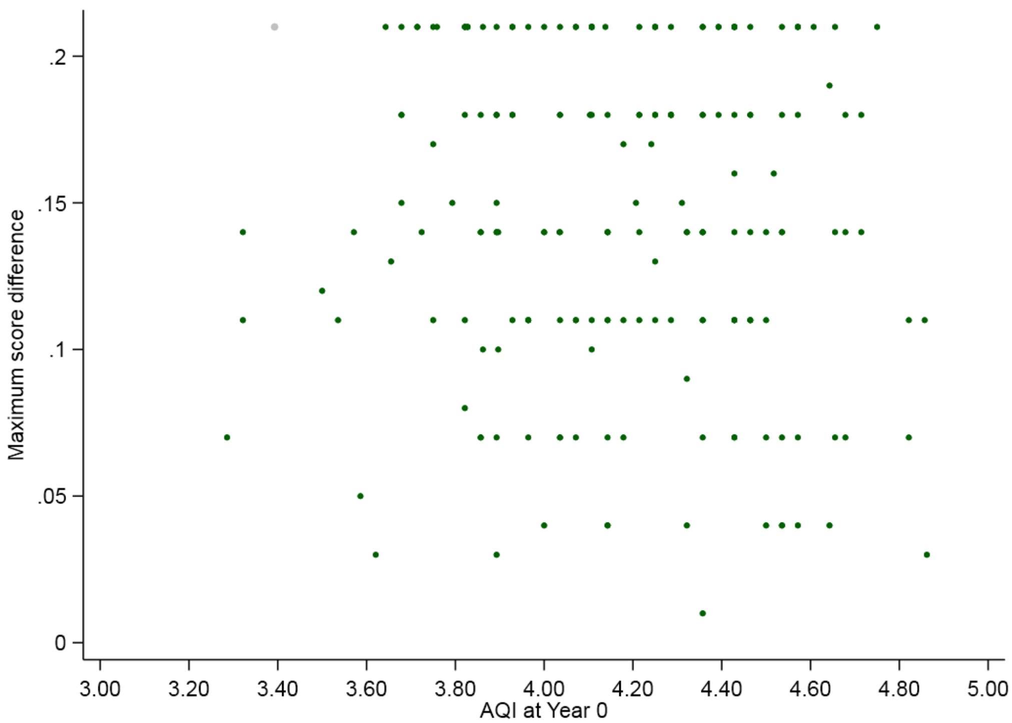
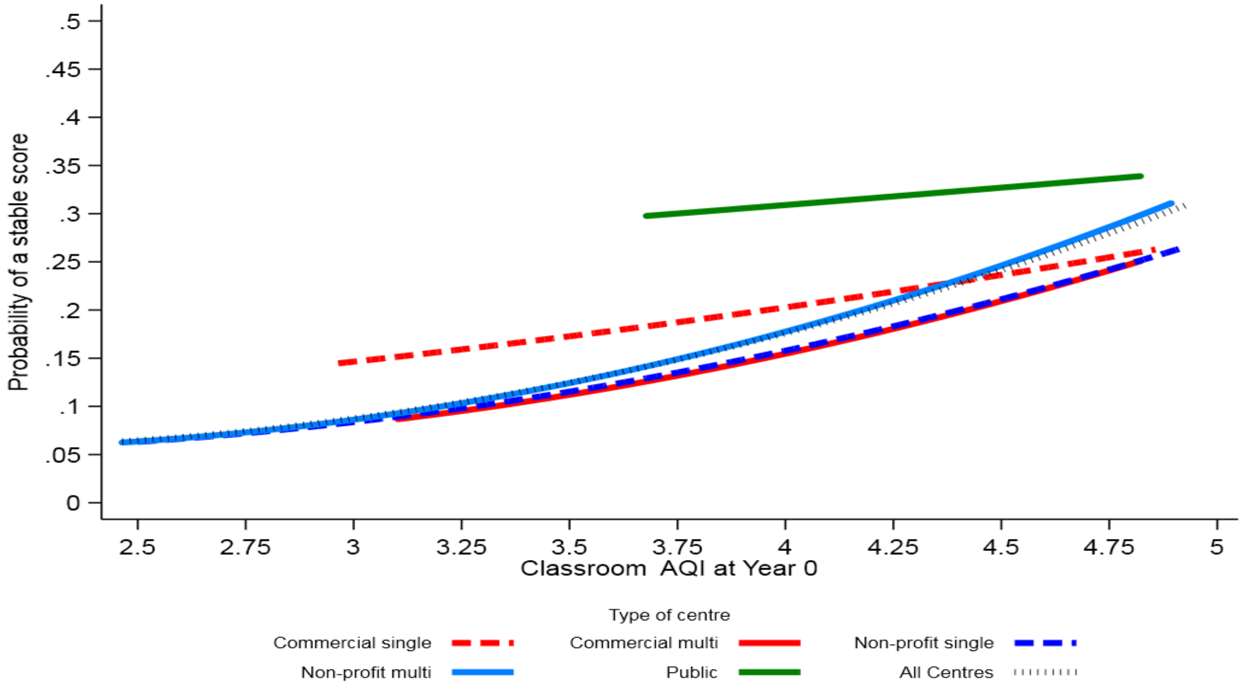


Figure 4.4

Probability of Having a Stable AQI Score by Type of Centre



4.4.5.2 RQ 2.b - If high quality classrooms are more stable, what are their distinguishing characteristics?

Multiple regression analyses for the full sample as well as for individual centre types are used to test whether the difference in classroom scores over the three-year period could be predicted from the covariates used in this study. The results reveal that the program characteristics explain only 2% of the variance (Adj. R^2=.0233, $F(9,1006)=3.69$, $p<.001$) for the full sample and non-significant results for individual centre types. The full results are presented in the Appendix 3.

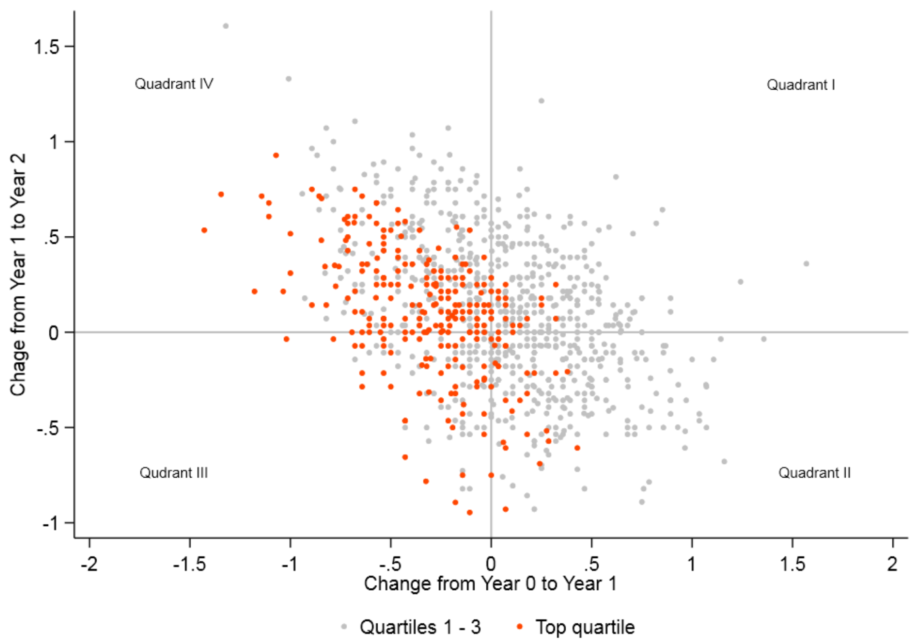
4.4.5.3 RQ 2c - Are high quality classrooms sufficiently stable to reduce the frequency of assessments?

To answer this question, we identify the 25% of classrooms that scored highest on the AQI in Year 0 and track the changes in their AQI score to Year 1 and then from Year 1 to Year 2. The classrooms in the top AQI quartile in Year 0 are identified as orange dots in the scatterplot presented in **Figure 4.5**. The AQI scores of a large proportion of the top classrooms dropped from Year 0 to Year 1 – Quadrants [II]I & IV. From Year 1 to Year 2 many of the classrooms made up some, if not all, of the previous year's drop in

AQI scores – Quadrant IV. Classrooms whose AQI scores dropped in both, Year 1 and Year 2 relative to their score in Year 0 are in Quadrant III.

Figure 4.5

Change in AQI scores for Classrooms in top 25% at Year 0



However, because we are interested in the stability of the scores for the purpose of reducing the frequency of oversight assessments, it is illustrative to focus on the number of classrooms that manage to retain their membership in the top 25% in each of the three years. The distribution of top scoring classrooms in Year 0 among the types of centres is shown in **Table 4.7**. The proportions of high scoring programs range from 15.9% for single site commercial operators to 47.7% for municipally operated programs. Over the three-year span less than 7% of all 1,019 classrooms manage to remain in the top quartile of AQI scores.

The percentage of programs that consistently maintain their top ranking is shown in the last row of the same table. Of all the 254 classrooms that are in the top 25% in Year 0, only 27.6% (70) remain in that group in each of the following two years. Across the types of centres, the rate ranges from low of 14.3% in the single site commercial programs to a high of 54.8% for the municipal programs. Even at the much higher retention level in municipal programs is not sufficient to exempt these programs from annual assessment.

Table 4.7

Stability of AQI Scores of Highest Ranked Classrooms in Year 0

Classrooms	CS	CM	NS	NM	P	Total
All Classrooms	88	94	358	414	65	1,019
Top 25% in Year 0	14	29	73	107	31	254
% of all classrooms	15.9%	30.9%	20.4%	25.8%	47.7%	24.9%
Top 25% every year	2	12	12	27	17	70
% of all classrooms	2.3%	12.8%	3.4%	6.5%	26.2%	6.9%
% of Top 25%	14.3%	41.4%	16.4%	25.2%	54.8%	27.6%

Note: CS = Commercial Single, CM = Commercial Multi, NS = Non-profit Single, NM = Non-profit Multi, P = Public (Municipal)

4.5 Discussion

4.5.1 Stability of classrooms scores over a three-year period

One of the main motivations for this study was to empirically test the degree to which program quality is stable over time. Using multi-level modelling we establish that the within classroom variances are almost as high as the between classroom variances. In practical terms this means that it is almost impossible to accurately predict the next year's score from the current year.

We also find stable scores at all levels of quality (**Figure 4.3**). This, of course, is problematic as classrooms at lower levels of quality should focus on continuing improvement. Finding stability at all levels of quality also helps to explain the lack of associations between stability and the structural characteristics usually associated with program quality.

On the other hand, the programs at the high end of the scale are expected to maintain their ratings over time. We have defined high quality scores as belonging to the 75th percentile or higher in Year 0. Contrary to our expectations, less than 28% of classrooms managed to remain in the top category every single year in the three-year period. This finding leads us to reject the suggestion that the frequency of assessments can be reduced on the basis of belonging to the top scoring programs. In a post hoc analysis we employ the same approach to analyze classrooms with scores in the 90th percentile and above; only 15% of classrooms manage to maintain their place in that category in each of the three years.

There are significant differences based on the type of the centre in the membership in the top quality groups as well as in the rate of remaining in the group over the three years; we address these differences below.

