A Literature Review on Early Childhood Development: Children's Health Foundation of Vancouver Island

by

K. Star Gale
B.S.W, McGill University, 2018

A Master's Project Submitted in Partial Fulfillment of the Requirements for the Degree of

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Supervisory Committee

A Literature Review on Early Childhood Development: Children's Health Foundation of Vancouver Island

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Executive Summary

Purpose and Background

The Children's Health Foundation of Vancouver Island (CHF or Foundation)] was developed in 1927 to help fundraise and support children diagnosed with polio and other illnesses in the Vancouver Island area. Today, the Foundation continues to focus on improving the health outcomes of Vancouver Island children and families through the following impact areas: children and youth living with complex needs, early childhood development [ECD] and youth mental health.

To inform the Foundation's ongoing efforts to improve the quality and enhance access to programs and resources for families and their children, in fall 2019, the Foundation identified a need for general literature review on ECD.

Approach

The literature review provides a synthesis of methodologically diverse ECD literature and data from high income countries [HIC]. The examination of the literature had the following objectives:

- Define, contextualize and affirm the importance of ECD
- Highlight general themes and trends from the literature
- Utilize a smart practice approach to identify specific examples of ECD services in consideration of these themes and trends.

This review also identified vulnerabilities and resilience of children below the age of six and examined the impacts of race, socioeconomic status [SES] and ethnicity on children's status and progress. The literature review also identified variables that affected the general ECD environment and provided commentary on areas for future research based on the gaps in the literature examined.

Main Findings

The literature review's analyses and syntheses of ECD in HIC, both across and within jurisdictional regions highlights the diversity, intersection, and complexity of ECD and produced the following main findings:

- Children's formative years are of incredible value, a time when both threats and benefits to life-long development are intensified. How children's early environments are understood and/or augmented can support healthy human development on individual and societal scales.
- Health and nutrition, early learning and childcare, safety and race, ethnicity and socioeconomic status are general themes in ECD. These themes are interconnected and complex, requiring ECD service responses rooted in nurturing care and utilizing multisector and integrated approaches.
- Equitable access to ECD services and a reduction of barriers within HIC's ECD service systems can be considered an international measure of quality ECD.

- Smart ECD practices utilize people and place-based approaches and community driven development with the intended goal of supporting or initiating ECD system's change**.**

Recommendations

The following recommendations were developed for the Vancouver Island Children's Health Foundation and the field of early childhood development in general:

CHF recommendations:

- Utilize a logic model or program cycle to clarify the Foundation's existing collaboration[s], and engagement[s] with ECD stakeholders and to identify desired outcomes and impacts.
- Conduct cyclical jurisdictional scans of ECD service delivery that include primary data collection from service providers and users. Utilize this data to inform system initiatives and disseminate this information widely.
- Continue to engage and invest with partners on Vancouver Island in the development, adoption and improvement of research tools, methods and analyses of vulnerabilities and resilience of children ages 0 – 6.
- Prioritize and leverage local and Indigenous communities' expertise and leadership in ECD processes and governance.

ECD field recommendations:

- Evaluate standard ECD research methods and analyses of SES; invest in enhancements that address the shortcomings of these methods or analyses or highlight their visibility in research findings.
- Invest in the development and adoption of improved research tools, methods and analyses for vulnerabilities and resilience of children ages 0 – 6.

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Abbreviations or Acronyms

The following abbreviations/acronyms are used throughout this project report and literature review:

- British Columbia [BC]
- Community Driven Change [CDC]
- Cree-ative Wonders Daycare (CWD)
- Early Childhood Development [ECD]
- Early Development Instrument [EDI]
- Early Learning and Childcare [ELCC]
- First Nations Partnership Program [FNPP]
- Human Early Learning Partnership [HELP]
- High Income Countries [HIC]
- Lower Middle-Income Countries [LMIC]
- Mainland BC's Multicultural Early Childhood Development [MECD]
- Ministry of Children and Family Development [MCFD]
- MCFD's Early Years' Service Framework [EYSF]
- New Brunswick's Early Childhood Development Centres [ECDC]
- New Hampshire's, Family Resource Centre's Family Support Programs (FSP)
- Ontario's Better Beginnings Better Futures [BBBF]
- Place/Person-Based Approaches [PPBA]
- Positive Parenting Programs [Triple P]
- Public Health Agency of Canada [PHAC]
- Purple Book Health Checks [PBHC]
- Salteau First Nation's [SFN]
- SDG - Sustainable Development Goals [SDG]
- Socioeconomic status [SES]
- Success by [SB6]
- Sustainable Development Goals [SDG]
- Toddler Development Instrument [TDI]
- The American Academy of Pediatrics [AAP]
- The Canadian Council on Social Determinants of Health's [CCSDH]
- The Canadian Institute of Child Health [CICH]
- The National Institute for Children's Health Quality's [NICHQ]
- University of British Columbia [UBC]
- United Chinese Community Enrichment Services Society [SUCCESS]
- United Nations' [UN]
- United States [US]
- University of Victoria [UVic]
- Western Australia [WA]
- WA Australian Early Development Census [AEDC]
- WA Child and Adolescents Health Services [WACAHS]
- WA Community Child Health Program [CCHP]
- WA Child Parent Centres [CPC]
- WA Department of Education, [WADE]
- WA Department of Health [WADH]
- World Health Organization [WHO

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Chapter 1: Introduction

The purpose of this Master's Project was to develop a literature review on early childhood development [ECD] for the Children's Health Foundation [CHF] of Vancouver Island. The literature review was part of a collaborative research project, managed by the Principal Investigator, Dr. Kimberly Speers who works in the School of Public Administration at the University of Victoria [UVic]. The project was sponsored by UVic Community Partnerships and the client for the project was the CHF. Three students from the University of Victoria were engaged to work on an individual topic although they worked from a similar template in terms of general topics that were covered.

The research project produced a report for the CHF consisting of these three literature reviews that provided respective syntheses and analyses of data on three impact areas identified by the client: children and youth living with complex needs, ECD and youth mental health. This Master's Project was one of the three literature reviews for the CHF project although additional content was added to this final Master's Project in order to meet the requirements and expectations of the School of Public Administration.

1.1 Vancouver Island Children's Health Foundation and ECD Background

The Children's Health Foundation is located in Victoria, BC, with over 90 years of history fundraising and working to support health care systems and professionals who provide direct services to children and youth, and their families, across Vancouver Island and the surrounding islands (CHF, 2020). One of the core impact areas is early childhood development, where they seek to enhance access to programs and resources for families and their children before birth to age 6. The focus of their work is on prevention and early intervention. Also, CHF is involved in both the operation of direct ECD services, such as Jeneece Place/Home Away from Home, a homestay facility on Victoria General Hospital grounds for children and their families receiving medical care in Victoria, and as a funder and supporter of local ECD services, such as WestShore and Sooke Child, Youth and Family Centres (CHF, 2020).

In the last decade, there has been unprecedented global focus on the importance of ECD for sustainable development (Black, Walker, Fernald, Andersen, DiGirolamo, & Devercelli, 2017; Desa, 2016; Raikes, Yoshikawa, Britto & Iruka, 2017). In turn, this focus on ECD has mobilized

the expansion of policy and program development in both national and local regions (Canadian Council, 2017; British Columbia Ministry of Children and Family Development [MCFD], 2018). As scientific evidence continues to affirm and expound on the importance of a child's formative development, the complex equation of what field(s) of practice, programming and service models could best enhance ECD remains unsatisfied (Black, et al., 2017; Shonkoff & Fisher, 2013). Moreover, the disparate realities of formative experiences, both across and within jurisdictional regions contradicts the applicability of a traditional "best practice" approach to contemporary ECD service delivery (Urban, Cardini & Romero, 2018, p. 9). For example, in British Columbia, recent provincial and federal investments seeking to positively impact children and families spanning tax credits, early childcare, housing, health and education affirm both the far-reaching scope of supports needed for healthy childhood development and solicit equivalent developments in the province's ECD service delivery (HELP, 2019, p. 7).

1.2 Objectives of Project and Research Questions

In consideration of the above complexities, the CHF requested a literature review on ECD to inform the implementation of their *Sustainability plan for a happy child: 2019 – 2023 Community Investment Framework and Implementation* (2018). This plan is a culmination of four years of community research and stakeholder engagement sessions that outlines the Foundation's investment plans to enhance access to health care services for children living on Vancouver Island.

The overall objective of this MACD project was to assist the CHF in learning more about scholarly and grey literature for the ECD impact area, to identify general themes and trends from the reviewed literature, and in consideration of these themes and trends, identify specific examples of ECD services which could be considered smart practices.

The primary research question for this project was:

- How is ECD defined and conceptualized in literature from HIC?

The secondary questions that helped to answer the primary question were:

- What are the general themes and trends in ECD literature from HIC?
- How are these concepts, themes, and trends reflected in ECD services in HIC?
- What lessons can be learned from the reviewed literature to inform smart ECD practice in HIC?

The findings from this literature review will be used to assist CHF in defining and mapping health(care) trends for the ECD impact area, with the intended goal being to enhance access to health care services for children living on Vancouver Island.

1.3 Positionality Statement

In Susan Day's (2012) article, *A Reflexive Lens: Exploring Dilemmas of Qualitative Methodology Through the Concept of Reflexivity*, she cautions the "issue of power cannot be avoided in text-based analyses" (p.67). In consideration of this, the following acknowledges my positionality to this project as an academic and professional, as well as personally.

I was contracted as a student researcher to this project while pursuing my Master of Arts in Community Development at the University of Victoria. Before committing to the research contract, I declared my intention to format the final literature review as a report in partial completion of my degree requirements. I mention this to be transparent about my motivations for undertaking this literature review. Having worked as a professional in the field of mental health for the last five years, when I applied, my preference was to be assigned the youth mental health impact area because ECD was not a domain of study I was familiar with. Instead of receiving the mental health literature review contract, I was asked if I was interested in researching and writing the literature review on early childhood development and I welcomed this opportunity. In retrospect, my unfamiliarity with the ECD subject mirrored the contextual need for the research project itself: a literature review that provides a syntheses and analyses of methodological diverse data to an equally diverse group of stakeholders with varied perspectives and discipline specific knowledge about the subject matter.

My position as an outside researcher was also abundantly clear, having conducted all of this research remotely from Montreal. Yet this does not mean I was without a significant amount of "power in the research relationship" with the reviewed text (Day, 2012, p.63). I am a white scholar, who lives on unceded territory in a colonialist country. I attempted to engage in critical reflection on this throughout the research and writing of this review and report and I was careful not to misrepresent communities as causal of inequities or infer policy recommendations are pan-Indigenous methods of reconciliation. That being said, I also recognize that my perspectives of my own positionality are limited and there are inherent biases that have had influence on this report.

1.4 Organization of Report

This report is organized into five remaining chapters. Chapter two describes the methodology and methods utilized for the literature review. This includes the type and design of review, scope and search strategies, data analysis and focus on smart practices.

Chapter three, the central focus of this report, is the literature review itself. The literature review has been divided into seven sections. These sections are organized sequentially, beginning with ECD definitions and concepts, followed by general ECD themes and trends from reviewed literature. The last four sections of the literature review provide an overview of how these themes and trends are reflected in specific examples of ECD services considered smart practices, and the lessons that can be learned from them.

Chapter four is a discussion and analysis of the literature review, namely, the main findings which answer the research questions, additional findings and limitations of the analysis and areas for future research. Chapter five offers recommendations, both to the field of ECD and CHF, the client. Chapter six closes the report first, with a brief discussion on strategic or research implications for the CHF, in consideration of the recommendations, and then final reflections.

Chapter 2: Methodology and Methods

The following chapter describes the methodology and methods used to develop this literature review, including the type, design, scope and search strategies, data analysis and the limitations of the report.

2.1 Type of Literature Review

This type of literature review that took place in this report is often described as a narrative or traditional type of review. According to Baumeister and Leary (1997, p. 321), a narrative approach offers a "reinterpretation and interconnection" of existing data and literature. In general, a narrative literature review is designed to gather, synthesize, and present the literature to ensure significant and relevant areas of research and studies are highlighted. This approach also identifies areas where there are gaps in the literature whether they are place-based, methodological-based, or topic-based. This approach is well suited for a complex subject such as ECD because the methodological diversity of literature and data synthesized renders a meta-analysis type of literature review too challenging to undertake given the scope of this project.

2.2 Literature Review Design

METHODOLOGY

Firstly, it is important to state that there was no primary data collected for this report, therefore no ethics review was required. The review's methodology used an adapted "systematic framework" similar to Levy and Ellis' (2006, p. 182) three-staged approach to effective literature review writing (See Figure 1: 1) Inputs, Processing, Outputs). This systematic framework depicts a linear progression through three stages; the first being the "gathering and screening" of quality data, or inputs; the second step being the application of Bloom's Taxonomy where each level of processing "requires gradually more cognitively demanding activities…to transform the raw data of numerous literature sources into an effective literature review", and the third being the output or writing of the review (p. 181 & p.193).

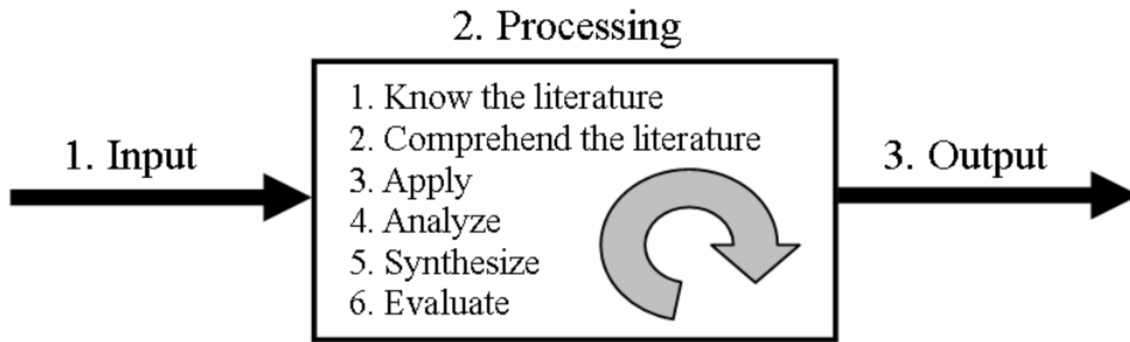

FIGURE 1. A SYSTEMATIC FRAMEWORK FOR A LITERATURE REVIEW.

While this framework provided the methodological foundation for this literature review, strict adherence to the tasks would not accommodate or make visible the collaborative processes that were critical to this review's development. These processes were facilitated by virtual, telephone and email correspondence between the research team: the two other student researchers, the Principal Investigator and the client. The purpose of this collaboration was to test the "applicability of literature" as it was gathered, screened, and analysed and to ensure distinction between the other impact areas (Levy & Ellis, p. 188). To accommodate the additional input gathering, screening and analyses that resulted from these processes, an "iterative theory-building process", as described by was Kerssens-van Drongelen (2001) was used to adapt the Levy and Ellis framework for this project.

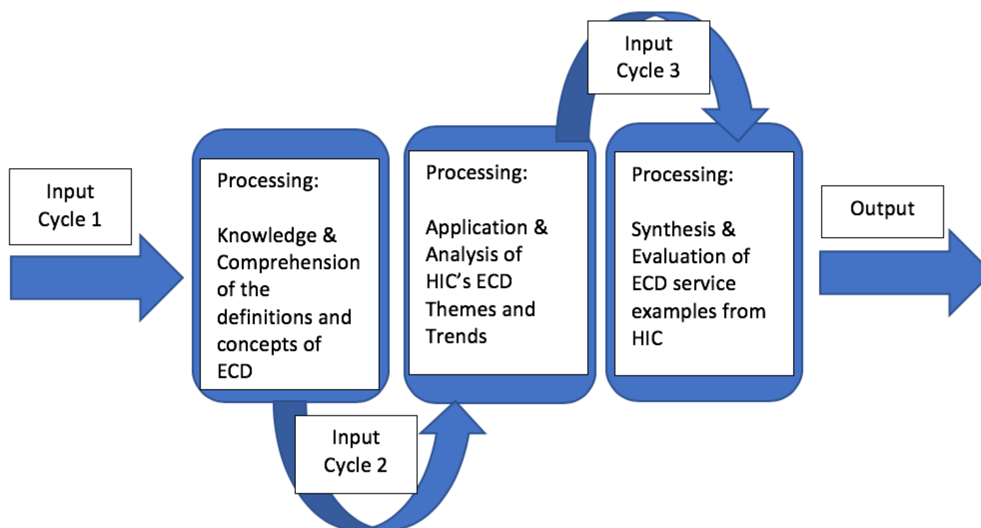

FIGURE 2. THE SYSTEMATIC FRAMEWORK ADAPTED WITH AN ITERATIVE THEORY BUILDING PROCESS.

In primary data collection, an iterative approach cycles the research question through pilot studies and literature reviews for refinement. Kerssens-van Drongelen (2001) note that this is an effective approach to research poorly developed theories or when a "project includes a variety of research question types" (p. 504). The adapted processing stage illustrated in Figure 2 depicts the cyclical gathering, screening and analyses of inputs, which will be discussed further in sections 2.3 and 2.4 of this chapter.

The literature review's topic and structure were also initially developed by the Principal Investigator in consultation with clients from the CHF. The topic and structure were then further refined given the feedback that took place after the initial template was developed (Appendix A). Related to iterative theory approach, the strategic use of cyclical inputs was catalyzed by the collaborative processes of the project's development and also focused on smart practices related to ECD that were to be highlighted to the client. As follows, adaption of the systematic framework and an iterative-theory building framed a "conscious" and progressive evolution from the development of narrative to more interpretive or critical research questions (Kerssens-van Drongelen, 2001, p. 511).

This in turn, corresponded to the type, or presentation of knowledge required to meet the review's predetermined template, which will be discussed further in section 2.5 of this chapter. The strategic use of cyclical inputs was catalyzed by the collaborative processes of the project's development and a focus on smart practices to identify areas of research and studies to be highlighted to the client. In this way, adaption of the systematic framework and an iterative-theory building framed a "conscious" and progressive evolution from the development of narrative to more interpretive or critical research questions (Kerssens-van Drongelen, 2001, p. 511).

2.3 Scope and Search Strategies

Although there is not a standard definition of a scoping review, there is wide consensus that it begins with a general question to provide overall direction to the search and that the search itself is broad in nature (Moher, Stewart, & Shekelle, 2015; Pham et al., 2014). Scoping searches began in December 2019 and because of the vastness and heterogeneity of ECD literature, initial database searches conducted returned millions of results. The initial search took place on Google Scholar, JSTOR, Worldcat [OCLC], and PubMed using the following project search terms: ECD,

access, definition, and concepts. To narrow down the research results, scanning of top results and additional research were used to further refine the search terms to include:

- Canada, province/provincial
- multi-sector
- collaborative
- intersectoral,
- cross-sector,
- hubs,
- high- income countries [HIC],
- community/based/led,
- governance – decision-making, accountability, reporting, planning, measuring,
- outcomes and result-based reporting and measuring.

To further narrow the scope of results the search and review strategies focused on literature and data:

- from high-income countries
- published in English,
- published in the last 20 years, and
- studying development from age(s) 0 – 6.

Combinations of these search terms were also used.

LITERATURE REVIEW FRAMEWORK: INPUT CYCLE 1

The above search strategy still resulted in an unmanageable body of grey and scholarly literature. Following a conference call with the research team in January 2020, a small sample was considered quality seed resources or foundational literature to the review. Backward and forward reference searches of these seed articles were then conducted. This is an approach suggested by Levy & Ellis' (2006) systematic framework, whereby both the references of an article, "backward" or "the additional articles that have cited the article", forward, are reviewed to "achieve a higher quality" of search results (p. 191).

This sample included, grey literature from British Columbia's Ministry of Children and Family Development [MCFD], UBC's Human Early Learning Partnership [HELP], of note two HELP literature reviews by the same author, *Integrated Service Delivery Outcomes and Evaluation Processes Literature Review* and *Early Childhood Development (ECD) Literature Review* (Weins 2014) and Hertzmen and Boyce's (2010) review, *How Experience Gets Under*

the Skin to Create Gradients in Developmental Health, a series of four peer-reviewed articles titled *The Lancet Series on Advancing early childhood development: From science to scale* (2017)*,* and The Canadian Council on Social Determinants of Health's [CCSDH] (2017) report *Implementing Multi-Sectoral Healthy Child Development Initiatives: Lessons Learned from Community.* This literature was treated as seed articles, and sorted into a literature review matrix using Excel, to be screened for content.

2.4 Data Analysis

Analyses of the literature were facilitated by the Excel literature review matrixes. Open coding of the seed articles and the initial results from backward and forward reference literature categorically identified near homogenous findings for ECD definitions and core concepts. While inductive analyses identified a priori themes and trends similar to those included in the review, in order to apply, or ensure "the information being presented is of importance" deductive analyses of the literature's a priori themes were then conducted, which necessitated new inputs (Levy & Ellis', 2006, p. 199).

LITERATURE REVIEW FRAMEWORK: INPUT CYCLE 2

Backward and forward reference searches of the seed articles were conducted again, using "content characteristic words" of the a priori themes and trends from previous analyses (Elo, S., & Kyngäs, 2008, p.111). Secondly, new literature searches, with narrower scopes were conducted to ensure that themes and trends, as identified from ECD seed literature, were contextually applicable and of relevance to HIC, Canada, and if possible, British Columbia. New literature was scanned for relevancy if it was contextually applicable to one or more of the above and:

- published in English,
- published in the last 5 years, and
- studying development from age(s) 0 – 6.