4.5.2 Centre Type

Based on the differences in centre characteristics, we expected differences in levels of quality and stability, albeit tempered by the strong system management role provided by City of Toronto. Compared to both types of commercial centres, on average, the non-profit sector pays significantly higher wages, operates with a higher proportion of ECE trained staff, is located in more affluent neighbourhoods and serves a lower proportion of subsidized children (Appendix 2). Staff characteristics of the public sector are comparable to the non-profit sector, while the client and neighbourhood characteristics are similar to those of the commercial sector centres. A comparison of the quality scores across the five centre types showed no significant differences between the commercial and non-profit centres in Year 0 and significant difference between the public centres and the rest. The public centre advantage remains in the following two years while the commercial multi-site sector improved its score enough to separate itself from the other centre types.

To understand the similarity of scores between commercial and non-profit providers it is important to note that the commercial centres in this sample have all been part of the City's QRIS for decades. The relatively tight enforcement of the standards and supports within the City's QRIS may explain the relatively high performance of the commercial centres (Cleveland, 2008). Since the early 1990's the City of Toronto has had a policy of not entering into any new contracts with commercial operators as well as eliminating profit as a component of approved operating budgets. All ECEC operators with a purchase of service contract with the City of Toronto are under a non-distribution constraint, making them effectively "commercial, entrepreneurial" non-profits (Bushouse, 1999; Hansmann, 1980). At the same time, the operators officially designated as non-profit receive higher operating grants making it possible for them to pay higher wages or hire more than the legislated minimum of educators with relevant educational backgrounds. The variability in AQI scores within the commercial and non-profit sectors suggests that more attention should be paid to supporting quality of service rather than whether the centre falls into commercial or non-profit category.

We categorize centres into single and multiple site operators in order to explore whether being a part of a larger organization contributes to higher consistency of practices and standards of operations. A more consistent operation would be expected to exhibit smaller standard deviations and, presumably, higher AQI scores. However, a closer examination of several multi-site agencies reveals no consistent relationship between higher level of stability and quality scores. Although the public centres exhibit substantially higher level of stability (Table 4.6 & Figure 4.4), they are still well below the rate that would allow for reduced frequency of quality assessments.

4.5.3 Classroom or Age Group Level?

During the preparation of data for analysis we discussed the issue of aggregation of individual classroom data to the age group level. This is a practice generally adopted in many QRIS systems; aggregation of classroom data is also the current practice employed by City of Toronto's QRIS for posting assessment results on its website. However, we find that in many cases there are substantial differences (M=.32, SD=.25) between individual classrooms in centres; this confirmed our decision to carry out our analysis on the level of individual classrooms. However, above and beyond the analysis presented in this paper, the aggregation of individual scores has some serious implications. First, it potentially misleads users about the program quality of their child's classroom; in this study the difference of .32 on the AQI scale represents a 16% difference. Second, any substantial difference should give rise to questions about program supervision and management practices. Finally, it supports the recommendation that, rather than a sample within the centre, all classrooms should be assessed on a regular basis.

4.5.4 Limitations

This study suffers from several limitations. For example, the study data come from the City of Toronto which is a high demand market area (i.e., a seller's market); this is demonstrated by the growth in commercial and non-profit operators who opt to remain outside the subsidy system, primarily in affluent areas of the city. Results from this study are primarily generalizable to localities with a similar market profile and level of oversight and program support.

The administrative data used in this study were collected for accountability and performance improvement of programs that serve various proportions of subsidized and full-fee children. Although these programs represent over 70% of preschool services in Toronto, no conclusions should be drawn about the quality of the non-funded programs or programs that were established in 2015 or later. However, it is important to note the 70% coverage rate is relatively high compared to other studies.

Another limitation of the administrative data we use is that information that would be valuable in exploring program quality and stability is simply not available. Under the provisions of protection of privacy legislation, the municipality is not allowed to collect data for the purpose of determining eligibility for subsidized child care related to ethnic background, language spoken at home and parent education. Instead we rely on neighbourhood information (CFIS) which is more distal to the actual service than the parents of children enrolled in the centre.

Two different findings are noteworthy and merit further investigation. First, there is no evidence that program auspice can be used in predicting stability of quality scores. Even though as a group, publicly operated programs had higher AQI scores and lower variability, a small number of those programs fell below outside the expected quality and stability range.

Second, further investigation is needed to identify factors underlying the stability of quality, or the lack thereof. The covariates -- centre, user and neighbourhood characteristics -- used in this study shed little light on this question. This may be due, in part, to the fact that information about the proportion of ECEs in each classroom, their hourly pay, and the number of children receiving a subsidy and who came from single-parent households is only available as an aggregate across all preschool aged classrooms in each centre. Future research should examine these variables at the classroom level as well as explore additional variables such as educator training, staff retention, participation in program planning, reflective practices and ongoing learning might improve stability of quality over time. Finally, the data available to us consist of annual assessments which does not enable us to test the extent to which quality varies within the year.

4.6 Conclusion

We set out to provide empirical evidence of the stability of quality ratings over a three-year period, and to investigate whether quality assessments can be carried out on a less frequent than annual basis. Our findings do not support such a change. In fact, our findings suggest that the frequency of assessments should not be reduced because attaining a high score in any given year is not a guarantee of doing so again in subsequent years. Furthermore, the chance of remaining in the top quartile scoring group over the three-year period is less than 28%. In addition, if we accept that one of the purposes of any QRIS is to provide evidence of effective program intervention and supports, then such evidence has to be available in a timely manner. Finally, if the information resulting from QRIS or, more specifically quality assessments, is to be useful to parents in making their child care choices, then it has to be current.

Together, these highlight the need to maintain the frequency of quality assessments, conducted annually at a minimum, as part of ECEC quality oversight regimes.

4.7 Appendices

4.7.1 Appendix 1 - AQI Preschool Items

Item	Name
1	Daily and Visual Schedules
2	Program Plan
3	Learning Experiences
4	Indoor Physical Environment
5	Displays
6	Sensory, Science and Nature
7	Art
8	Books
9	Language and Literacy
10	Music and Accessories
11	Physical Play Learning Experiences
12	Blocks and Construction
13	Cognitive and Manipulative
14	Dramatic Play
15	Electronic Media Usage*
16	Toileting and Diapering Procedures
17	Meal and/or Snack Times
18	Equipment Required for Eating and Seating
19	Cots and Bedding*
20	Health and Safety
21	Toys and Equipment Washing
22	Staff and Children's Hygiene
23	Transitions
24	Attendance Verification
25	Positive Atmosphere
26	Supervision of Children
27	Foster Children's Experience
28	Supporting the Development of Self-Esteem
29	Behaviour Guidance
30	Supporting the Development of Communication Skills
31	Extending Children's Learning

* not included in analysis due to large amount of missing data

4.7.2 Appendix 2 – Comparison of Covariate Means by Type of Centre, controlling for unequal group sizes and variances with Tamhane's T2

Legend: CS = Commercial Single Site, CM = Commercial Multiple Site, NS = Non-profit Single Site, NM = Non-profit Multiple Site, P = Public (Multiple Site)

Percent ECE hours / **ECE hourly wage**

	Percent ECE hours		Tamhane's T2		ECE hourly wage		Tamhane's T2	
Comparing	Diff.	Std.Err	t	adj. P>t	Diff.	Std.Err	t	adj. P>t
CM vs. CS	2.460	2.779	0.89	0.991	0.179	0.518	0.35	1.000
NS vs. CS	14.856	2.496	5.95	0.000	5.384	0.532	10.12	0.000
NM vs. CS	12.268	2.388	5.14	0.000	4.331	0.517	8.37	0.000
P vs. CS	18.280	2.101	8.70	0.000	13.906	0.458	30.33	0.000
NS vs. CM	12.396	2.323	5.34	0.000	5.205	0.366	14.24	0.000
NM vs. CM	9.807	2.207	4.44	0.000	4.152	0.343	12.09	0.000
P vs. CM	15.820	1.892	8.36	0.000	13.727	0.246	55.75	0.000
NM vs. NS	-2.588	1.837	-1.41	0.825	-1.053	0.365	-2.88	0.041
P vs. NS	3.424	1.444	2.37	0.173	8.522	0.276	30.91	0.000
P vs. NM	6.012	1.248	4.82	0.000	9.575	0.245	39.01	0.000

	Supervisor hourly wage		Tamhane's T2		Size of preschool program		Tamhane's T2	
Comparing	Diff.	Std.Err	t	adj. P>t	Diff.	Std.Err	t	adj. P>t
CM vs. CS	2.003	1.539	1.30	0.888	6.136	2.881	2.13	0.309
NS vs. CS	7.352	1.324	5.55	0.000	-3.943	2.005	-1.97	0.417
NM vs. CS	3.318	1.302	2.55	0.125	-3.995	1.907	-2.10	0.333
P vs. CS	22.428	1.257	17.84	0.000	-1.590	2.328	-0.68	0.999
NS vs. CM	5.349	1.067	5.01	0.000	-10.079	2.508	-4.02	0.002
NM vs. CM	1.315	1.040	1.26	0.907	-10.131	2.430	-4.17	0.001
P vs. CM	20.425	0.983	20.78	0.000	-7.726	2.773	-2.79	0.066
NM vs. NS	-4.034	0.683	-5.91	0.000	-0.052	1.274	-0.04	1.000
P vs. NS	15.076	0.592	25.45	0.000	2.353	1.846	1.27	0.901
P vs. NM	19.111	0.543	35.21	0.000	2.405	1.739	1.38	0.848

Proportion of centres with infants

Comparing	Diff.	Std.Err	Tamhane's T2 t	Tamhane's T2 adj. P>t
CM vs. CS	0.078	0.105	0.75	0.998
NS vs. CS	-0.184	0.080	-2.30	0.218
NM vs. CS	-0.119	0.079	-1.51	0.768
P vs. CS	0.227	0.101	2.24	0.243
NS vs. CM	-0.262	0.085	-3.09	0.029
NM vs. CM	-0.197	0.084	-2.36	0.198
P vs. CM	0.149	0.105	1.42	0.824
NM vs. NS	0.065	0.049	1.31	0.878
P vs. NS	0.411	0.080	5.11	0.000
P vs. NM	0.346	0.079	4.36	0.001

Proportion of centres with kindergarten

Comparing	Diff.	Std.Err	Tamhane's T2 t	Tamhane's T2 adj. P>t
CM vs. CS	0.145	0.102	1.43	0.820
NS vs. CS	0.303	0.077	3.95	0.002
NM vs. CS	0.217	0.075	2.88	0.050
P vs. CS	-0.198	0.084	-2.35	0.193
NS vs. CM	0.158	0.086	1.84	0.516
NM vs. CM	0.071	0.085	0.85	0.994
P vs. CM	-0.343	0.093	-3.70	0.004
NM vs. NS	-0.087	0.052	-1.68	0.628
P vs. NS	-0.502	0.064	-7.80	0.000
P vs. NM	-0.415	0.062	-6.64	0.000

Percent subsidized

Comparing	Diff.	Std.Err	Tamhane's T2 t	Tamhane's T2 adj. P>t
CM vs. CS	3.928	5.271	0.75	0.998
NS vs. CS	-27.971	3.855	-7.26	0.000
NM vs. CS	-17.448	3.788	-4.61	0.000
P vs. CS	8.770	4.640	1.89	0.473
NS vs. CM	-31.898	4.529	-7.04	0.000
NM vs. CM	-21.376	4.472	-4.78	0.000
P vs. CM	4.843	5.213	0.93	0.988
NM vs. NS	10.523	2.662	3.95	0.001
P vs. NS	36.741	3.777	9.73	0.000
P vs. NM	26.219	3.708	7.07	0.000