As the selection of literature and analyses was not limited based on methodology, the methodology and context of any references to the themes and trends are explicitly stated in the review.

LITERATURE REVIEW FRAMEWORK: INPUT CYCLE 2

This final cycle of input and thematic analyses was guided by a focus on smart practices. Only ECD service examples which were either referenced directly in seed articles or through conducting backward and forward reference searches were considered for inclusion and identified through "deductive content analyses", in consideration of ECD themes and trends (Elo, S., & Kyngäs, 2008, p.111).

The four ECD service examples that were selected: Western Australia's *Purple book health checks* [PBHC], New Hampshire's, Family Resource Centre's family support programs [FSP], Salteau First Nation's [SFN] *Cree-ative Wonders Daycare* [CWD] and Mainland BC's Multicultural Early Childhood Development [MECD], were then analysed utilizing a focus on smart practices.

FOCUS ON SMART PRACTICES

Smart practice, a term coined by Eugene Bardach, refers to a descriptor of practice, particularly when using "best" or "evidence" would be inaccurate, and an evaluative tool to assess the applicability of seemingly effective solutions from one setting to another (Bardach & Patashnik, 2019). Bardach & Patashnik (2019), maintain that smart practices are made up of two key components, "latent potential for creating value" and "mechanism(s) for extracting and focusing that potential"; they use the metaphor of "something for nothing [,] or relatively little" to describe the function of latent potential creating value (p. 115 & p. 111). To refine the meaning of "mechanisms", the authors list three "characteristic secondary features" of smart practices; implementing, supporting and optional (p.115). In this review, implementing features embody the basic mechanisms, what an ECD service could not function without, supporting features are those needed to brace the proper function of the implementing features, optional features may be effective in the source setting but not necessarily in a target setting (p.115). While the terms promising, emerging or smart are not synonymous, where included in this review, they indicate ECD services recognized as successful in their source settings which have definable implementing, supportive and optional features (Bardach & Patashnik, 2019, p. 115; 116; Appendix B).

Exclusion criteria

Given the specialized focus of the other impact areas: children and youth living with complex needs and youth mental health, this review included only those themes, trends and services that could be considered general for children in HIC from ages 0 to 6.

Furthermore, ECD services which could not be confirmed as active at the time of this review were excluded from consideration.

2.5 Limitations of Report

This report has several limitations to discuss. As no primary data was collected, the biases, delimitations and limitations of secondary data reviewed influenced the overall findings. Secondly, the predetermined template (Appendix A), as chosen by the client and Principal Investigator to be a narrative literature review presenting base knowledge on exceptionally complex subjects culminating in lessons learned within a 26-page limit, rendered a full processing of all ECD literature reviewed impossible. Themes and trends were defined and contextualized corresponding to their application within the review, acknowledging that comprehensive analyses or mapping were not implied and indeed, beyond the review's limited scope. Lastly, the review itself was limited by a dearth of accessible information on the current landscape of ECD service provision in BC.

Chapter 3: Literature Review

This chapter is divided into seven sections and organized sequentially. Sections one to three begin with ECD definitions and concepts, followed by general ECD themes and trends identified from HIC literature. The four themes: health and nutrition, ELCC, safety and race, ethnicity and SES, and the two trends: nurturing care and multisectoral and integrated approaches, are organized under respective sub-headings within their sections.

Sections four to seven begin with an overview of ECD themes and trends, as reflected in four ECD service examples. The quality, processes, outcomes and collaboration, engagement and partnerships of these ECD service examples, considered smart practices, are organized into two additional sections. The seventh section closes the chapter with lessons learned from the ECD service examples to inform smart practices in HIC target settings.

3.1 Definitions and Concepts of ECD

Childhood development, the assumption that early human development has normative and/or ideal milestones, to be operationalized, requires layers of context (Woodhead, 2009, p. 48). Because of this implicit need for contextualization, ECD literature and data is typically published for jurisdictionally specific program or policy development that correlates with diverse fields of human development studies. Few articles offer universal definitions of ECD, although the literature does demonstrate a consensus on core scientific concepts underlying healthy childhood development.

Shonkoff and Richter (2013) list five core concepts from the *National Scientific Council on the Developing Child's* framework as representing the "basic science" of ECD. The first concept being that human brains' architectural development is an ongoing process whose optimal growth and function is predicated by "bottom up development" (p. 24;26). The second concept is that "genes and experiences react", referring to the reciprocal relationship between genetics and experience; meaning children rely on "serve and return" interactions with caregivers, to drive the brain's circuitry development (p.26). The third concept is that "cognitive, emotional, social capabilities [and] physiological integrity…are inextricably intertwined" (p. 27). As an example of this intertwinement, Shonkoff and Richter cite the dependence oral language acquisition has on hearing, cognition, attentiveness, and physiological responsiveness, to be successfully achieved (p. 27). The fourth concept is that "excessive adversity early in life causes physiological disruptions", meaning a child's exposure to "toxic stress", heightens risk of long

term physical and mental health challenges (p.28). Lastly, the final concept is that "neuroplasticity and the ability to change behavior decrease over time" or the brain's ability to adapt to challenges "stabilizes with age" (p.29). This means the expenses to correct poor development in later life both biologically, the metabolic energies needed, and in a societal sense, measures via external intervention, are much higher.

Complementing these core scientific concepts in the literature is a life course approach or framework to ECD. A life course approach "aims to identify the underlying biological, behavioural and psychosocial processes" across the life span, with the intent to "identify chains of risk that can be broken and [optimal] times of intervention" to break them (Kuh & Ben-Shlomo, 1997, as cited in World Health Organization [W.H.O.], 2000, p. 4). Coupling this framework and ECD concepts to research which identifies threats to healthy human development to inform effective intervention, is also definitive of contemporary ECD discourse.

Hertzmen and Boyce's (2010) review, *How Experience Gets Under the Skin to Create Gradients in Developmental Health*, demonstrates how core concepts of ECD have informed the development, implementation, and data analyses of a "comprehensive population-based assessment of ECD", with the early development instrument [EDI]. The EDI is a standardized measurement tool administered by educators to assesses school readiness of children, typically ages 4 – 6 (Janus et al., 2007). Utilizing a checklist, children are marked as "vulnerable or not vulnerable…based on a five scale measure of development: physical well- being, social competence, emotional maturity, language and cognitive development, and communication and general knowledge" (Hertzman & Boyce, 2010, p. 333).

Hertzman and Boyce (2010) juxtapose discussion of core ECD concepts or "biological embedding", how "experience alters biological processes…that influence health over the life course" and its relationship to "socially partitioned experiences, brain and biological development, and outcomes in health, learning, and behavior" with data collected via the EDI by UBC's Human Early Learning Partnership [HELP] between 2000 and 2004 (p.330).
From this first wave of the BC's EDI, which revealed "[m]ore than 40% of the variance for vulnerability on one or more scales can be explained by neighborhood socioeconomic characteristics" the authors hypothesized that children:

> who are biologically sensitive to context will be distributed broadly across social partitions, but those from less privileged back grounds will tend to find themselves in risk augmenting contexts, whereas those

> from more privileged backgrounds will tend to find themselves in protective environments. Over time, the differences in developmental trajectories of those biologically sensitive to context will drive the expression of [social] gradients (p. 342 & p. 343)

This incorporates a "bio-ecological approach" to understanding ECD, grounded in Bronfenbrenner's (1979) ecological system's theory (HELP, 2019, p.15). A bio-ecological approach posits "that it is not genes or environment, nor is it genes and environment, but rather it is gene-by-environment interactions that influence developmental trajectories" (Hertzman & Boyce, 2010, p. 341). This means the quality of multi-layered "nurturant environments" that surround children, beginning with their immediate caregivers and radiating out to political and economic contexts at national or global scales, buttress healthy development and mediate population-based disparities in well-being (HELP, 2019, p.15; Figure 1).

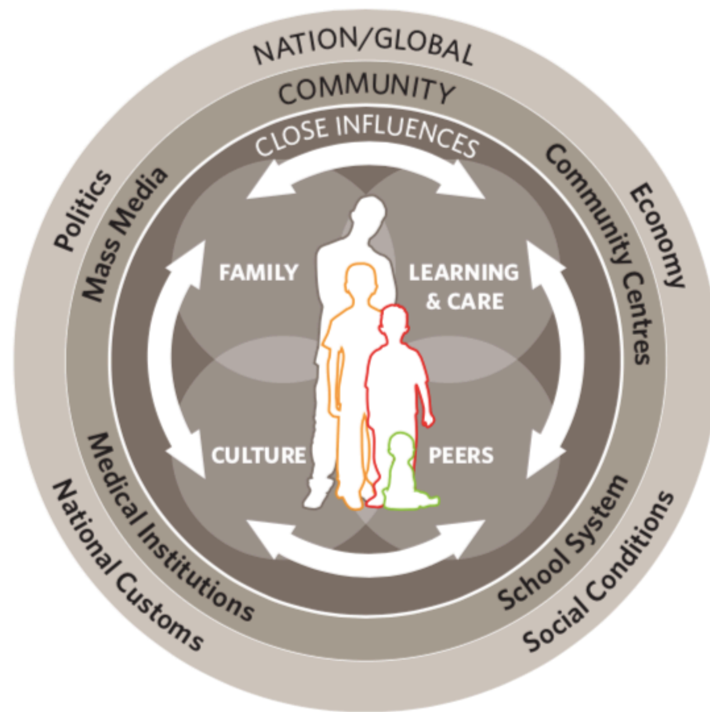

FIGURE 3. HELP'S TOTAL ENVIRONMENT ASSESSMENT MODEL.

In summary, the reviewed ECD literature, while diverse in methodology and terminology is standard in the scientific assertion that a child's formative years are of incredible value, when both threats and benefits to life-long development are intensified (Black, et al, 2017; Britto, Lye, Proulx, Yousafzai, Matthews, Vaivada & MacMillan, 2017, p. 91; Shonkoff & Richter, 2013). In addition, the literature also states how we understand, and/or augment children's early

environments can support healthy human development on individual and societal scales (HELP, 2019; Hertzman & Boyce, 2010 & Shonkoff & Richter, 2013, WHO, 2000).

Therefore, to center the review's focus and findings on the incredible importance of a child's earliest years of development, grey literature from CHF, British Columbia's Ministry of Children and Family Development [MCFD], HELP, and their respective websites, were contrasted with peer-reviewed journals to develop the following definition of ECD services as: supportive preventative or intervention measures intended to promote healthy development, primarily, from before birth to age six.