Percent subsidized with single parents

Comparing	Diff.	Std.Err	Tamhane's T2 t	Tamhane's T2 adj. P>t
CM vs. CS	0.785	3.605	0.22	1.000
NS vs. CS	-12.887	3.146	-4.10	0.001
NM vs. CS	-9.443	2.912	-3.24	0.016
P vs. CS	0.685	3.665	0.19	1.000
NS vs. CM	-13.672	3.252	-4.20	0.001
NM vs. CM	-10.228	3.026	-3.38	0.012
P vs. CM	-0.099	3.757	-0.03	1.000
NM vs. NS	3.444	2.461	1.40	0.831
P vs. NS	13.572	3.319	4.09	0.001
P vs. NM	10.128	3.097	3.27	0.017

Child and Family Inequity Index

Comparing	Diff.	Std.Err	Tamhane's T2 t	Tamhane's T2 adj. P>t
CM vs. CS	0.007	0.166	0.04	1.000
NS vs. CS	-0.634	0.123	-5.15	0.000
NM vs. CS	-0.400	0.121	-3.31	0.014
P vs. CS	-0.091	0.162	-0.56	1.000
NS vs. CM	-0.641	0.139	-4.61	0.000
NM vs. CM	-0.406	0.137	-2.97	0.042
P vs. CM	-0.098	0.174	-0.56	1.000
NM vs. NS	0.235	0.080	2.92	0.036
P vs. NS	0.543	0.135	4.03	0.002
P vs. NM	0.309	0.133	2.33	0.212

4.7.3 Appendix 3 – Linear Regressions of Study Co-variates on Maximum AQI Difference Over 3 Years

	(1) All centers	(2) Com. single	(3) Com. multi	(4) Non-p. single	(5) Non-p multi	(6) Public
ECE hours (%)	0.0002	-0.0042*	0.0004	0.0015	-0.0003	0.0133
	(0.0006)	(0.0021)	(0.0026)	(0.0010)	(0.0008)	(0.0152)
ECE hourly wage	-0.0014	0.0153	-0.0101	-0.0021	-0.0011	0.1370
	(0.0029)	(0.0157)	(0.0221)	(0.0056)	(0.0048)	(0.1140)
SUP hourly wage	-0.0023	-0.0069	-0.0100	0.0000	-0.0010	-0.0154
	(0.0016)	(0.0053)	(0.0052)	(0.0031)	(0.0025)	(0.0138)
# preschool spaces	-0.0013	-0.0014	-0.0007	-0.0005	-0.0014	-0.0042
	(0.0007)	(0.0028)	(0.0020)	(0.0017)	(0.0012)	(0.0026)
Infant (%/100)	0.0343	0.0257	0.0333	0.0905*	0.0149	0.1090
	(0.0204)	(0.0722)	(0.0655)	(0.0390)	(0.0349)	(0.0629)
Kindergarten (%/100)	0.0591**	-0.0615	0.0369	0.0942*	0.0456	-0.0623
	(0.0200)	(0.0713)	(0.0554)	(0.0410)	(0.0338)	(0.0759)
Subsidized (%)	-0.0006	0.0001	0.0015	0.0003	-0.0008	-0.0033*
	(0.0004)	(0.0020)	(0.0017)	(0.0010)	(0.0007)	(0.0014)
1 parent family (%)	0.0003	-0.00449*	-0.0027	0.0005	0.0012	0.0008
	(0.0004)	(0.0019)	(0.0021)	(0.0007)	(0.0007)	(0.0018)
Neighbourhood CFIS	-0.0190	0.0014	0.0430	-0.0347	-0.0068	-0.0284
	(0.0137)	(0.0601)	(0.0391)	(0.0276)	(0.0214)	(0.0339)
Constant	0.594***	0.968***	0.955	0.342*	0.544***	-4.010
	(0.0714)	(0.279)	(0.518)	(0.154)	(0.124)	(4.297)
Observations	1,016	88	94	355	414	65
R-sq. adjusted	0.023	0.072	0.010	0.016	0.007	0.072
F-statistic	3.693	1.748	1.099	1.657	1.308	1.555

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Stable classrooms have lower difference (spread) in AQI scores over the study period

5 Discussion

The social investment paradigm recognizes and attempts to prevent “new social risks” associated with the post-industrial economy (Esping-Andersen et al., 2002; Jenson, 2004). These risks include declining birth rates, loss of industrial jobs, an aging population, and exclusion that is reflected in increasing youth and lone parent unemployment (Esping-Andersen, 2002). Although the paradigm is fuzzy enough to encompass a range of political philosophies (Jenson, 2012), its most common feature is the desire to increase female labor force participation. Depending upon the level of commitment to gender and intergenerational equity as well as to the formation of human capital, child care plays either a supportive or a pivotal role in the social investment paradigm. When investment in high quality child care is seen as a prerequisite (a necessary, but not sufficient) condition to achieving the more transformative goals of social investment, then the aspirational term “Early Childhood Education and Care” (ECEC) becomes appropriate in research, policy and political discourses (Esping-Andersen, 2002; Jenson, 2012; Morgan, 2009). While I will discuss the topic of auspice in some detail later, it should be pointed out here that the social investment paradigm is somewhat ambivalent about the roles of auspice and markets; the translation of the paradigm into actual investment strategies has ranged, as Deeming and Smyth (2015) aptly describe, from “Nordic ‘heavy’ to the Liberal ‘light’”.

Taken together, the three studies that form this dissertation help to identify the challenges facing families attempting to access licensed child care in order to balance work and family life in the early twenty-first century. In the following sections I discuss findings of the studies and issues they identify; these issues need to be addressed in a timely manner if coherent national and provincial ECEC frameworks are to be designed and implemented.

5.1 Data anyone?

At each stage of the research I was struck by the paucity of data required for addressing the inequities inherent in the Canadian child care market. A quick perusal of any OECD ECEC related document reveals the absence of national level data from Canada. In Starting Strong II (OECD, 2006), only four provinces were represented and in OECD’s Family Database Canada is most often missing (OECD, 2014). By itself that would not be a problem; provincial data, at least at the service level, are often more revealing, and relevant to dealing with issues of equity of access, affordability and structural characteristics creating a national picture from provincial databases can be very challenging. However, as described below, incomplete or missing data for many of the provinces result in a limited understanding of the child care landscape when examined at this level.

As a part of the federal government's Early Learning and Child Care (ELCC) strategy, the 2017 federal budget allocated a new investment of $95 million "towards the development of a federal data and research strategy (Canada, 2019); an Expert Panel was established in 2019 "…to facilitate in-depth discussion on issues related to early learning and child care information, data and research " (Canada, 2018b).

Although provincial reporting has improved slightly since the bilateral agreements between Canada and individual provinces were signed in 2017 and 2018, there is very little consistency and actual data. Most of the contents focus on how federal funding was allocated and why. Comprehensive data collection and reporting as recommended by Cleveland et al. (2003) is still elusive.

5.2 Some challenges with national surveys

While creating a national picture from provincial data is a challenging task, trying to create a provincial picture from national survey data entails several potential pitfalls as well. This issue emerged clearly when analyzing data from the 2011 GSS; aside from dealing with different regulatory regimes, national surveys often employ terminology that may not be meaningful in a particular region of Canada. The findings that the frequency with which parents stated that their children attended licensed HCC clearly outnumbered the spaces available in HCC may well have been influenced by confusion about terminology as well as potentially a lack of understanding on the part of parents about what determines whether a provider is licensed. A recent attempt by Statistics Canada researchers to link the 2011 GSS with Revenue Canada files found a serious discrepancy in reporting of child care expenses (Findlay & Kohen, 2020). Similarly, during an attempt to estimate the number of unlicensed HCC providers in Ontario in Study 2, I found that approximately one half of the providers estimated through other sources did not report their occupation correctly in the 2016 Census of Canada.

5.3 Critical lack of data in two areas.

The two most gaping holes in knowledge of ECEC in Canada are the lack of reporting on use of unlicensed care and on the quality of licensed programs.

In Study 1 I found that parent reported usage of licensed HCC far exceeded the system capacity. By its sheer size this problem is much higher in Ontario than other provinces. Similarly when Lero & others (2019) investigated the child care arrangements of families with non-standard work schedules, they were not able to distinguish between the users of licensed and unlicensed HCC. In the same vein, SELCCA, the most recent survey of ECEC arrangements (Statistics Canada, 2019a) cannot be used to make that distinction. Yet, a significant proportion of young children are in unlicensed care, defined as care by an unrelated person outside the child's home (Statistics Canada, 2019b). In Ontario this number is approximately 61,000 children below the school entry age (see Study 2 in this dissertation). While there is substantial agreement that unlicensed HCC is the least desirable option, there is no evidence of attempts to bring this sector under the licensed ECEC umbrella. Use of unlicensed care is not unique to Canada, however, there are many countries where unlicensed HCC is very limited, if not completely absent.

Quality has been the lynchpin of federal funding initiatives since the ELCC QUAD (Quality, Universal, Affordable and Developmental) principles in 2003. Yet, outside of parent reports, the data on ECEC quality in Canada is extremely limited. Pence and Goelman in 1989, You Bet I Care and Quebec's longitudinal study and ELDEQ are rare exceptions. Yet, as our research on stability of quality ratings has shown, and the OECD recommends (OECD, 2012, 2015), quality monitoring has to be frequent. Our research on stability of quality ratings used by City of Toronto for child care centres with purchase of service contracts supports the OECD recommendations for frequent monitoring.

While some researchers and policymakers object to the costs associated with implementation of a QRIS and the impact of QRISs on child care prices, it is noteworthy that, at least as Toronto's AQI experience suggests, the actual cost per child represents less than .02% of the daily median price of a preschool space (see Study 3 in this dissertation). The cost of oversight is a system management cost, and should not be part of program fees paid by the users. However, it is important to note that QRISs must go beyond frequent monitoring and reporting if their aim is more than simply informing potential customers about program quality. The QRIS logic model which assumes that parents will use the information to make child care choices and thus create an incentive for providers to improve the quality of their programs (Zellman & Perlman, 2008), fails when parents have little or no choice, or the support for quality improvement is insufficient.

5.4 Importance of data in managing the child care market.

Child care in Canada is a market-based system, with a mixture of private non-profit and commercial operators, and a very small number of public services (other than kindergarten) provided mainly by municipalities, colleges and universities, and school boards.

Generally, the provincial legislative power governing the licensing of child care operations does not include the power to deny a licence to new operators on the basis of auspice or market conditions. Left unchecked, as has been the case across Canada, market mechanisms are supposed to balance the supply of services according to demand and parents' ability to pay for those services. The 'soft liberal' version of the social investment approach does not reject the role of the market in the provision of child care; rather it acknowledges that government intervention may be necessary where it fails to efficiently meet the demand for child care service (Jenson, 2012). The inequities in access and quality of care resulting from dependence on the market have been well documented in the developed world, including Canada (Abrassart & Bonoli, 2015; Cloney et al., 2016; Cornelissen et al., 2018; Japel et al., 2005; Kohen et al., 2008; Laurin et al., 2015; LLoyd & Penn, 2012; Macdonald, 2018a; Metropolitan Toronto, 1986, 1997; Prentice & White, 2019; Stahl et al., 2018; Van Lancker & Ghysels, 2016).

Government intervention in the market is necessary to address inequity in access and in quality. However, simply subsidizing those families who cannot afford to pay the full price, providing wage subsidies for child care workers, or even providing base funding to existing operators is not sufficient. Probably the most important role for the government in the current system is to provide a framework in which infrastructure and operating investments are focused on reducing inequities in access and quality of service. The term "infrastructure" means not only capital investments in facilities but also and perhaps even more importantly, it provides investments in system supports in terms of planning, evaluation, monitoring and standards enforcement. However, the current policy debates seem to be more concerned with prices than systems required to ensure that all children are in good quality of care (Macdonald & Friendly, 2020).