3.2 General Themes in the Literature

Just as the core scientific concepts of ECD depict a progressive, reactive, and intertwined journey of evolution, so too do the themes and trends of ECD. Four themes identified in the literature and data are: health and nutrition, early learning, and childcare [ELCC], safety and race, ethnicity, and socioeconomic status [SES]. These oft compartmentalized subjects are framed within this literature review as ECD themes for two reasons. First, their recurrent frequency throughout methodologically diverse data and literature firmly establishes them as a priori themes (Ryan & Bernard, 2003, p. 89; 88). Secondly, framing these subjects as themes discourages the too frequent assumption that, in the context of direct ECD service provision, they are somehow extractable from one another or divisible by fixed boundaries. The two trends identified, nurturing care and multi-sectoral and integrated approaches are in effect, a corridor to the successive sections of the review. These trends bridge the gap between ECD themes and their indication in ECD services.

HEALTH AND NUTRITION

Boundless subthemes could be categorized under 'health' when reviewing ECD literature. For example, the WHO's (1995) broad definition of health as "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity" casts a wide net for inclusion. Jurisdictionally specific tools such as Public Health Agency's [PHAC], Canadian Institute of Child Health's [CICH], "web-based" document *The Health of Canada's Children and Youth: A CICH Profile*, are helpful for resources for analyzing specific subthemes, as they are updated regularly with new census and community-based health data for "children and youth" up to age 24, including a module dedicated to *Health and Development in the Early*

Years (CICH, 2020). However, this sub-section seeks only to provide a general overview of salient physical and mental health topics which could be considered general for all children in HIC from ages 0 to 6, inclusive of nutrition. The subsequent themes of early learning and childcare, safety and race, ethnicity and social economic status more accurately survey the intersection of social well-being and ECD.

The theme of health in ECD literature logically begins with that of the pregnant parent. However, the *Handbook of life course health development* cites research that draws causal links between both preconception and prenatal health's impact(s) on birth-outcomes, child-health, child obesity and even chronic illness into adulthood (Halfon & Forrest, 2018, p. vi). More specific issues, or "prenatal adversit[ies]" as coded in the *Royal Society of Canada and The Canadian Academy of Health Sciences'* expert panel report on ECD's "adverse childhood experiences" such as poor prenatal and postpartum mental health, smoking, substance misuse, and exposure to intimate partner violence are also well documented risk factors in ECD literature and data (Boivin & Hertzman, 2012).

Geographic access to early prevention and intervention services that support healthy pregnancy, delivery, and infant development is also considered a determinant of healthy ECD. A "retrospective population-based cohort study" of births in BC from 2005 – 2010 found, in comparison to women in urban areas, "those in rural areas had higher rates of severe maternal morbidity and severe neonatal morbidity, and a lower rate of NICU admission" (Lisonkova et al., 2016). In addition, access to services which can identify and offer supports for "disabling conditions" (WHO, 2018, p. 16 & 18) of infants and children, such as sensory or physical impairments, genetic conditions, or complications in the central nervous system are recognized "as protective factors [which can] remediate and compensate for risk associated with diagnosed disability and identified developmental delay" (Slentz, 2017, p. 8).

That being said, early assessments of mental health remain controversial as infant behaviors, 0 -2, are heavily "influenced by factors such as developmental age, cultural and family differences, expectations [,] parental attributions" and are virtually inalienable from the infant-caregiver relationship (Szaniecki & Barnes, 2016, p. 64). While researchers continue to analyze standardized measurements of infant mental health (Szaniecki & Barnes, 2016), other assessment measures such as "the developmental aspects assessed on the social competence and emotional maturity scales" from BC's EDI, offer insight into mental health trends for children

entering the school system (HELP, 2019, p. 27). From data collected via BC's EDI between 2016-2019, three of the four subscales in the emotional maturity scale show an incremental increase in vulnerabilities which correlate "with the behaviors that represent the most common childhood mental health issues – anxiety disorders, attention deficit and hyperactivity disorder (ADHD), and conduct disorders" (HELP, 2019, p.24).

The importance of prenatal nutrition, particularly micronutrients, to ensure healthy gestation is recurrent throughout ECD literature. In addition, some impacts of prenatal nutrition that span pre and post birth, are also represented (Black, Walker, Fernald, Andersen, DiGirolamo, & Devercelli, 2017; Britto, et. al, 2017; Shapria, 2008). The findings of a Canadian study analyzing data collected from 400 women participating in the *Maternal-Infant Research on Environmental Chemicals-Infant Development* cohort, explored the predictive relationship prenatal diet quality has to automatic nervous system function in infants up to six months of age (Krzeczkowski, et al., 2020). The study concluded that poorer prenatal diet quality, notably a "Western-style diet, low in nutrients, and high in fats and sugars", indicated decreased automatic nervous system function in infants (p.267). This is of significance because the healthy function of an automatic nervous system is a protective factor against a host of illnesses, such as "cardiovascular disease or depression" (Krzeczkowski, et al., 2020, p. 268). Another study examining the relationship between household food insecurity and breastfeeding from a sample of 10450 respondents to the *Canadian Community Health Survey*, found that respondents who reported household food insecurity also reported early cessation, meaning termination before 6 months, of exclusive breastfeeding (Orr, et al. 2018).

The importance of breastfeeding is highlighted throughout ECD literature. Breastfeeding for the first six months of human life is purported to have numerous health benefits for both the pregnant parent and child (WHO, 2020). In part, breastfeeding's availability and affordability account for its primacy in international literature, which prioritizes health risks for LMIC populations who have limited access to nutrient rich substitutes (WHO, 2020). However, in a meta- analysis of 113 studies from HIC, "longer periods of breastfeeding were associated with a 26% reduction…in the odds of overweight or obesity" for children, both of which are major health concerns in HIC (Victoria, et al., 2016, p. 480). Obesity increases the risk factor of metabolic disease and other chronic health conditions and in 2018, it was estimated that 14% of Canadian children were considered "overweight or obese" (McGee, 2018, p. 39). For children

between the ages of 4 and 6, addressing poor habit-forming behaviours towards diet and inactivity can be supported by early learning and child-care settings (Summerbell, et al, 2012).

EARLY LEARNING AND CHILD CARE

The acronym 'ELCC' here, refers to formalized early learning and childcare, which is not universally accessible for children in HIC before entry into formal public-school systems. Furthermore, the developmental benefits of ELCC are typically only assessed upon entry into formal school systems at ages 5 or 6, presenting a significant gap in ECD knowledge. Nonetheless, pre-school settings have been found to "improve child outcomes during subsequent schooling" (Black, et al, 2017, p. 12). The BC provincial health officer's report on children's health*, Is "Good" Good Enough?* (2016) supports this finding, indicating that a recent increase in the number of children "entering their formal education prepared from a literacy and numeracy perspective" is the result of provincial investments in ELCC programming (p.160). In Wein's (2014) scoping review of ECD programming, the author purported that, while reviewed ECD literature overwhelmingly documented ELCC's positive effects on global outcomes for childhood development and adult health behaviours, there are no notable effects to "chronic disease outcomes" (p. 26).

SAFETY

The 'safety' theme can be refined by the nature of threats children are exposed to in a specific jurisdiction. For example, in HIC, children's safety, in a collective sense, is often protected by national policy and laws. Immunization, while intersecting with the theme of health, is also one of the most essential interventions ensuring safe ECD collectively. Gothefors' (2008) paper *The Impact of Vaccines in Low- and High-Income Countries* found that while some LMIC still struggle to develop vaccination policies and programs, HIC have seen "misconceptions" about the risk of vaccinations result in "outbreaks of measles, diphtheria and pertussis" (p. 55). Dubé et. al's (2016) telephone survey of the "knowledge, attitudes and beliefs" of 589 Quebec parents' concerning "vaccine hesitancy" found that while 81% of respondents' reported their children received recommended vaccines, 40%, reported hesitancies to vaccinate; it should be while the survey included parents of children ages 2 – 17, "key informants" were identified as parents of children 9 years of age. Nonetheless, Dubé et. al (2016) recommend the prevalence of

vaccine hesitancy be effectively monitored as it poses tangible risks to the prevention of communicable illnesses for HIC children.

The prevention of childhood injury is well documented in Canada; the *Canadian Child Safety Report Card* (2020) is an interactive online report of the legislative, public education and policy measures taken by provinces to prevent injuries in children 0 -19. While data was not disaggregated by age, at the time of this review, BC ranks in first place which was attributed to the province's effective development and implementation of "distracted driving [,] booster seat [and] bicycle helmet legislation…good graduated driver's licensing program and fair smoke and carbon monoxide detector and pedestrian safety laws" (Canadian Institute of Health and Research, 2020).

This report, however, gives little insight into child maltreatment, a possible cause of childhood injury and important subtheme of child safety. Child maltreatment, as defined by the Canadian government's public health agency, is "the harm, or risk of harm, that a child or youth may experience while in the care of a person they trust or depend on, including a parent, sibling, other relative, teacher, caregiver or guardian" (Government of Canada, 2012). This definition includes five types of child maltreatment, "physical abuse, sexual abuse, neglect, emotional harm and exposure to family violence". The inclusion of neglect, for example, is important because it asserts that maltreatment is established through substantive evidence of harm, not intent (Government of Canada, 2012).

Tran et al's (2018) *Bibliometric Analysis of the Global Research Trend in Child Maltreatment* affirms child maltreatment is universally considered a serious threat to healthy childhood development; the US, Western Europe, Canada and Australia are identified as leaders in child maltreatment research publications with the most powerful research and organizational collaborations shared between US, England and Canada (p. 20). While this bibliometric analysis asserts discourse on child maltreatment from HIC is consistent in its terminology, it also notes that data comparison and interpretation is complicated by the impacts legislative or other societal changes have on reported cases. As Rosier cautions (2018) in her chapter *Children as problems, problems of children,* in HIC, the terms neglect and child maltreatment remain highly influenced by "changes in social attitudes towards…definitions of abuse" and "reliability of measurement is not straightforward" (p.269).

When considering the maltreatment of children six years or younger, the reviewed literature and data present varied findings. Infants' physical vulnerability means they incur the highest risk of serious injury or death due to maltreatment (Montgomery& Trocmé, 2004). However, while there is no dispute that child maltreatment is deleterious to healthy development, studies exploring whether or not incidents of abuse occurring before the age of six increase the risk of suicidal behaviour, depressive or post-traumatic stress disorder symptoms, in later life, are inconclusive (Gomez et al., 2017, p. 735).

Finally, there is a strong intersection between child maltreatment and prenatal adversity, as previously discussed in the theme of health. Taillieau et al's (2019) analysis of the 2008 *Canadian Incidence Study of Reported Child Abuse and Neglect* focused on reported maltreatment cases, ages 0 – 4, to explore relationships between caregiver vulnerabilities and child maltreatment. Among other correlates, Taillieau et al. (2019) found that "physical abuse perpetration was associated with parental depression" and "neglect was associated with parental obsessive-compulsive disorder and lower socioeconomic status" (p. 3). In addition, Fillipeli et al's (2017) secondary analysis of the 2013 *Ontario Incidence Study of Reported Child Abuse and Neglect*, focusing on children under the age of one, found that a primary caregiver "with few social supports was the most highly significant predictor of the decision to provide ongoing child welfare services" (p 1). Given the unlikelihood that these characteristics manifest exclusively after birth, these studies highlight the complex intersectionality of ECD with pregnant parents' and caregivers' well-being across a broad spectrum of characteristics.

RACE, ETHNICITY, AND SOCIOECONOMIC STATUS (SES)

Race, ethnicity, and SES are a grouping of characteristics, that are prominent in the literature on ECD. Before examining the various pieces on this topic, it is important to define and contextualize such terms. Various authors note the absence of definitive genetic differences between racial groups means "race can more objectively be considered a sociocultural concept wherein groups of people sharing certain physical characteristics are treated differently based on stereotypical thinking, discriminatory institutions and social structures, a shared worldview, and social myth" (Smedley, et al., 2003, as cited in Cheung & Goodman, 2015, p. 227). Ethnicity, in turn, refers to a grouping of individuals according to shared cultural norms, practices and ways of life. This means two individuals may self-identify as belonging to the same racial category

and be similarly subjected to systemic discrimination, while also reporting differing ethnic identities.

Socioeconomic status measurement variables may differ according to the social determinants of the assessed population. Sometimes these variables overlap with race and ethnicity; for example, UBC's HELP includes "multicultural composition" as a component of their SES index (HELP, 2019, p. 32). Universally, SES's function is an assessment of jurisdictional inequities and projected outcomes through measures of employment, educational attainment, income status and other "quality of life attributes" (American Psychological Association, 2020). Literature and data documenting and analyzing the healthy development of children in HIC uniformly call attention to data which reveals deep fault lines of well-being between categories of race, ethnicity, and SES. For example, many HIC persistently identify SES as indicative of a child's potential to achieve healthy development; most notably socioeconomic marginalization in the field of income and/or ethnicity (Hillemeier, Lanza, Landale, & Oropesa, 2013, p. 1859; Adamson, 2010).

Early Childhood Development in Canada: Current State of Knowledge and Future Directions, a discussion paper summarizing and contextualizing ECD based on the CICH's 2017 profile on the health of children and youth aged 0 – 24, found that "household income" appeared to be the social determinant with the most impact on "early child and family outcomes" with correlations drawn to income and parental education, place of residence and housing quality (p. Enns, et al., 2019, 35). Furthermore, in Canada, despite being the fastest growing segment of Canada's population, Indigenous children continue to experience aberrant threats to healthy development rooted in the country's historical and contemporary relationship with colonialism (PHAC, 2019, p. 6).

Revisiting two previous themes, health, and nutrition, through the lens of race, ethnicity, and SES, further illustrates the permeating presence of this fourth theme in ECD literature and data. Beginning with pregnant parent's health, Dharma et al's (2019) data analysis from reports of 3,138 mothers who participated in the *"Canadian Healthy Infant Longitudinal Development (CHILD) Study*, a longitudinal multi-center study incorporating 10 distinct waves of psychosocial data collection from pregnancy until the index child was aged 5 y", found that " mothers self-identifying as Black or First Nations had consistently higher distress scores than mothers from other ethnicities across all data collection times" (p. 190). Additionally, a 2017

scoping review on maternal health among immigrant and refugee women in Canada found " [t]throughout the prenatal, intrapartum, and postnatal periods of maternity, barriers to accessing healthcare services were found to disadvantage immigrant and refugee women putting them at risk for challenging maternal health outcomes" (Khanlou, et al., 2017, p. 1). Moreover, one of recommendations made by, Khanlou et al. (2017) was that future research "[d]isentangle [the] effects of ethnic and immigration contributions to maternal health through comparative research designs including migrant and Canadian- born women with diverse identity and cultural and lifestyle markers" (p. 10). This emphasizes the importance of measurements which make visible barriers to services predicated upon race and/or ethnicity, not just migration status.

Halseth & Greenwood's (2019) paper, *Indigenous early childhood development in Canada: current state of knowledge,* illustrates the layered complexity of race, ethnicity, and SES where nutrition is concerned. The authors' review of literature and data reveals "[f]ood insecurity and poor nutrition are contributing to high rates of obesity and overweight among Indigenous preschoolers", as well as especially alarming rates of diabetes among First Nations' children (p. 6); noting that "traditional foods continue to be an important source of nutrition" for Indigenous children (p. 18). Yet this is not uniformly true, the authors also report that "[h]igh concentrations of environmental contaminants have been found in the blood, hair, and breastmilk of pregnant Inuit women and new mothers" due to their unintentional consumption of large amounts of contaminated fish while practicing a traditional diet (p. 18). This provides an apt example of the layered complexity of race, ethnicity and SES when researching ECD. Disparities categorized only by race overlook the confounding protective effects of cultural resiliency and how the specificity and environmental context of cultural practice intersect with developmental outcomes.

In a policy paper titled *Race, Ethnicity, and Socioeconomic Status in Research on Child Health* (2015) the American Academy of Pediatrics [AAP] asserts the paralleled increase in "the racial and ethnic diversity of US children", "proportion of children who live in poverty" and "the extensive and persistent racial, ethnic and SES disparities in children's health" establish their high-priority for ECD researchers and stakeholders (p.233). One of the AAP's recommendations is that researchers:

> who study child and adolescent health and development should understand the multiple measures used to assess race, ethnicity, and SES, including their validity and shortcomings. They must apply and, if need be, create research

> methods that will result in careful definitions of these complex constructs and their influences on child and adolescent health, analysis of interactions between them, and, ultimately, elucidation of the mechanisms of their effects on health throughout the life course. (Cheung & Goodman, 2015, p. 234).

Data collected from UBC's most recent wave of the EDI is evidence of the significance race, ethnicity and SES have to ECD research and, as recommended by AAP, the need for new methods that can accommodate their diversity, intersection, and complexity. As was discussed in section one of this review, the first EDI, found that between 2000 – 2004 "[m]ore than 40% of the variance for vulnerability on one or more scales" was explained by neighborhood SES (Hertzman & Boyce, 2010, p. 342). The 7th wave of the EDI, now utilizing an SES Index, revealed that this vulnerability has increased, "account[ing] for around 45%, on average, of the overall EDI vulnerability rate at a provincial level" (HELP, 2019, p. 33). Moreover, while the EDI does not disaggregate data based on demographic characteristics, there is a strong indication that in BC, childhood vulnerability attributable to SES often intersects with geographic disparities in well-being (HELP, 2019, p. 2 & p. 33).

It is important to note that 45% is not the total percentage of children considered vulnerable in BC. HELP considers "10%" to be "a reasonable benchmark for child vulnerability", with this latest Wave having revealed that "EDI vulnerability on one or more scales in BC has increased to 33.4%" from 32.2% recorded in the prior Wave of data collected between 2013 -2016 (HELP, 2019, p. 14 & p. 5). Instead, this 7th Wave of data indicates that the vulnerability of BC's children and the percentage of that vulnerability attributable to SES factors continues to grow. The data also indicates that while the EDI effectively collects population-based measurements of childhood vulnerability, parsing out the differences and interrelationships between measurement variables remains a significant challenge.

3.3 Trends in Early Childhood Development

Bridging the gap between health and nutrition, early learning and childcare, safety and race, ethnicity, and socioeconomic status and ECD services are the trends in ECD: nurturing care and multisectoral and integrated approaches.

NURTURING CARE

In 2017, *The Lancet*, published a series of four papers on ECD. One of the articles from the series: *Nurturing care: promoting early childhood development*, presents the most comprehensive analysis of ECD interventions to date, which includes recommendations that transcend the challenges of inconsistent terminologies and jurisdiction specific diversity (Britto, et. al 2017). Literature and data, in both LMIC and HIC, across “health, nutrition, education, child protection and social protection” were systematically reviewed and critically analyzed by researchers and professionals from corresponding fields of study (Britto, et. al 2017, p. 91). While some “evidence-based” interventions were identified to address acute crises in LMIC, the article’s key finding is that “multi-sectoral interventions anchored in nurturing care” are a promising pan-global means to enhance healthy childhood development (Britto, et. al 2017, p. 91).

Nurturing care is grounded in the core concepts of ECD and the life cycle theory. A nurture perspective emphasizes that the quality of supports which respond to a broad spectrum of “environmental and behavioural factors” (Slentz, 2017, p. 15; 24), from prenatal nutrition and parent functioning to community and geographic contexts, is key to healthy childhood development (Britto et. al, p. 91). Nurturing care is also reflected in most, if not all, contemporary ECD policy in HIC (Shonkoff, et, al., 2012, p. 8).

Since the adoption of federal-provincial territorial agreements of ECD in 2000, which established federal investment and provincial administration of ECD interventions advancing “healthy pregnancy, birth and infancy; parenting and family supports; early childhood development, learning and care; and community supports”, Canadian ECD policy frameworks have espoused alignment with the concept of nurturing care (White, 2004, p. 667). In particular, these frameworks seek to stabilize the global environments of young children with a critical focus on “home and care” settings (Britto, et. al 2017, p. 91). In summary, nurturing care promotes developmental resilience, the antonym of developmental vulnerability (Slentz, 2017, p. 25).

MULTISECTORAL AND INTEGRATED APPROACHES

These approaches are presented as one theme, due to their pervasive pairing in the literature, although distinction between their functions requires clarification. In the first paper

from the Lancet series on ECD, *Early childhood development coming of age: science through the life course,* Black et al. (2017) clarify that "multisector approaches include coordinated services across sectors, ideally with unifying policies… integrated approaches refer to integration across services with shared messages and opportunities for synergy" (p. 10). To further clarify, while some LMIC ECD literature uses "sector" to categorize discipline specific service sectors involved in ECD; Canadian literature typically uses the term to refer to social sectors, such as government, private, or community involved in ECD service provision (CCSDH, 2017).

Multisectoral and integrated ECD approaches, also referred to as "initiatives", are often employed in tandem and considered complimentary to a nurturing care approach because they expand and diversify access points to ECD services for children and caregivers, and reduce internal barriers within service systems, helping users navigate access to discipline specific services (CCSDH, 2017; Weins, 2014). Multisectoral and integrated approaches to ECD are typically operated jurisdictionally through "co-located" or "hub" service models, where diverse social sectors offer multiple ECD services from one physical location, with these locations able to assess and refer users' needs to off-site services as well (Weins, 2014).

The following list is a sample of multisectoral and integrated ECD approaches, as presented in the Canadian Council on Social Determinants of Health's [CCSDH] (2017) report *Implementing Multi-Sectoral Healthy Child Development Initiatives: Lessons Learned from Community-Based Interventions*, "classified as[e]ffective or [p]romising, according to the definitions drawn from the Canadian Best Practices Portal" (See Appendix C). Some pan-Canadian examples are: *Aboriginal Head Start in Urban and Northern Communities [AHSUNC] and Aboriginal Head Start On Reserve [AHSOR]*, *Canada Prenatal Nutrition Program [CPNP] and Community Action Program for Children [CAPC]* (p. 9, 10, 12). Some provincial examples from Canada are Ontario's *Better Beginnings Better Futures [BBBF],* Prince Edward Island's *Caring, Helping, And Nurturing, Children Every Step [CHANCES],* New Brunswick's *Early Childhood Development Centres [ECDCs],* and BC's *Success by 6 [SB6]* (p.5, 10, 13 & 14). International examples are: *Positive Parenting Programs [Triple],* operating in multiple countries, or variations of children's "centres" or "community hubs" like the UK's, *Sure Start* (p. 7 & 6).