With the exception of tax measures such as the current Child Care Expense Deduction, the federal government's ability to influence ECEC depends to a very large degree on the willingness of provinces to engage with "national" goals while ensuring that provincial rights remain intact. While these arrangements respect the subsidiarity embedded in Canadian federal – provincial relations, they also create a level of uncertainty about the likelihood and permanency of any national ECEC policy. All federal/provincial/territorial ELCC agreements have clauses permitting the termination of the agreement by either party. To the extent that the national ELCC goals are aspirational, they are subject to changing ideologies and abrupt changes in direction as demonstrated by the termination of the federal/provincial ELCC agreements in February 2006.

Without questioning the need for national level advocacy, it needs to be acknowledged that any significant progress, indeed a paradigm change, has to come from the level of the government which has constitutional competence for early childhood education and care. And that is not the federal government. In fact, the most significant changes in policy and provision (e.g., the funding and organization of child care services in Quebec, the introduction of full-day JK and SK in Ontario, and more recent system-wide changes in PEI) have all been driven by individual provinces. The situation is further complicated in that it is inconceivable that any federal funding would be allocated on any other basis than proportionally by population. Since the level of funding budgeted by the federal government under the Multilateral ELCC is too low and the conditions of individual agreements are so vague, it is hard to disagree with Prentice and White (2019) that it is not likely to result in any substantive paradigm change.

A notable characteristic of federal government initiatives is the lack of specificity, which allows the provinces a large scope for interpretation. Even child care advocates are often unable to interpret what "national" goals such as universality[9] and quality actually mean in practice. Additionally, initiatives related to expansion of affordable licensed child care often get stalled or even cancelled. At the provincial level, the number of reforms that survived the change of governments is not very long. Especially vulnerable are pilot programs as evidenced by the cancellation of Alberta's low fee initiative in 2019 and termination of support programs in separate funding envelopes such as the child care workers' wage subsidy in Ontario. Probably most stable are provincial reforms related to expanding the scope of kindergarten programs, both in age and full-time status. In this regard, the introduction of full day kindergarten in Ontario is notable in its scope, if not the actual execution. In that particular case we witnessed a rare alignment of "intellectual, bureaucratic and political" leadership seen by de la Porte and Natali (2018) as critical to fostering paradigm change. A similar alignment occurred in late 1990s giving birth to Quebec's child care reform. A different pathway in which engaged bureaucracy is replaced with activation of public opinion has been studied in US context by Gormley (2011). This approach has been

[9] Notably there is no mention of universality in the latest MELCC framework.

adopted with some success by the BC '$10aDay Child Care' movement. Yet like the European Social Investment project and Quebec's child care reform, BC's child care reform is in danger of being eventually watered down by successive changes in political philosophies and fiscal realities.

5.5 Auspice and system management

As Cleveland and Krashinsky (2009) noted, local markets differ in their ability to provide sufficient access and quality of care; they divide markets into "thin" and "thick" based on the population size positing that in thin markets, that is markets with small child population, there is very little difference in quality of care between for-profit and non-profit operators.

Study 3 provided a unique opportunity to investigate the issue of auspice in a thick market. Within a strong accountability system, non-profit child care centres that should have provided on average a higher level of quality than their commercial counterparts failed to do so. This may be surprising especially since, as a sector, the commercial[10] centres operate in lower SES neighbourhoods and have much higher proportion of subsidized children. For convenience, the table with profiles of the different centre types that comprise Study 3 is reproduced below with addition of average AQI total and interaction scores in the first two rows of the table.

Table 5.1

Study 3 covariates by centre type – AQI ratings aggregated to centre level over 3 years

		Commercial		Non-profit		
Covariates	All centres	Single	Multi	Single	Multi	Public
Total AQI	4.09	4.00	4.16	4.02	4.09	4.41
Interactions AQI	4.16	4.01	4.09	4.16	4.17	4.41
ECE hours (%)	71.25	59.53	62.22	74.43	71.99	77.86
ECE hourly wage	22.52	17.90	18.16	23.46	22.21	31.85
SUP hourly wage	34.16	28.26	30.89	36.14	31.85	50.71
# preschool spaces	31.05	32.70	40.21	30.27	29.16	31.83
Infant (%/100)	0.36	0.50	0.59	0.25	0.33	0.71
Kindergarten (%/100)	0.62	0.38	0.57	0.77	0.63	0.14

[10] I refer interchangeably to "for-profit" operators as "commercial" because City of Toronto's budget guidelines do not allow any profit within its purchase of service contracts.

Subsidized (%)	44.97	64.87	67.23	31.70	42.69	73.40
1 parent family (%)	53.22	63.16	62.80	47.88	51.97	63.02
Neighbourhood CFIS	0.18	0.55	0.56	-0.08	0.16	0.46

Similar to Bushouse (1999; 2010; 2011) I make a distinction based on the organizational structure of the program. Bushouse argues that "sector" is too imprecise a level for analysis of club goods[11] (e.g. child care centres) and classification should be based on the power to make organizational rules (a single person vs. a board) and power to enforce and monitor the same rules. In Study 3 I make the distinction between single site operations and multiple site operations. Although the supervisors of single site non-profit centres must report to a board, often these boards are "paper boards" (Bushouse, 1999) with little or no influence over the conduct of the business. My definition of the "public" type of child care is narrow in that it is limited to the municipally operated centres only; however, a post-hoc analysis which re-assigned eleven child care centres run by colleges with ECE programs to the public sector only marginally extended the distance between the global quality of public sector and all the other types of child care.

It is evident from Table 5.1 that, compared to non-profit centres, the for-profit (aka commercial) centres serve a much higher proportion of subsidized children, children in one-parent families and are operating in neighbourhoods with higher Child and Family Inequality Score. They also pay significantly lower wages and deliver care with a lower proportion of staff with ECE credentials.[12]

Under these circumstances the comparable quality ratings between non- and for-profit centres is striking. One likely explanation is that being part of the City's accountability system for decades has closed the quality gap between these types of providers. However, it is important to note that the data used in Study 3 was restricted to centres with agreements to provide service to subsidized children and represent only about 70% of all preschool programs in Toronto.

Aside from the lack of evidence to support tiered licensing or a reduced frequency of AQI assessments, the findings of Study 3 also highlight the need for strong system management in eliminating sector-based

[11] Club goods are similar to public goods but access may be limited by excludability rules such as user fees or participation and residency eligibility. Club goods, such as child care, can be delivered by private, profit and non-profit, or public sectors.

[12] The commercial operators receive significantly smaller operating grants; given that in a market situation it is necessary compete on prices rather than costs, commercial operators are forced to lower the staffing costs.

differences in quality of care. Indeed, it is impossible to disagree with Hansman (1980) that non-profit status alone is not a guarantee of quality, at least not within the system managed by the City of Toronto. In fact, even within the municipally operated sector which, on average attains much higher quality ratings than the other sectors, not all centres attain the consistently high-quality standard that one should expect of publicly delivered child care.

In Ontario, the provincial licensing process involves consultation with the municipality before granting a new licence to a child care provider. However, these powers seem to be rarely exercised. The municipalities are more likely to use their power to enter into purchase of service agreements to manage the supply and growth in their jurisdictions. For example, in Toronto, the for-profit operators are not allowed to include a profit line in the per diems and a moratorium has been placed on any new contracts with for-profit operators. However, outside of the purchase of service sector, there has been significant growth in capacity of for-profit services, especially for the youngest age groups. In Toronto, for example, the share of infant capacity operated by the commercial sector grew between 2011 and 2019 from 34% to 39%. In absolute numbers, the commercial operators grew by 565 infant spaces compared to non-profit growth of 553 spaces; compared to 2011, by 2019 the commercial infant sector grew by 64% while the non-profit system grew by 40%. The recent expansion of the direct funding of users through refundable tax credits will lead to increasing pressure on existing services and likely expansion of the unlicensed sector.

Even in Quebec, the relentless progress towards child care marketization has been evident. Specifically, although CPEs remain the type of care parents would prefer most, the limited expansion of CPEs and significant growth of the commercial sector suggest that child care availability and cost are foremost in parents' and policymakers' minds. In Ontario several municipalities ceased over the last decade the direct delivery of child care services and the market share of publicly delivered child care has decreased. At the same time, the provincial government has eliminated capital funding and reduced the system planning capabilities of the CMSMs by capping administrative costs at 5 percent. Combined with increased funding of individuals through refundable tax credits, the role of the market in shaping the child care sector has increased significantly.

5.6 Municipal role in ECEC

Ontario is a special case where the responsibility for child care is split between the provincial and municipal levels and, in addition, parts of the ECEC delivery (i.e., kindergarten) are the responsibility of locally elected school boards. Although this adds an additional level of complexity to system management, it also presents an opportunity to adapt to local needs and to plan and manage services effectively in order to meet the expectations set by the provincial framework. In practice, this means that service re-design must respect the local conditions, be it in ethnically diverse communities such as the GTA, rural areas of southern Ontario or resource-based communities in Ontario's north. Although some child care advocates mistrust the municipal service management, some researchers (for example see Jensen & Mahon, 2002) point to the Nordic systems as examples for Canada where national frameworks and a municipal role can effectively coexist.

5.7 Implications of the three papers for ECEC in Canada and Ontario.

As stated in the Introduction to this dissertation, my research was driven by an equity lens. As the results of the three studies indicate, system management that establishes and monitors program quality standards, and system management capability are essential to making progress on achieving greater equity for children, families and ECEC workers. The social investment field is awash in literature discussing the failure to fully realize the benefits that were envisioned by its proponents. In the European Union community the contributing factors were the economic crisis of 2008 followed by EU expansion into predominantly conservative eastern European countries. In Canada we have seen child care policy pivot on federal and provincial levels several times over the last twenty years. The arguments for supply-based funding of ECEC services often neglect the system management side of the equation. Yes, investment is important, but without system planning and management, without an adequate knowledge base that includes current research, administrative data and assessment of community needs, any large-scale investment will risk further increases in inequality.

5.8 Future research directions

The Government of Canada allocated a substantial sum in the development of federal data and research strategy as part of its funding commitment to ELCC (Canada, 2018b). The first study recommends refocusing research to the level of individual jurisdictions rather than conducting data collection and research on the national level. The basis for this recommendation is the heterogeneity of policies, legislation, terminology and actual delivery systems between individual provinces and territories.

In this dissertation I have identified the two areas where the lack of knowledge is most glaring: utilization of unlicensed child care and quality of all child care services. The proposal to individually license, monitor and support all HCC providers (Study2) requires provincial level data collection to establish a baseline to support evaluation and follow up research.

The importance of system management in minimizing the auspice effect on global ratings emerged during the investigation of the stability of quality ratings (Study 3). A post hoc analysis using the same AQI dataset but restricted to the interaction items alone (see Table 5.1, above) revealed a statistically significant advantage of non-profit compared to single site commercial programs. At the same time, the quality advantage of the municipal sector over the non-profit sector was 12%. While I found no significant relationship between the co-variates identified in Study 3 and AQI ratings stability, additional data captured in the City of Toronto's administrative database may provide more information about the correlates of stability. These include the length of tenure (or turnover) of the supervisor and RECE staff, per staff amount spent on training and owner/operator status of the single commercial sites.

The data presented in Study 3 was generated annually between 2014 and 2016; an additional three years of data have been collected since then and should be analyzed to validate the conclusion of the initial study over a longer period of time.

The scope of Study 3 was limited by a journal page limit. Since similar AQI data exist for infant and toddler classrooms, future research should be extended in those age groups as well.

Finally, as I stressed in the text of Study 3 and in this Discussion, the results were limited to preschool programs covered by the agreements for the purchase of service for subsidized children. Approximately 30% of preschool capacity in Toronto is in centres without such agreement; AQI assessments in these programs could provide evidence about municipal service management and the market behaviour of private centres in a thick market.

5.9 Conclusion

The three studies included in this dissertation progress from child care utilization on the national and provincial levels, to a closer investigation of unlicensed care, and a proposed model for oversight and support of individual HCC providers. Finally, utilizing child care administrative data from Canada's largest municipality, I investigated the issue of stability of quality ratings over time in different types of child care centres. Together these studies shed light on the extent of inequity in accessing quality child care, and propose some policy directions compatible with the goals of a social investment strategy focused on breaking intergenerational transfer of cumulative disadvantage. Among immediate priorities and as a precondition to developing a realistic response is the need to create and maintain a knowledge base that can support policy development and effective system management practices.

The studies were designed and executed before the current pandemic; the failure of the tiered licensing regime has clearly demonstrated itself in the case of Long Terms Care (LTC) facilities. The Ontario government initiated the conversion to tiered licensing of child care services at the same time as it did so for the LTC sector. The questions I asked and attempted to answer in this dissertation are relevant today as much, or even more so, than when they were in the planning stages. It is clear that return to what "was" is not a realistic response to the lessons of the pandemic. Yet the scope of social investment demands that we are armed with the best possible information before designing a new, more equitable child care system. A failure to do so may lead to unintended effects of a widening the inequality gap with effects lasting into the next generation.

References

Abrassart, A., & Bonoli, G. (2015). Availability, Cost or Culture? Obstacles to Childcare Services for Low-Income Families. *Journal of Social Policy*, *44*(04), 787–806. https://doi.org/10.1017/S0047279415000288

Akbari, E., & McCuaig, K. (2014). *Early childhood education report 2014*. Ontario Institute for Studies in Education.

Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology*, *10*(4), 541–552. https://doi.org/10.1016/0193-3973(89)90026-9

Barnett, W. S., Jung, K., Friedman-Krauss, A., Frede, E. C., Nores, M., Hustedt, J. T., Howes, C., & Daniel-Echols, M. (2018). State Prekindergarten Effects on Early Learning at Kindergarten Entry: An Analysis of Eight State Programs. *AERA Open*, *4*(2), 233285841876629. https://doi.org/10.1177/2332858418766291

Bassok, D., Fitzpatrick, M., Greenberg, E., & Loeb, S. (2016). Within- and Between-Sector Quality Differences in Early Childhood Education and Care. *Child Development*, *87*(5), 1627–1645. https://doi.org/10.1111/cdev.12551

Bassok, D., & Galdo, E. (2016). Inequality in Preschool Quality? Community-Level Disparities in Access to High-Quality Learning Environments. *Early Education and Development*, *27*(1), 128–144. https://doi.org/10.1080/10409289.2015.1057463

Bigras, N., Bouchard, C., Cantin, G., Brunson, L., Coutu, S., Lemay, L., Tremblay, M., Japel, C., & Charron, A. (2010). A Comparative Study of Structural and Process Quality in Center-Based and Family-Based Child Care Services. *Child & Youth Care Forum*, *39*(3), 129–150. https://doi.org/10.1007/s10566-009-9088-4

Blank, R. M. (2000). When Can Public Policy Makers Rely on Private Markets? The Effective Provision of Social Services. *The Economic Journal*, *110*(462), 34–49. https://doi.org/10.1111/1468-0297.00519

Blau, D. M. (2007). Unintended consequences of child care regulations. *Labour Economics*, *14*(3), 513–538. https://doi.org/10.1016/j.labeco.2006.01.003

Boller, K., Paulsell, D., Grosso, P. D., Blair, R., Lundquist, E., Kassow, D. Z., Kim, R., & Raikes, A. (2015). Impacts of a child care quality rating and improvement system on child care quality. *Early Childhood Research Quarterly*, *30*, 306–315. https://doi.org/10.1016/j.ecresq.2014.10.001

Brennan, D., Cass, B., Himmelweit, S., & Szebehely, M. (2012). The marketisation of care: Rationales and consequences in Nordic and liberal care regimes. *Journal of European Social Policy*, *22*(4), 377–391. http://resolver.scholarsportal.info/resolve/09589287/v22i0004/377_tmocrainalcr

Brunsek, A., Perlman, M., Falenchuk, O., McMullen, E., Fletcher, B., & Shah, P. S. (2017). The relationship between the Early Childhood Environment Rating Scale and its revised form and child outcomes: A systematic review and meta-analysis. *PLOS ONE*, *12*(6), e0178512. https://doi.org/10.1371/journal.pone.0178512

Burchinal, M. (2018). Measuring Early Care and Education Quality. *Child Development Perspectives*, *12*(1), 3–9. https://doi.org/10.1111/cdep.12260

Burchinal, M., Magnuson, K., Powell, D., & Hong, S. S. (2015). Early childcare and education. In M. H. Bornstein, T. Leventhal, & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science* (pp. 1–45).

Burchinal, M., Nelson, L., Carlson, M., & Brooks-Gunn, J. (2008). Neighborhood Characteristics, and Child Care Type and Quality. *Early Education & Development*, *19*(5), 702. http://www.informaworld.com/10.1080/10409280802375273

Bushouse, B. (2010). Utilizing the Institutional Analysis and Development Framework to Understand Quality Variation in Mixed Economies for Toll Goods: The Importance of Governance Structures. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1658447

Bushouse, B. K. (1999). *The mixed economy of child care: An institutional analysis of nonprofit, for-profit and public enterprises* [PhD Thesis]. Indiana University.

Bushouse, B. K. (2011). Governance structures: Using IAD to understand variation in service delivery for club goods with information asymmetry. *Policy Studies Journal*, *39*, 105+. http://go.galegroup.com.myaccess.library.utoronto.ca/ps/i.do?id=GALE%7CA253322300&v=2.1&u=utoronto_main&it=r&p=AONE&sw=w&asid=168081d185913fb35f1928b3c0f5bb4c

Camehl, G. F., Schober, P. S., & Spiess, C. K. (2018). Information asymmetries between parents and educators in German childcare institutions. *Education Economics*, *26*(6), 624–646. https://doi.org/10.1080/09645292.2018.1463358

Canada. (2012). *Public Investments in Early Childhood Education and Care*. Human Resources and Skills Development Canada.

Canada, E. and S. D. (2017, August 23). *Canada-Ontario Early Learning and Child Care Agreement* [Navigation page - partnering and collaborative arrangement profile]. Aem. https://www.canada.ca/en/early-learning-child-care-agreement/agreements-provinces-territories/ontario.html

Canada, E. and S. D. (2018a, April 10). *Canada-Saskatchewan Early Learning and Child Care Agreement* [Navigation page - partnering and collaborative arrangement profile]. Aem. https://www.canada.ca/en/early-learning-child-care-agreement/agreements-provinces-territories/saskatchewan.html

Canada, E. and S. D. (2018b, November 19). *Terms of Reference for the Expert Panel on Early Learning and Child Care*. Aem. https://www.canada.ca/en/employment-social-development/programs/early-learning-child-care/expert-panel/call-nominations/terms-reference.html

Canada, E. and S. D. (2019, August 22). *National Progress Report on Early Learning and Child Care (2017 to 2018)* [Program results]. Aem. https://www.canada.ca/en/employment-social-development/programs/early-learning-child-care/reports/2019-national-progress.html#h2.3-3.1

Canada, & Employment and Social Development Canada. (2017). *Multilateral Early Learning and Child Care Framework.* Employment and Social Development Canada. http://publications.gc.ca/collections/collection_2017/edsc-esdc/Em12-29-2017-eng.pdf

Cannon, J. S., Zellman, G. L., Karoly, L. A., & Schwartz, H. L. (2017). *Quality Rating and Improvement Systems for early care and education programs: Making the second generation better*. RAND.

Cantillon, B., & Van Lancker, W. (2013). Three Shortcomings of the Social Investment Perspective. *Social Policy and Society*, *12*(4), 553–564. https://doi.org/10.1017/S1474746413000080

CBC. (2013, February 22). Who's Watching th Kids? In *Marketplace*. CBC. http://www.cbc.ca/marketplace/episodes/2012-2013/whos-watching-the-kids

Child Care Aware. (2013). *We can do better: Child Care Aware of America's ranking of state child care center regulations and oversight*. https://usa.childcareaware.org/wp-content/uploads/2015/10/wecandobetter_2013_final_april_11_0.pdf

City of Toronto Children's Services. (2014). *Early Learning and Care in Toronto—January 2014*. City of Toronto.

Cleveland, G., Forer, B., Hyatt, D., Japel, C., & Krashinsky, M. (2008). *New Evidence about Child Care in Canada: Use Patterns, Affordability and Quality.* IRRP Choices 14(12). http://archive.irpp.org/choices/archive/vol14no12.pdf

Cleveland, Gordon. (2008). *If it don't make dollars, does that mean that it don't make sense? Commercial, Nonprofit and Municipal Child Care in the City of Toronto*. City of Toronto. http://www.toronto.ca/children/pdf/cleveland_report_may08.pdf

Cleveland, Gordon, Colley, S., Friendly, M., Lero, D. S., & Shillington, R. (2003). *The State of Data on Early Childhood Education and Care in Canada: National Data Project. Final Report.* ERIC.

Cleveland, Gordon, Forer, B., Hyatt, D., Japel, C., & Krashinski, M. (2007). An economic perspective on the current and future role of nonprofit provision of early learning and child care services in Canada. *Retrieved March*, *21*, 2010.

Cleveland, Gordon, & Krashinsky, M. (2009). The nonprofit advantage: Producing quality in thick and thin child care markets. *Journal of Policy Analysis and Management*, *28*(3), 440–462. http://resolver.scholarsportal.info/resolve/02768739/v28i0003/440_tnapqitatccm

Cloney, D., Cleveland, G., Hattie, J., & Tayler, C. (2016). Variations in the Availability and Quality of Early Childhood Education and Care by Socioeconomic Status of Neighborhoods. *Early Education and Development*, *27*(3), 384–401. https://doi.org/10.1080/10409289.2015.1076674

Coley, R. L., Votruba-Drzal, E., Collins, M. A., & Miller, P. (2014). Selection into early education and care settings: Differences by developmental period. *Early Childhood Research Quarterly*, *29*(3), 319–332. http://resolver.scholarsportal.info/resolve/08852006/v29i0003/319_sieeacsdbdp

Cornelissen, T., Dustmann, C., Raute, A., & Schönberg, U. (2018a). Who Benefits from Universal Child Care? Estimating Marginal Returns to Early Child Care Attendance. *Journal of Political Economy*, *126*(6), 2356–2409. https://doi.org/10.1086/699979

Cornelissen, T., Dustmann, C., Raute, A., & Schönberg, U. (2018b). Who Benefits from Universal Child Care? Estimating Marginal Returns to Early Child Care Attendance. *Journal of Political Economy*, *126*(6), 2356–2409. https://doi.org/10.1086/699979

Corter, C., & Pelletier, J. (2010). Schools as Integrated Service Hubs for Young Children and Families: Policy Implications of the Toronto First Duty Project. *International Journal of Child Care and Education Policy*, *4*(2), 45–54. https://doi.org/10.1007/2288-6729-4-2-45

Côté, S. M., Borge, A. I., Geoffroy, M.-C., Rutter, M., & Tremblay, R. E. (2008). Nonmaternal care in infancy and emotional/behavioral difficulties at 4 years old: Moderation by family risk characteristics. *Developmental Psychology*, *44*(1), 155–168. https://doi.org/10.1037/0012-1649.44.1.155

Davidson, A., Burns, S., Hampton, D., White, L. A., & Perlman, M. (2020). Policy Frameworks and Parental Choice: Using Conjoint Analysis to Understand Parental Decision Making for Child Care. *Working Paper*.