3.4 Services: Types and Services

Canadian ECD policy indicates familiarity with nurturing care and multisector and integrated approaches, and an understanding of their importance, but persistent challenges remain. In 2018, MCFD published *The Early Years' Service Framework* [EYSF], an outline of policy direction for the creation of a "system of support for young children and families" (BCMCFD, 2018, p. 1). MCFD defines early years services as those received by children between the ages of 0 and 6, noting that between 1.5 and 5 years, after infants receive their final immunization and before school, there are no "universal touch-points" for service delivery (BCMCFD, 2018, p. 6; Figure 2). Moreover, the EYSF, considers a spectrum of potential vulnerabilities families experience such as socio-economic marginalization, mental health crises or familial structure changes, as heightening risks to ECD and requiring a "whole systems approach; [as] no one service area can solve them" (BCMCFD, 2018, p.6).

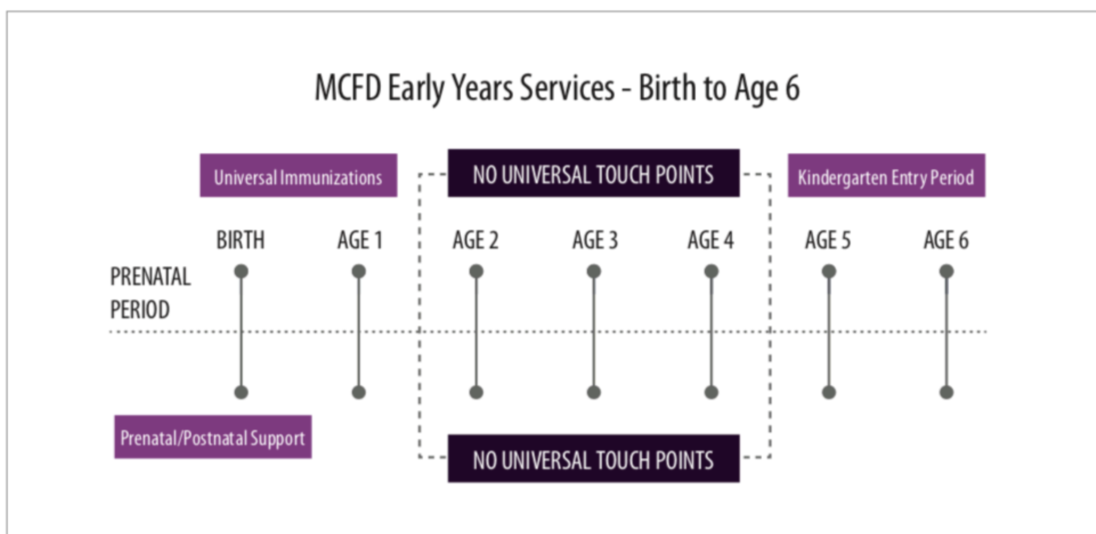

FIGURE 4. DEPICTING AN ABSENCE OF "UNIVERSAL TOUCHPOINTS" BETWEEN 18MONTHS AND 5 YEARS.

This need for a whole systems approach, echoes the Lancet article. Even when jurisdiction specific barriers to ECD services are identified, isolating and investing in discipline specific services alone will not meet HIC families and children needs to make connections with, and charter pathways through, multiple ECD service systems. For these reasons, the following subsections provide specific examples of ECD services, rooted in the concept of nurturing care which utilize multisectoral and integrated approaches.

SERVICE TYPES

For the purpose of this review, examples were organized by type as follows: firstly, as noted in the review's methodology, only ECD services considered smart practices were included. Secondly, ECD services were organized into three separate categories specifying service delivery type: universal, selective or indicated (Gordon, 1983, p.104). Universal services are made available to all, selective services are made available to sub-populations identified as at-risk and indicated services are offered on a case by case basis through screening (Gordon, 1983, p.104) (See Appendix B).

UNIVERSAL ECD SERVICE DELIVERY

Purple book health checks [PBHC], is a universally delivered ECD service in Western Australia [WA], part of the WA's "Community Child Health Program" [CCHP] operated from "Child Health Centres" [CHC] or "Child Parent Centres" [CPC] (WA Child and Adolescents Health Services [WACAHS], 2020; WA Department of Health [WADH], 2020). The term "purple book" refers to a physical document similar to BC's *Child Health Passport* (2018) used to monitor a child's growth and manage medical appointments, particularly scheduled immunizations (WACAHS, 2018). From birth to age four, community health nurses facilitate five PBHC in the family home or CHC/CPC. Titled "child health visits", they are scheduled at 14 days, 8 weeks, 4 months, a year, and three years and staggered with immunization appointments (WADH, 2020). This provides multiple opportunities for families to connect with other ECD services, if needed.

Western Australia uses the Australian Early Development Census [AEDC], a population-based measurement tool modeled after the EDI, to monitor community level childhood vulnerabilities (Department of Education WA, [WADE], 2016). Similar to BC, WA is a racially and ethnically diverse population with children living in urban, rural, and remote communities (WADE, 2016; p. 7). While children in remote WA communities, particularly "Aboriginal" children, have historically been documented as more vulnerable than others, from 2009 the 2016 AEDC recorded a slight reduction in their vulnerability (WADE, 2016, p. 2). It is impossible to attribute this reduction to one service, but PHBC can be considered a smart practice which uses WA's pre-existing immunization program as a platform to increase and extend points of access to ECD services for all children.

SELECTIVE ECD SERVICE DELIVERY

New Hampshire's, Family Resource Centre's family support programs [FSP], are similar to PBHC. FSP include optional home visits, but are selectively delivered, for families in need (FSP, 2017). FSP, part of an expansive county-led ECD initiative, revisited in other sections of this review, integrates modified Triple P program curriculum with localized health service providers to offer: "prenatal and infant care, parenting and co-parenting education, infant growth and child development, childcare, preschool and after school services, ages and stages developmental screenings, growing great kids [curriculum]" and other community resources (FSP, 2017).

A notable aspect of FSP's home visiting program is their adoption of the PHQ2 screening tool for maternal depression. The National Institute for Children's Health Quality's [NICHQ] report: *Designing Systems to Eliminate the Consequences of Maternal Depression: Success Stories from Three States* (2019) documented three case studies, including one in Coös County, New Hampshire; where FSP was part of the county's successful transition from the "Edinburgh Postnatal Depression Scale" administered once in the first year of life, to the PHQ2, a "validated instrument for identifying depression in the primary care setting", administered annually until age 6 (p. 15; Bass & Bauer, 2018). FSP's adoption of the PHQ2 screening tool was part of a successful county-wide project steered by Coös' coalition to identify caregivers and children in need, connect them with services, and guide future service development (NICHQ, 2019, p. 16; See Figure 5). FSP's home visiting program can be considered a smart practice, bringing evidence-based screening and ECD services into homes and providing crucial data for service provision and development.

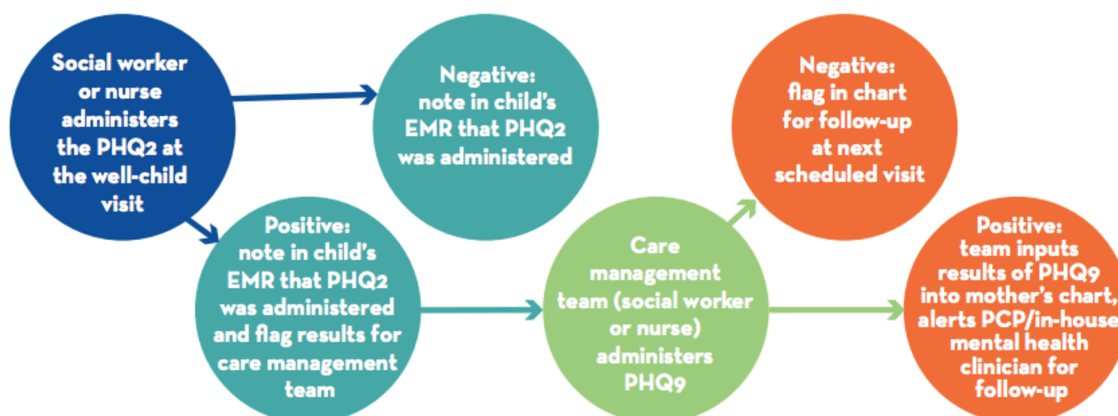

FIGURE 5. SCREENING PROCESS FOR MATERNAL DEPRESSION AND FOLLOW-UP CARE.

Another selectively delivered ECD service is Salteau First Nation's [SFN] *Cree-ative Wonders Daycare* [CWD] (SFN, n.d.). CWD is an ELCC *Aboriginal Head Start On Reserve* (AHSOR) program in Northern BC (SFN, n.d.). CWD offers two programs: full time childcare for "children aged 1-35 months" and a mixed program for "ages 36 months to grade 1 aged children", with full time spaces, shared spaces, before and after school programs and a "Head Start preschool program" (SFN, n.d.). CWD lists seven components in their approach to ELCC: "culture and language, education, health promotion, nutrition, social support and parental and family involvement" which carefully consider the intersection of ELCC within the culturally specific context of SFN (SFN, n.d.).

Notably, CWD began with support from the *First Nations Partnership Program* [FNPP], (Ball & Pence, 1999, 2006, as cited in Ball, 2009).

> Through the partnership that ensued between the University of Victoria and the Meadow Lake Tribal Council, an innovative model for ensuring the cultural representation of communities evolved, that Dr. Alan Pence called 'The Generative Curriculum Model.' Using this model, the training program has been delivered with eight First Nations organizations to date. (FNPP, n.d).

FNPP graduates went on to create "new programs and new roles within existing programs" and assist their communities in building "community-based infrastructure and intersectoral linkages to support the holistic development of young children and their families" (Ball, 2009, p. 34; Ball, & McIvor,2005, p. 2). CWD can be considered a smart practice providing culturally specific ELCC in a remote community and ongoing opportunities to develop bicultural ECD services.

INDICATED ECD SERVICE DELIVERY

Mainland BC's Multicultural Early Childhood Development [MECD] is an indicated ECD service offered through a multi-sectoral partnership with United Chinese Community Enrichment Services Society [SUCCESS], MCFD and Success By 6 (SUCCESS, 2020). Families must access MECD services through inter-agency or ministry referrals (SUCCESS, 2020). Through SUCCESS' service/community centres local families with children from 0 – 6 can benefit from "bridging services" to other ECD services and/or families within the community, and structured parenting programs or drop-in services (SUCCESS, 2020). In addition, MECD also provides cultural competency training for service providers (SUCCESS, 2020).

MECD's objectives are to: "[i]ncrease parents' awareness of the importance of [ECD], [i]nform families about existing [ECD] resources and services", and "[a]ssist parents to utilize available services" (SUCCESS, 2020). MECD can be considered a smart practice using pre-existing ethnically specific service/community centres as hubs for families to access culturally competent ECD services, bridge gaps to external ECD services, and offer cultural competency training to other service professionals.

This is by no means an exhaustive list of ECD service types. A comprehensive mapping of ECD services is beyond the scope of this literature review. This list of service examples is a companion to the ECD themes and trends identified, providing practical examples to inspire future ECD stakeholders.

Before moving forward, this section will close with a brief discussion of two common strategies used in the ECD services listed, place/person-based approaches [PPBA)] and community driven change [CDC], and a note on implementation and ECD stakeholders.

In each section of this review jurisdictional or geographic distinctions have been noted. Jurisdictionally, ECD terminology and themes vary widely, depending on the borders drawn, such as LMIC or HIC. Furthermore, service users' geographic locations, particularly in jurisdictions which provide services to diverse communities living in urban, rural and remote settings, can become fault line markers of disparity in developmental well-being. PPBA target how these distinctions and differences are addressed though service delivery systems. Here, the term place does not denote simple jurisdictional, geographic or community boundaries. Place refers to "sense of place" relationships, experiences and interactions; meaning families' "experiential perspective[s]" of their surroundings inform direct ECD service delivery (Tuan, 1977). Moore & Fry's (2011) literature review, *Place-based approaches to child and family services,* summarize, as follows:

> A place-based approach is one that seeks to address the collective problems of families and communities at a local level, usually involving a focus on community strengthening. There are a number of advantages to using such an approach, one being that it encompasses both a physical and service infrastructure perspective, and social infrastructure perspective. Place-based approaches are usually contrasted with person-based approaches in which the focus is on direct help to the individual person or family with the problem, regardless of their circumstances or where they live. Place-based approaches focus on the whole social and physical environment in a particular area, rather than the individual needs of those who live there. These approaches have

> usually been developed separately but there are good grounds for using combined people- and place-based approaches (p. 52).

Community-driven change [CDC], is derived from the term "local community driven development", in reference to international development which "gives control of development decisions and resources to community groups and representative local governments" (Binswanger-Mkhize& de Regt, J. P, 2010). CDC accommodates the aforementioned diversity and intersection of complex themes like race, ethnicity, and SES by prioritizing community expertise in ECD processes and governance; this requires all stakeholders to functionally engage with the communities they serve as more than measurements of vulnerability or resilience. CDC changes the conversation from: What is wrong with us? What do we need? to What is happening? What do we want to happen?

STAKEHOLDERS

ECD stakeholders are just as diverse as the themes and communities they work with. Canadian ECD stakeholders can be broadly categorized as representing three social sectors: government, private and public, but some wear more than one hat (Council, 2017, p.17). Understanding why stakeholders are at the table, and what role they will play is important, even if engagement revisits pre-existing partnerships.

BC's Ministry of Health's (2018) *Patient, Family, Caregiver and Public Engagement Planning Guide*, a tool for "individuals in B.C., particularly community partners and health authority and ministry staff, who plan and implement health-care engagement processes and who already have a basic understanding of planning and engagement", includes effective instruments which can be adapted for those who have identified an impact area, such as ECD, and are moving forward with stakeholder engagement (p. 6). These tools can clarify who should be engaged, their role, and set clear objectives for their engagement (Council, 2017, p.15).

In addition, the use of online databases like CICH's *Early Childhood Partnership Tool*, can help individuals and organizations identify how, or who, they can partner with to enhance ECD in consideration of their respective role and interests (CICH, n.d.). As highlighted in the CCSDH's (2017) *Improving Healthy Child Development: Building Capacity for Action*, the development of online platforms to democratize dissemination of information to all stakeholders and hold space for "dialogue and knowledge exchange" is a recurrent recommendation in

literature discussing stakeholder efforts to invest in ECD services, rooted in the concept of nurturing care which utilize multisectoral and integrated approaches (Council, 2017; p. 3).

3.5 Services: Quality. Processes, and Outcomes

Jurisdiction and discipline specific measures of quality ECD leave only one bench march of quality for all ECD: equitable access. Consider the United Nations' [UN] sustainable development goals [SDG], to:

> 3. Ensure healthy lives and promote well-being for all at all ages, [and, to]
> 4. Ensure inclusive and quality education for all and promote lifelong learning,
> (Desa, U.N., 2016)

As discussed by Raikes, Yoshikawa, Britto & Iruka (2017) in the social policy report, *Children, Youth and Developmental Science in the 2015–2030 Global Sustainable Development Goals,* "[e]quity is framed in the SDGs as equal access to the resources, services, and opportunities that will ensure fulfillment of human potential" (p. 4). To be clear, this does not diminish the need for quality ECD measurements refined by program type, sector, stakeholder and population. As articulated in a forerunning social policy report, *Quality of Early Childhood Development Programs in Global Context*, the importance of equity "lies in the delineation of equity as both access to ECD services and the quality of such programs"; with the author's proposing a conceptual "framework to guide choice of level and target for measurement of quality" (Britto, et. al, 2011, p.2; p. 9 /Appendix D).

Instead, by highlighting SDG's core principle that equitable access be promoted both across and within national borders, the archetype that HIC's role as investors in LMIC ECD, sufficiently promotes equitable access is challenged (Raikes et. al, 2017, p. 4). That the SDG constitutes HIC address those inequities entrenched within their own borders is an important distinction from previous international commitments to human development. This means reduction of barriers within HIC's ECD service systems can be considered an international measure of quality ECD.

Most of the development processes for ECD services listed began with identification of jurisdictional specific barriers to services:

- The scaling up of PBHC, particularly the development of CPC to host child health visits and provide follow-up care if needed, resulted from the state government's cyclical analyses of vulnerabilities reported in AEDC data (AEDC, 2015).

- A three-year $300,000 funding investment in 2007, supported FSP in local partnership with five ECD service stakeholders to "identify opportunities, common goals, and changes necessary to improve services and outcomes for young children and their families" (Payne et al., 2018, p. 3).
- The FNPP and subsequent CWD started with data collected by Indigenous communities on "fragmented [ECD] systems" noting that a lack of locally based service professionals hindered continuity of care and cultural competence in ELCC curriculums (Bal, 2009, p. 32).

These processes used or developed tools to collect data assessing childhood well-being and vulnerabilities so jurisdictional and geographical ECD service barriers could be pinpointed, with the intended goal of supporting or initiating ECD systems' change. System's change or system's initiatives are "organized efforts to improve a system and its impacts", outcomes are the measurable changes which improve impact (Coffman, 2007, p. 5).

Coffman's (2007) *A Framework For Evaluating Systems Initiatives,* or the Build Framework, for example, guides ECD stakeholders through the process of clarifying "what complex systems initiatives are doing and aiming to accomplish, and thereby support both initiative theory of change development and evaluation planning" (Coffman, 2007, p. 2). This framework has been successfully adapted and applied in multiple ECD initiatives, such as the MCFD's 2016 environmental scan data of professional development in the province's ELCC sector (Riel, 2016). Application of the Build Framework helps stakeholders create a "theory of change menu" through five areas of focus: context, components, connections, infrastructure and scale, noting that "systems initiatives do not have to focus on all five areas…some may focus only on one or two…most systems initiatives, however, focus on more than one area, and many focus on four or five." (Coffman, 2007, p. 6; Figure 6).

Among other things, *"By Us and For Us: A Story of Early Childhood Development Systems Change and Results in a Rural Context*" documents the use of the Build Framework as "an analytical construct to examine ECD systems change process" (Payne et al., 2018, p. 29) This case study summarizes the collective impact efforts behind ECD services like New Hampshire's FSP which "achieved dramatic early childhood systems change in a 10-year period by creating community capacity, a culture of collaboration and improvement, and transforming

Coös' early childhood organizations [into] an integrated, high-quality system for early learning and development where none existed before" (Payne et al., 2018, p. 38).

FSP's adoption of the PHQ-2 screening tool for maternal depression, for example, was the outcome of focus on "components: [putting] in place high-quality evidence-based programs, services, or interventions for the system's intended beneficiaries" which contributes to the connections and scale focus areas as well. In this way, systems' initiatives supported autonomous discipline specific ECD services to define and adopt high-quality evidence based "programs, curricula and tools" while also contributing to multiple focus area outcomes and systems' change (Payne et al., 2018, p. 31; See Appendix E).

FIGURE 6. THEORY OF CHANGE MENU DEPICTING THE BASIC LOGIC OF SYSTEMS' LEVEL IMPACT.

The Build Framework is only one example of many logic models, or program cycles that can be used by ECD stakeholders to see the bigger picture and guide them through system's change development and evaluation (See Appendix D).

3.6 Services: Collaboration, Engagement, and Partnerships

Each of the ECD services listed were the result of collaboration and engagement between multiple partners, but in varied contexts and to different degrees. Collaborations are "mutually beneficial and well-defined relationship[s] entered into by two or more organizations to achieve common goals" (Matteessich, et. al, 2001). In the context of collaboration, engagement can be considered the "extent to which collaborative members:(1) prioritize the collaborative's initiative within their own organizations; and (2) commit to a shared path of negotiating common goals and working toward them together with other members" (Latham, 2014, p.3). Partnerships are the varied relationships brokered between members in collaboration.

As previously mentioned, the scaling up of PBHC were facilitated in part from the state government's cyclical analyses of AEDC data. The AEDC is a collaborative effort of Australia's federal governments "State and Territory governments…the Centre for Community Child Health and the Telethon Kids Institute"; the development of the CPC's, "operated by non-government

organizations in collaboration with local schools and other child service providers" were supported by WA's pre-existing "Delivering Community Services in Partnership Policy" and continue to foster engagement by serving as hubs for WA's "Departments of Education, Health, Local Government and Communities and Child Protection and Family Support, in collaboration with 14 non-government organizations'" to "develop localized responses to meet the needs of children and their families" (AECD, 2015).

Conversely, with little collaborative support from the government sector, New Hampshire's FSP relied on donor funding to start "relationship-building among initiative partners, including biannual, two-day meetings to build trust and momentum" which "resulted in a population goal and common system strategies" for children ages 0 -5 (Payne et al., 2018, p. 24). The resulting coalition continues to function as an "interagency backbone", sustaining engagement and collaboration between local ECD partners (Payne et al., 2018, p.25).
FNPP and CWD resulted from collaborations with high levels of engagement between an academic institution, UVic, and local indigenous communities and councils, and continues to benefit from partnerships with federal and provincial governments through *Aboriginal Head Start On Reserve* (AHSOR) (FNPP, n.d.; SFN, n.d.). MECD both collaborates with SUCCESS, MCFD and local families, receiving referrals and connecting community members as well as benefiting from a funding and supportive relationship with the United Way through Success By 6 (SUCCESS, 2020).