Davis, E. E., Carlin, C. S., Krafft, C., & Tout, K. (2014). Time for a change? Predictors of child care changes by low-income families. *Journal of Children and Poverty*, *20*(1), 21–45. https://doi.org/10.1080/10796126.2014.894003

de la Porte, C., & Natali, D. (2018). Agents of institutional change in EU policy: The social investment moment. *Journal of European Public Policy*, *25*(6), 828–843. https://doi.org/10.1080/13501763.2017.1401110

Debacker, M. (2008). Care strategies among high- and low-skilled mothers: A world of difference? *Work, Employment and Society*, *22*(3), 527–545. https://doi.org/10.1177/0950017008093476

Deeming, C., & Smyth, P. (2015). Social Investment after Neoliberalism: Policy Paradigms and Political Platforms. *Journal of Social Policy*, *44*(2), 297–318. https://doi.org/10.1017/S0047279414000828

Doherty, G., Lero, D. S., Goelman, H., Tougas, J., & LaGrange, A. (2000). *Caring and Learning Environments: Quality in Regulated Family Child Care across Canada. You Bet I Care!*. Centre for Families, Work and Well-Being, University of Guelph.

Early, D. M., Maxwell, K. L., Burchinal, M., Alva, S., Bender, R. H., Bryant, D., Cai, K., Clifford, R. M., Ebanks, C., Griffin, J. A., Henry, G. T., Howes, C., Iriondo-Perez, J., Jeon, H.-J., Mashburn, A. J., Peisner-Feinberg, E., Pianta, R. C., Vandergrift, N., & Zill, N. (2007). Teachers' Education, Classroom Quality, and Young Children's Academic Skills: Results From Seven Studies of Preschool Programs. *Child Development*, *78*(2), 558–580. http://resolver.scholarsportal.info/resolve/00093920/v78i0002/558_tecqayfssopp

Esping-Andersen, G. (2002). A Child-Centred Social Investment Strategy. In G. Esping-Andersen (Ed.), *Why We Need a New Welfare State* (pp. 26–67). Oxford University Press. https://doi.org/10.1093/0199256438.003.0002

Esping-Andersen, G., Gallie, D., Hemerijck, A., Myles, J., & others. (2002). *Why we need a new welfare state*. OUP Oxford.

Findlay, L. (2019). *Early Learning and Child Care for Children Aged 0 to 5 Years: A Provincial/Territorial Portrait* (Report No. 099. Cat No. 11-626-X; Statistics Canada Economic Insights). Statistics Canada.

Findlay, L., & Kohen, D. (2020). GSS 2011 Linked with TIFF: Exploring the Cost of Child Care in Canada and the Use of the Child Care Expense Deduction. *Canadian Journal of Family and Youth / Le Journal Canadien de Famille et de La Jeunesse*, *12*(1), 81–103. https://doi.org/10.29173/cjfy29535

Flanagan, K., Beach, J., & Varmuza, P. (2013). *You Bet We Still Care! ASurvey of Centre-Based Early Childhood Education and Care in Canada: Highlights Report*. Child Care Human Resource Sector Council.

Forry, N., Isner, T. K., Daneri, M. P., & Tout, K. (2014). Child Care Decision Making: Understanding Priorities and Processes Used by Low-Income Families in Minnesota. *Early Education and Development*, *25*(7), 995–1015. https://doi.org/10.1080/10409289.2014.893758

Friendly, M., Grady, B., Macdonald, L., & Forer, B. (2015). *Early childhood education and care in Canada 2014*. Childcare Resource and Research Unit. http://childcarecanada.org/publications/ecec-canada/16/03/early-childhood-education-and-care-canada-2014

Friendly, M., Larsen, E., & Feltham, L. (2018). *Early Childhood Education and Care in Canada 2016*. https://apps.uqo.ca/LoginSigparb/LoginPourRessources.aspx?url=http://www.deslibris.ca/ID/10096600

Gable, S., & Halliburton, A. (2003). Barriers to Child Care Provider's Professional Development. *Child and Youth Care Forum*, *32*(3).

Galster, G. C. (2012). *The mechanism(s) of neighbourhood effects: Theory, evidence, and policy implications* (pp. 23–56). Springer.

Galster, G. C., Quercia, R. G., & Cortes, A. (2011). Identifying neighborhood thresholds: An empirical exploration. *Housing Policy Debate*, *11*(3), 701–732. https://doi.org/10.1080/10511482.2000.9521383; M3: doi: 10.1080/10511482.2000.9521383; 23

Gamble, W. C., Ewing, A. R., & Wilhlem, M. S. (2009). Parental Perceptions of Characteristics of Non-Parental Child Care: Belief Dimensions, Family and Child Correlates. *Journal of Child and Family Studies*, *18*(1), 70–82. https://doi.org/10.1007/s10826-008-9208-z

Gingras, L. (2012). Quelques caractéristiques associées à l'utilisation des services de garde à contribution réduite dans la dernière décennie. *Portraits&trajectoires*, *13*. http://www.stat.gouv.qc.ca/statistiques/sante/bulletins/portrait-201203.pdf

Gingrich, J., & Ansell, B. W. (2015). The Dynamics of Social Investment: Human Capital, Activation, and Care. In P. Beramendi, S. Hausermann, H. Kitschelt, & H. Kriesi (Eds.), *The Politics of Advanced Capitalism* (pp. 282–304). Cambridge University Press. https://doi.org/10.1017/CBO9781316163245.012

Goelman, H., & Pence, A. (1988). Children in Three Types of Day Care: Daily Experiences, Quality of Care and Developmental Outcomes. *Early Child Development and Care*, *33*(1), 67–76. https://doi.org/10.1080/0300443880330105

Goelman, H., Pence, A., Lero, D., Brockman, L., Glick, N., & Berkowitz, J. (1993). *Canadian National Child Care Study: Where are the Children?: An Overview of Child Care Arrangements in Canada*. Statistics Canada.

Goelman, Hillel, Doherty, G., Lero, D. S., LaGrange, A., & Tougas, J. (2000). *Caring and Learning Environments: Quality in Child Care Centres across Canada. You Bet I Care!.* ERIC.

Gormley, W. T. (2011). From Science to Policy in Early Childhood Education. *Science*, *333*(6045), 978–981. https://doi.org/10.1126/science.1206150

Gorry, D., & Thomas, D. W. (2017). Regulation and the cost of childcare. *Applied Economics*, *49*(41), 4138–4147. https://doi.org/10.1080/00036846.2016.1276275

Government of Canada, S. C. (2019, April 10). *The Daily—Survey on Early Learning and Child Care Arrangements, 2019*. https://www150.statcan.gc.ca/n1/daily-quotidien/190410/dq190410a-eng.htm

Haeck, C., Lefebvre, P., & Merrigan, P. (2015). Canadian evidence on ten years of universal preschool policies: The good and the bad. *Labour Economics*, *36*, 137–157. https://doi.org/10.1016/j.labeco.2015.05.002

Ham, M. V., Manley, D., Bailey, N., Simpson, L., & Maclennan, D. (2012). *Neighbourhood effects research: New perspectives*. Springer.

Han, W.-J. (2004). Nonstandard work schedules and child care decisions: Evidence from the NICHD Study of Early Child Care. *Early Childhood Research Quarterly*, *19*(2), 231–256. https://doi.org/10.1016/j.ecresq.2004.04.003

Hansen, K., & Hawkes, D. (2009). Early Childcare and Child Development. *Journal of Social Policy*, *38*(2), 211–239. https://doi.org/10.1017/S004727940800281X

Hansmann, H. B. (1980). The Role of Nonprofit Enterprise. *The Yale Law Journal*, *89*(5), 835. https://doi.org/10.2307/796089

Harms, T., Clifford, R., & Cryer, D. (1998). *Early childhood environment rating scale-revised*. New York: Teachers College Press.

Hatfield, B. E., Lower, J. K., Cassidy, D. J., & Faldowski, R. A. (2015). Inequities in access to quality early care and education: Associations with funding and community context. *Early Childhood Research Quarterly*, *30*(Part B), 316–326. http://resolver.scholarsportal.info/resolve/08852006/v30ipart_b/316_iiatqeawfacc

Hemerijck, A. (2015). The Quiet Paradigm Revolution of Social Investment. *Social Politics: International Studies in Gender, State & Society*, *22*(2), 242–256. https://doi.org/10.1093/sp/jxv009

Hemerijck, Anton. (2018). Social investment as a policy paradigm. *Journal of European Public Policy*, *25*(6), 810–827. https://doi.org/10.1080/13501763.2017.1401111

Hotz, V. J., & Xiao, M. (2011). The Impact of Regulations on the Supply and Quality of Care in Child Care Markets. *The American Economic Review*, *101*(5), 1775–1805. http://search.proquest.com.myaccess.library.utoronto.ca/docview/883472806?accountid=14771

Howe, N., Jacobs, E., Vukelich, G., & Recchia, H. (2013). Canadian parents’ knowledge and satisfaction regarding their child’s day-care experience. *Journal of Early Childhood Research*, *11*(2), 133–148. https://doi.org/10.1177/1476718X12466214

Japel, C., Tremblay, R. E., & Côté, S. M. (2005). Quality Counts! Assessing the Quality of Daycare Services Based on the Quebec Longitudinal Study of Child Development. *IRPP Choices*, *11*(5). http://www.irpp.org/choices/archive/vol11no5.pdf

Jenson, J. (2004). *Canada's new social risks: Directions for a new social architecture* (F 43). CPRN. http://www.urbancentre.utoronto.ca/pdfs/elibrary/CPRN_New-Social-Risks_2004.pdf

Jenson, J. (2006). Social investment for new social risks: Consequences of the LEGOTM paradigm for children. *Children in Context: Changing Families and Welfare States, Northampton, Edward Elgar Publishing*.

Jenson, J. (2010). Diffusing Ideas for After Neoliberalism: The Social Investment Perspective in Europe and Latin America. *Global Social Policy: An Interdisciplinary Journal of Public Policy and Social Development*, *10*(1), 59–84. https://doi.org/10.1177/1468018109354813

Jenson, J. (2012). Redesigning citizenship regimes after neoliberalism: Moving towards social investment. *Towards a Social Investment Welfare State? Ideas, Policies and Challenges*, 61–87.

Jenson, J., & Mahon, R. (2002). *Bringing Cities to the Table: Child Care and Intergovernmental Relations*. Canadian Policy Research Networks.

Kamerman, S. B., & Gatenio-Gabel, S. (2007). Early Childhood Education and Care in the United States: An Overview of the Current Policy Picture. *International Journal of Child Care and Education Policy*, *1*(1), 23–34. https://doi.org/10.1007/2288-6729-1-1-23

Karoly, L. A. (2014). *Validation Studies for Early Learning and Care Quality Rating and Improvement Systems*. RAND Education and RAND Labor and Population.

Karoly, L. A., Zellman, G. L., & Perlman, M. (2013). Understanding variation in classroom quality within early childhood centers: Evidence from Colorado's quality rating and improvement system. *Early Childhood Research Quarterly*, *28*(4), 645–657. https://doi.org/10.1016/j.ecresq.2013.05.001

Kim, J., & Fram, M. S. (2009). Profiles of choice: Parents' patterns of priority in child care decision-making. *Early Childhood Research Quarterly*, *24*(1), 77–91. https://doi.org/10.1016/j.ecresq.2008.10.001

Kohen, D., Dahinten, V. S., Khan, S., & Hertzman, C. (2008). Child Care in Quebec: Access to a Universal Program. *Canadian Journal of Public Health / Revue Canadienne de Sante'e Publique*, *99*(6), 451–455. http://www.jstor.org/stable/41995150

Kontos, S., Howes, C., Shinn, M., & Galinsky, E. (1995). *Quality in Family Child Care and Relative Care*. Teachers College Press.

Kuitto, K. (2016). From social security to social investment? Compensating and social investment welfare policies in a life-course perspective. *Journal of European Social Policy*, *26*(5), 442–459. https://doi.org/10.1177/0958928716664297

Laughlin, L. (2013). *Who's minding the kids?: Child care arrangements, Spring 2011*. US Department of Commerce, Bureau of the Census.

Laurin, J. C., Geoffroy, M.-C., Boivin, M., Japel, C., Raynault, M.-F., Tremblay, R. E., & Cote, S. M. (2015). Child Care Services, Socioeconomic Inequalities, and Academic Performance. *PEDIATRICS*, *136*(6), 1112–1124. https://doi.org/10.1542/peds.2015-0419

Layzer, J., & Goodson, B. (2006). The "Quality " of Early Care and Education Settings. *Evaluation Review*, *30*(5), 556–576. http://resolver.scholarsportal.info/resolve/0193841x/v30i0005/556_toecaes

Lehrer, J. S., Lemay, L., & Bigras, N. (2015). Parental Perceptions of Child Care Quality in Centre-Based and Home-Based Settings: Associations with External Quality Ratings. *International Journal of Early Childhood*, *47*(3), 481–497. https://doi.org/10.1007/s13158-015-0147-8

Lero, D., & others. (2007). *Investing in quality policies, practitioners, programs and parents: A four-point plan to deliver high quality early learning and care services in Ontario: Report of the Expert Panel on Quality and Human Resources.* Miinistry of Children and Youth Services. https://www.childcarecanada.org/sites/default/files/Investing%20in%20Quality.pdf

Lero, D. S., Prentice, S., Friendly, M., Richardson, B., & Fraser, L. (2019). *Non-standard work and child care in Canada: A challenge for parents, policy makers, and child care provision.* Childcare Resource and Research Unit and University of Guelph. https://www.childcarecanada.org/documents/research-policy-practice/20/02/report-non-standard-work-and-child-care-canada-challenge-pa

LLoyd, E., & Penn, H. (Eds.). (2012). *Childcare markets: Can they deliver an equitable service?* (1st ed.). The Policy Press, University of Bristol.

Loeb, S., Fuller, B., Kagan, S. L., & Carrol, B. (2004). Child Care in Poor Communities: Early Learning Effects of Type, Quality, and Stability. *Child Development*, *75*(1), 47–65. http://www.jstor.org.myaccess.library.utoronto.ca/stable/3696565

Macdonald, D. (2018a). *Child care deserts in Canada*. Canadian Centre for Policy Alternatives. http://rightsofchildren.ca/wp-content/uploads/2019/12/Child-Care-Deserts-in-Canada.pdf

Macdonald, D. (2018b). *Child Care Deserts in Canada*. Canadian Centre for Policy Alternatives. https://apps.uqo.ca/LoginSigparb/LoginPourRessources.aspx?url=http://www.deslibris.ca/ID/10097147

Macdonald, D., & Friendly, M. (2020). *In progress: Chid care fees in Canada 2019*. Canadian Centre for Policy Alternatives.

Magnuson, K. A., Ruhm, C., & Waldfogel, J. (2007). The persistence of preschool effects: Do subsequent classroom experiences matter? *Early Childhood Research Quarterly*, *22*(1), 18–38. https://doi.org/10.1016/j.ecresq.2006.10.002

Mahon, R. (2007). Challenging National Regimes From Below: Toronto Child-Care Politics. *Politics & Gender*, *3*(01). https://doi.org/10.1017/S1743923X07070043

Mahon, R. (2010). After Neo-Liberalism?: The OECD, the World Bank and the Child. *Global Social Policy: An Interdisciplinary Journal of Public Policy and Social Development*, *10*(2), 172–192. https://doi.org/10.1177/1468018110366615

Malik, R., & Hamm, K. (2017). Mapping America's Child Care Deserts. *Washington: Center for American Progress*.

Manley, D., Ham, M. van, Bailey, N., Simpson, L., & Maclennan, D. (2013). *Neighbourhood Effects or Neighbourhood Based Problems? A Policy Context*. Springer.

Manning, M., Wong, G. T. W., Fleming, C. M., & Garvis, S. (2019). Is Teacher Qualification Associated With the Quality of the Early Childhood Education and Care Environment? A Meta-Analytic Review. *Review of Educational Research*, *89*(3), 370–415. https://doi.org/10.3102/0034654319837540

McCartney, K., Dearing, E., Taylor, B. A., & Bub, K. L. (2007). Quality child care supports the achievement of low-income children: Direct and indirect pathways through caregiving and the home environment. *Journal of Applied Developmental Psychology*, *28*(5–6), 411–426. http://resolver.scholarsportal.info/resolve/01933973/v28i5-6/411_qccstatcathe

Melhuish, E., Ereky-Stevens, K., Petrogiannis, K., Ariescu, A., Penderi, E., Rentzou, K., Tawell, A., Slot, P., Broekhuizen, M., & Leseman, P. (2015). *A review of research on the effects of Early Childhood Education and Care (ECEC) upon child development*. EU CARE project.

Melhuish, E., & Gardiner, J. (2019). Structural Factors and Policy Change as Related to the Quality of Early Childhood Education and Care for 3–4 Year Olds in the UK. *Frontiers in Education*, *4*. https://doi.org/10.3389/feduc.2019.00035

Metropolitan Toronto. (1986). *Blueprint for child care services: Realistic responses to the need*. https://www.torontopubliclibrary.ca/detail.jsp?Entt=RDM499903&R=499903

Metropolitan Toronto. (1997). *The first duty: Report of the Metro Task Force on Services to Young Children and Families.* https://www.torontopubliclibrary.ca/detail.jsp?Entt=RDM1188735&R=1188735

Mitchell, L. (2012). *Markets and childcare provision in New Zealand: Towards a fairer alternative* (E. LLoyd & H. Penn, Eds.; 1st ed., p. 97). The Policy Press, University of Bristol.

Mocan, N. (2007). Can consumers detect lemons? An empirical analysis of information asymmetry in the market for child care. *Journal of Population Economics*, *20*(4), 743–780. http://resolver.scholarsportal.info/resolve/09331433/v20i0004/743_ccdlaeitmfcc

Morgan, K. J. (2009). Child care and the social investment model: Political conditions for reform. *What Future for Social Investment*, 45–54.

Morris, J., & Helburn, S. (2000). Child Care Center Quality Differences: The Role of Profit Status, Client Preferences, and Trust. *Nonprofit and Voluntary Sector Quarterly*, *29*(3), 377–399. http://resolver.scholarsportal.info/resolve/08997640/v29i0003/377_cccqdtpscpat

Moss, P. (2012). *Need markets be the only show in town?* (E. LLoyd & H. Penn, Eds.; 1st ed., p. 191). The Policy Press, University of Bristol.

NICHD Early Child Care Research Network. (2002). Child-Care Structure ? Process ? Outcome: Direct and Indirect Effects of Child-Care Quality on Young Children's Development. *Psychological Science*, *13*(3), 199–206. https://doi.org/10.1111/1467-9280.00438

OECD (Ed.). (2006). *Starting strong II: Early childhood education and care*. OECD.

OECD (Ed.). (2012). *A Quality toolbox for early childhood education and care*. OECD.

OECD. (2014). *OECD Family Database*. www.oecd.org/social/family/database

OECD. (2015). *Starting Strong IV:Monitoring Quality in Early Childhood Education and Care*. OECD Publishing. https://doi.org/10.1787/9789264233515-en

OECD. (2017). *Public expenditure on childcare and early education services*. OECD Publishing. https://www.oecd-ilibrary.org/economics/economic-policy-reforms-2017/public-expenditure-on-childcare-and-early-education-services_growth-2017-graph176-en

Ontario Ministry of Education. (2015). *2015 Licensed Child Care Operators Survey Report*. http://www.edu.gov.on.ca/childcare/2015LicensedChildCareOperatorsReport.html

Ontario Ministry of Education. (2017a). *2017 Licensed Child Care Operators Survey Report*. Government of Ontario. http://www.edu.gov.on.ca/childcare/2017LicensedChildCareOperatorsReport.html

Ontario Ministry of Education. (2017b). *Ontario's Renewed Early Years and Child Care Policy Framework*. http://www.edu.gov.on.ca/childcare/renewed_early_years_child_care_policy_framework_en.pdf

Ontario Ministry of Education. (2018). *Ontario's Early Years and Child Care Annual Report 2018*. http://www.edu.gov.on.ca/childcare/annual-report-2018.html#_bookmark0

Ontario, G. of. (n.d.). *What else do I need to know?* Government of Ontario. Retrieved May 21, 2020, from http://www.edu.gov.on.ca/kindergarten/whatelsedoineedtoknow.html

Ontario Ombudsman. (2014). *Careless About Child Care* [Ombudsman Report]. https://ombudsman.on.ca/Files/sitemedia/Documents/CarelessAboutChildCareEN_1.pdf

Oreopoulos, P. (2008). Neighbourhood effects in Canada: A critique. *Canadian Public Policy*, *34*(2), 237–258.

Pascal, C. E. (2009). *With our best future in mind: Implementing early learning in Ontario : report to the Premier by the special advisor on Early Learning*. Govt. of Ontario.

Pauker, S., Perlman, M., Prime, H., & Jenkins, J. (2018). Caregiver cognitive sensitivity: Measure development and validation in Early Childhood Education and Care (ECEC) settings. *Early Childhood Research Quarterly*, *45*, 45–57. https://doi.org/10.1016/j.ecresq.2018.05.001

Paull, G. (2012). *Childcare markets and government intervention* (E. LLoyd & H. Penn, Eds.; 1st ed., p. 227). The Policy Press, University of Bristol.

Pavolini, E., & Van Lancker, W. (2018). The Matthew effect in childcare use: A matter of policies or preferences? *Journal of European Public Policy*, *25*(6), 878–893. https://doi.org/10.1080/13501763.2017.1401108

Penn, H. (2011). Gambling on the market: The role of for-profit provision in early childhood education and care. *Journal of Early Childhood Research*, *9*(2), 150–161. http://resolver.scholarsportal.info/resolve/1476718x/v09i0002/150_gotmtrieceac

Perlman, M., & Falenchuk, O. (2010). *DOES THE CITY OF TORONTO'S MEASURE OF CHILD CARE CENTRE QUALITY WORK AS INTENDED? Vol. Report prepared for City fo Toronto Children's Services*.

Perlman, M., Varmuza, P., & White, L. A. (2017). Path-Dependent Policy Making and Unlicensed Childcare: Lessons from Ontario. In S. Prentice (Ed.), *Caring for Children: Social Movements and Public Policy in Canada*. UBC Press.

Perlman, Michal, Brunsek, A., Hepditch, A., Gray, K., & Falenchuck, O. (2017). Instrument Development and Validation of the Infant and Toddler Assessment for Quality Improvement. *Early Education and Development*, *28*(1), 115–133. https://doi.org/10.1080/10409289.2016.1186468

Perlman, Michal, Howe, N., Gulyas, C., & Falenchuk, O. (2019). Associations between Directors' Characteristics, Supervision Practices and Quality of Early Childhood Education and Care

Classrooms. *Early Education and Development*, 1–17. https://doi.org/10.1080/10409289.2019.1679006

Phillips, D. A., Lipsey, M. W., Dodge, K. A., Haskins, R., Bassok, D., Burchinal, M. R., Duncan, G. J., Dynarski, M., Magnuson, K. A., & Weiland, C. (2017). The current state of scientific knowledge on pre-kindergarten effects. *Washington, DC. Accessed April*, *18*, 2017. https://www.brookings.edu/wp-content/uploads/2017/04/consensus-statement_final.pdf

Phillips, D., Scarr, S., McCartney, K., & Abbott–Shim, M. (2000). Within and beyond the classroom door: Assessing quality in child care centers. *Early Childhood Research Quarterly*, *15*(4), 475–496. http://resolver.scholarsportal.info/resolve/08852006/v15i0004/475_wabtcdaqiccc

Phillipsen, L. C., Burchinal, M. R., Howes, C., & Cryer, D. (1997). The prediction of process quality from structural features of child care. *Early Childhood Research Quarterly*, *12*(3), 281–303. http://resolver.scholarsportal.info/resolve/08852006/v12i0003/281_tpopqfsfocc

Porter, T., Paulsell, D., Del Grosso, P., Avellar, S., Hass, R., & Vuong, L. (2010). A review of the literature on home-based child care: Implications for future directions. *Princeton, NJ: Mathematica Policy Research*.

Prentice, S. (2001). *Changing child care five decades of child care advocacy and policy in Canada /*. Halifax, N.S. : Fernwood Pub., c2001.

Prentice, S., Langford, R., & Albanese, P. (2017). *Caring for children: Social movements and public policy in Canada*.

Prentice, S., & White, L. A. (2019). Childcare deserts and distributional disadvantages: The legacies of split childcare policies and programmes in Canada. *Journal of International and Comparative Social Policy*, *35*(1), 59–74. https://doi.org/10.1080/21699763.2018.1526700

Rabe-Hesketh, S., & Skrondal, A. (2008). *Multilevel and longitudinal modeling using Stata* (2nd edition). STATA press.

Raikes, H. A., Raikes, H. H., & Wilcox, B. (2005). Regulation, subsidy receipt and provider characteristics: What predicts quality in child care homes? *Early Childhood Research Quarterly*, *20*(2), 164–184. https://doi.org/10.1016/j.ecresq.2005.04.006

Romano, E., Kohen, D., & Findlay, L. C. (2010). Associations among child care, family, and behavior outcomes in a nation-wide sample of preschool-aged children. *International Journal of Behavioral Development*, *34*(5), 427–440. https://doi.org/10.1177/0165025409351657

Sabol, T. J., Ross, E. C., & Frost, A. (2019). Are All Head Start Classrooms Created Equal? Variation in Classroom Quality Within Head Start Centers and Implications for Accountability Systems. *American Educational Research Journal*, 000283121985892. https://doi.org/10.3102/0002831219858920

Sandstrom, H., & Chaudry, A. (2012). 'You have to choose your childcare to fit your work': Childcare decision-making among low-income working families. *Journal of Children and Poverty*, *18*(2), 89–119. https://doi.org/10.1080/10796126.2012.710480

Scarr, S. (1998). American Child Care Today. *American Psychologist*, *53*(2), 95–108. http://resolver.scholarsportal.info/resolve/0003066x/v53i0002/95_acct

Sinha, M. (2014). *Child care in Canada [2014*. Statistics Canada, Social and Aboriginal Statistics Division. http://www.deslibris.ca/ID/244808

Slot, P. (2018). *Structural characteristics and process quality in early childhood education and care* (No. 176; OECD Education Working Papers). OECD. https://doi.org/10.1787/edaf3793-en

Small, M. L., Jacobs, E. M., & Massengill, R. P. (2008). Why organizational ties matter for neighborhood effects: Resource access through childcare centers. *Social Forces*, *87*(1), 387–414.

Sosinsky, L. S., Lord, H., & Zigler, E. (2007). For-profit/nonprofit differences in center-based child care quality: Results from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development. *Journal of Applied Developmental Psychology*, *28*(5–6), 390–410. http://resolver.scholarsportal.info/resolve/01933973/v28i5-6/390_fdiccceccayd

Sosinsky, Laura Stout, & Kim, S.-K. (2013). A Profile Approach to Child Care Quality, Quantity, and Type of Setting: Parent Selection of Infant Child Care Arrangements. *Applied Developmental Science*, *17*(1), 39–56. http://resolver.scholarsportal.info/resolve/10888691/v17i0001/39_apatccsoicca

Speight, S., Smith, R., Coshall, C., & Lloyd, E. (2010, November). *Towards universal early years provision: Analysis of take-up by disadvantaged families from recent annual childcare surveys* [Monograph]. http://publications.education.gov.uk/eOrderingDownload/DFE-RR066-WEB.pdf

Stahl, J. F., Schober, P. S., & Spiess, C. K. (2018). Parental socio-economic status and childcare quality: Early inequalities in educational opportunity? *Early Childhood Research Quarterly*, *44*, 304–317. https://doi.org/10.1016/j.ecresq.2017.10.011

Stata Statistical Software:Release 15. (2017). StataCorp.

Statistics Canada. (2011). *General Social Survey, Cycle 25; Family (analytic file)* [Database]. Statistics Canada,Ottawa, Ontario [producer and distributor].

Statistics Canada. (2019a). *Survey on Early Learning and Child Care Arrangements (SELCCA): Detailed information for 2019:* https://www150.statcan.gc.ca/n1/pub/11-626-x/11-626-x2019013-eng.pdf

Statistics Canada. (2019b). *Table 42-10-0005-01 Type of child care arrangement, household population aged 0 to 5 years*. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4210000501

Sylva, K., Siraj-Blatchford, I., Taggart, B., Sammons, P., Melhuish, E., Elliot, K., & Totsika, V. (2006). Capturing quality in early childhood through environmental rating scales. *Early Childhood Research Quarterly*, *21*(1), 76–92. http://resolver.scholarsportal.info/resolve/08852006/v21i0001/76_cqiecters

Sylva, K., Stein, A., Leach, P., Barnes, J., Malmberg, L., & the FCCC-team. (2011). Effects of early child-care on cognition, language, and task-related behaviours at 18 months: An English study: Effects of early child-care. *British Journal of Developmental Psychology*, *29*(1), 18–45. https://doi.org/10.1348/026151010X533229

Szelewa, D., & Polakowski, M. (2020). The “ugly” face of social investment? The politics of childcare in Central and Eastern Europe. *Social Policy & Administration*, *54*(1), 14–27. https://doi.org/10.1111/spol.12497

Tang, S., Coley, R. L., & Votruba-Drzal, E. (2012). Low-income families’ selection of child care for their young children. *Children and Youth Services Review*, *34*(10), 2002–2011. http://resolver.scholarsportal.info/resolve/01907409/v34i0010/2002_lfsoccftyc

The Build Initiative & Child Trends. (2018). *A Catalog and Comparison of Quality Rating and Improvement Systems*. Quality Compendium Resources. https://qualitycompendium.org/resources/qriscompendium.org-resources

The National Center on Early Childhood Quality Assurance. (2015). *Trends in Child Care Center Licensing Regulations and Policies for 2014* (Research Brief #1). https://childcareta.acf.hhs.gov/sites/default/files/public/center_licensing_trends_brief_2014.pdf

Toronto: Metropolitan Toronto Day Care Planning Task ForceTask. (1986). Blueprint for child care services: Realistic responses to the need. *Blueprint for Child Care Services: Realistic Responses to the Need. Toronto: Metropolitan Toronto Day Care Planning Task Force*.

Torquati, J. C., Raikes, H. H., Huddleston-Casas, C. A., Bovaird, J. A., & Harris, B. A. (2011). Family income, parent education, and perceived constraints as predictors of observed program quality and parent rated program quality. *Early Childhood Research Quarterly*, *26*(4), 453–464. http://resolver.scholarsportal.info/resolve/08852006/v26i0004/453_fipeapqaprpq

Tout, K., Starr, R., Soli, M., Moodie, S., Kirby, G., & Boller, K. (2010). *Compendium of Quality Rating Systems and Evaluations* [Mathematica Policy Research Reports]. Mathematica Policy Research. https://EconPapers.repec.org/RePEc:mpr:mprres:e3e1472c256f4bd49f20ac5b3c962ad7

Van Lancker, W., & Ghysels, J. (2016). Explaining patterns of inequality in childcare service use across 31 developed economies: A welfare state perspective. *International Journal of Comparative Sociology*, *57*(5), 310–337. https://doi.org/10.1177/0020715216674252

Vandenbroeck, M., & Lazzari, A. (2014). Accessibility of early childhood education and care: A state of affairs. *European Early Childhood Education Research Journal*, *22*(3), 327–335. https://doi.org/10.1080/1350293X.2014.912895

Vandenbroucke, F., & Vleminckx, K. (2011). Disappointing poverty trends: Is the social investment state to blame? *Journal of European Social Policy*, *21*(5), 450–471.

Varmuza, P., Perlman, M., & White, L. A. (2019). Understanding early childhood education and care utilization in Canada: Implications for demand and oversight. *International Journal of Child Care and Education Policy*, *13*(1). https://doi.org/10.1186/s40723-019-0063-8

Vermeer, H. J., van IJzendoorn, M. H., Cárcamo, R. A., & Harrison, L. J. (2016). Quality of Child Care Using the Environment Rating Scales: A Meta-Analysis of International Studies. *International Journal of Early Childhood*, *48*(1), 33–60. https://doi.org/10.1007/s13158-015-0154-9

Walker, J. R. (1992). New Evidence on the Supply of Child Care: A Statistical Portrait of Family Providers and an Analysis of Their Fees. *The Journal of Human Resources*, *27*(1), 40. https://doi.org/10.2307/145912

Weiland, C., & Yoshikawa, H. (2013). Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills. *Child Development*, *84*(6), 2112–2130.

White, L. A. (2017). *Constructing policy change: Early childhood education and care in liberal welfare states*. University of Toronto Press.

White, L. A., & Friendly, M. (2012). Public Funding, Private Delivery: States, Markets, and Early Childhood Education and Care in Liberal Welfare States – A Comparison of Australia, the UK, Quebec, and New Zealand. *Journal of Comparative Policy Analysis: Research and Practice*, *14*(4), 292–310. https://doi.org/10.1080/13876988.2012.699789

White, L. A., Perlman, M., Davidson, A., & Rayment, E. (2018). Risk perception, regulation, and unlicensed child care: Lessons from Ontario, Canada. *Journal of Risk Research*, 1–19.

Whitebook, M., McLean, C., Austin, L. J. E., & Edwards, B. (2018). *Early Childhood Workforce Index—2018*. Center for the Study of Child Care Employment, University of California, Berkeley. http://cscce.berkeley.edu/topic/early-childhood-workforce-index/2018/

Whitebook, Marcy, Sakai, L., Gerber, E., & Howes, C. (2001). *Then & Now: Changes in Child Care Staffing, 1994-2000. Technical Report.* ERIC.

Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gormley, W. T., Ludwig, J., Magnuson, K. A., Phillips, D., & Zaslow, M. J. (2013). *Investing in our future: The evidence base on preschool education*. Society for Research in Child Development.

Zellman, G., & Perlman, M. (2008). *Child care Quality Rating and Improvement Systems in five pioneer states: Implementation issues and lessons learned*. RAND Corporation.

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