Weins' (2014) *Integrated Service Delivery Outcomes and Evaluation Processes Literature Review*, prepared for the Provincial Office for the Early Years, which correlated "process evaluation and outcome findings" found that "[e]nablers for multisectoral collaboration have been cited as: a powerful shared vision of the problem to be addressed and what success would look like in solving it; strong relationships and an effective mix of partners; leadership; adequate, sustainable and flexible resources; and efficient structures and processes to do the work of collaboration" (p.12) Moore & Fry's (2011) literature review on place-based approaches identified "the engagement of communities in decisions of all kinds (including the 'co-production' of design and delivery of services) the cultivation of community capacity, and the establishment of robust and collaborative governance arrangements" as "key ingredients" to place-based ECD (p. 53). More & Fry (2011) also cited numerous sources detailing the

challenges of collaboration, such as the difficulties bounding community and place, or the negotiating of power balance between government and community (p. 61; p.63).

While the collaborative engagement of donors was not directly represented in the reviewed literature, it should be noted that the intensive participatory work PPBA and CCD require is an invaluable ECD investment opportunity. System's change is transformational and takes time, the impact foundations like the Neil and Louise Tillotson Fund and W.K. Kellogg Foundation have had through ECD partnerships in Coös' County is a testament to their collaborative contributions (Payne et al., 2018).

3.7 Smart Practices, Examples and Lessons Learned

All of the ECD service examples listed can be considered smart practices intending to support or initiate systems' change. While the four examples listed report site-specific lessons learned, the following three lessons can be generalized to inform smart practices in HIC target settings:

Place-based, person-based approaches engage communities in discovery of localized ECD service barriers and the infrastructures involved.

Service barriers were defined jurisdictionally and by engaging with the experiential knowledge of children and families served. As the ECD themes illustrate, the challenges children and families face are complex; PPBA require ECD stakeholders to adopt roles of advocates and connectors, enabling communities to build on existing ECD infrastructures to develop "comprehensive multi-level effort[s] to address all the factors that affect child, family and community functioning in that area simultaneously" (Moore & Fry, 2011, p. iv).

Change is community driven.

ECD stakeholders, particularly funders, are critically important as catalysts for systems' change but it is equally important that "leadership of ECD remains with the community" (Payne et al., 2018, p. 35). Prioritizing community expertise in ECD processes and governance acknowledges their legitimate role as exponents of their vulnerabilities and resilience; in turn, funders must be "flexible and responsive to community-determined needs" (Payne et al., 2018, p. 35).

Change takes time.

The examples provided required collaborative efforts from ECD stakeholders across sectors to sustain, as described in the Coös county case study, "steady, multiyear operating

support for ECD grantees and support for infrastructure, convening, strategic planning, communications, advocacy, training, and technical assistance" (Payne, et al., p.35). This requires a clear shared vision of intended long-term goals and the interim outcomes that can be celebrated along the way to sustain momentum. In turn, frameworks, program cycles and evaluative tools can chart and document this journey, not only charting pathways for change but also making change visible for those involved.

Chapter 4: Discussion and Analysis

The following chapter revisits, and answers, the literature reviews' questions, identifies two additional findings from the research, discusses the limitations of analyses, and closes by identifying three areas for future ECD research.

4.1 Answering the Research Questions

This review of methodologically diverse ECD data and literature, has resulted in the following main findings:

How is ECD defined and conceptualized in literature from HIC?

Children's formative years are of incredible value, a time when both threats and benefits to life-long development are intensified; how children's early environments are understood and/or augmented can support healthy human development on individual and societal scales.

What are the general themes and trends in ECD literature from HIC, and how are these concepts, themes and trends reflected in ECD services in HIC?

Health and nutrition, ELCC, safety and race, ethnicity and SES are current themes in ECD; these themes are interconnected and complex, requiring ECD service responses rooted in nurturing care, utilizing multisector and integrated approaches.

What lessons can be learned from the literature reviewed to inform smart ECD practice in HIC?

Equitable access to ECD services, a reduction of barriers within HIC's ECD service systems, can be considered an international measure of quality ECD. Furthermore, smart ECD practices utilize people and place-based approaches and community driven development with the intended goal of supporting or initiating ECD systems' change.

4.2 Unexpected and Additional Research Findings and Questions

There are two unexpected or additional findings from the literature and data reviewed that relate directly to areas for future research. The first is the paucity of population-based data available to assess vulnerabilities and resilience of children below the age of six. Literature and data from Canada indicate this gap in knowledge is partially due to a lack of opportunity, with only two provinces and two territories screening development at universally offered 18 month "well-child visits" (Enns et.al, 2019, p. 22). Reviewed literature and data from HIC also points to

the significant challenge of developing classification, diagnostic and data collection tools or methods to assess risk for very young children, particularly when care-givers are expected to objectively report on their own children's well-being (Boivin, 2012 & Szaniecki & Barnes, 20).

The second finding is, despite pervasive documentation of disparities in Indigenous' children's well-being compared to their contemporaries, there remains "a lack of comprehensive and comparable data on most indicators of health and well-being for young Indigenous children" (Halseth & Greenwood, 2019, p. 21). This gap in knowledge is partially due to the imprecision of current ECD research methods and analyses used to parse out the differences and interrelationships between SES measurement variables (Cheung & Goodman, 2015; HELP, 2019). This results in significant challenges when attempting to identify, create or enhance access to ECD programming inclusive of the developmental needs of Indigenous children.

4.3 Limitations of Analysis and Areas for Future Research

Firstly, it is important to restate that this is a narrative literature review adhering to a template predetermined by the client and Principal Investigator (Appendix A). This means that the analyses of HIC ECD themes and trends were limited, as defined and contextualized corresponding to their application within the review. While literature that summarizes and conceptualizes the current state of setting specific or demographic ECD knowledge were referenced in this review, such as Weins' (2014) *Early Childhood Development (ECD) Literature Review* for the Trail Area Health and Environment Committee or Enn et. al's (2019) *Early Childhood Development in Canada: Current State of Knowledge and Future Directions*, this review is distinct in its purpose, acknowledging that comprehensive analyses or mapping is not implied and indeed, beyond the review's scope.

In addition, as no primary data was collected, the biases, delimitations and limitations of the secondary data reviewed both influenced and limited the overall findings. The limitations of secondary data collection and analyses were particularly evident when attempting to access information on the changing landscape of ECD service provision in BC. In 2019, as part of the EYSF, the MCFD posted public requests for proposals via "BC bid" that ECD service providers were invited to responded to directly (Frog Hollow Neighborhood House, 2019). This, in conjunction with provincial and federal investments seeking to positively impact children and families spanning tax credits, early childcare, housing, health and education will result in significant changes to BC's ECD service delivery (HELP, 2019, p. 7). However, as this

restructuring remains ongoing with minimal public documentation, it was identified as an area for future research.

Finally, without the collection of primary data, many of the ECD services, policies or programs, referenced in the secondary data could not be confirmed as active at the time of the review. This both excluded them from consideration, and made it difficult to identify what, or if, new services, policies or programs had replaced them.

In light of the literature review's additional findings and limitations, the following areas for future research were identified:

Vulnerabilities and resilience of children below the age of 6.

The importance of supporting healthy development from 0 – 6, has been cited exhaustively in this review. However, there remains a paucity of data and literature for this age cohort both generally and jurisdictionally. This indicates the need for data, and development, of research tools which successfully accommodate the complexity of caregiver-child relationships as a primary data source; particularly when caregivers are expected to objectively report on their children's well-being.

Race, SES, and ethnicity in ECD.

Echoing the recommendations of the AAP and HELP, as the percentage of vulnerability attributable to race, SES and ethnicity continues to grow parsing out the differences and interrelationships between measurement variables, including geographic jurisdictions, is an urgent area for future ECD research. Again, this not only indicates a need for data but also research methods and analyses cognizant of traditional methods' limitations in these areas. Consider HELP's reliance on the "guidance and support of our Aboriginal Steering Committee…work[ing] directly with First Nations and Metis partners in supporting children and families in their communities to use our data and research" mitigating the limitations of prescriptive data analyses when researching layered complexity [HELP, 2019, p. 2].

Changing landscapes of ECD service systems.

As was mentioned in previous sections of this review, BC, like many other jurisdictions, is in the midst of significant changes in ECD service delivery and infrastructure; capturing communities' responses to these shifts is an urgent area for future research. Monitoring and documenting the development of these changes will provide ECD stakeholders timely data about the vulnerabilities and resilience of communities they serve.

Chapter 5: Recommendations

This chapter outlines recommendations that consider the literature review's findings, first to an audience titled ECD Field, and secondly recommendations to the client of the literature review. Recommendations made to the field of ECD are broad, their inclusion was dictated by the identified gaps in knowledge found in the literature and research reviewed.

Recommendations to the client, CHF, are more specific; they apply the lessons learned from the smart practices identified in this literature review in consideration of the general ECD themes and trends. The goal of the recommendations is to assist the CHF in their efforts to enhance access to ECD programs and resources for Vancouver Island families and their children. While these recommendations are of equal importance, the time sensitive nature of the changing landscape of ECD service systems in BC dictates the first two CHF specific recommendations should be considered urgent.

ECD Field Recommendations

> **Recommendation 1** - Evaluate standard ECD research methods and analyses of SES; invest in enhancements that address the shortcomings of these methods or analyses or highlight their visibility in research findings.

The rationale for this recommendation, as previously noted in the literature review, stems from the documented increase in racial, ethnic and economic diversity among children below the age of 6 and the increasing disparities in well-being based on these characteristics. This in turn, establishes the time sensitive, or urgent need of new research methods and analyses to better understand SES variables and their connections or effects to social gradients in developmental health.

> **Recommendation 2** - Invest in the development and adoption of improved research tools, methods and analyses for vulnerabilities and resilience of children ages 0 – 6.

The core concepts of ECD depict an interconnected bottom up development of functioning, whose probabilities of overcoming developmental challenges, decreases with time. This establishes both the rationale and time sensitivity of investing in the development and adoption of research tools to better understand the vulnerabilities and resilience of children 0 – 6.

CHF Specific Recommendations

Both recommendations numbered one and two are considered urgent, meaning CHF should consider implementing them immediately in the spring of 2020.

> **Recommendation 1** - Utilize a logic model or program cycle to clarify the Foundation's existing collaboration[s], and engagement[s] with ECD stakeholders and to identify desired outcomes and impacts.
> **Recommendation 2** - Conduct cyclical, at least every two years, jurisdictional scans of ECD service delivery that include primary data collection from service providers and users. Utilize data to inform system's initiatives and disseminate this information widely.

Recommendations three and four are not as time sensitive as the first two, however as these recommendations are complimentary, meaning they capitalize on CHF's collaboration and engagement with ECD stakeholders, they could be implemented concurrently.

> **Recommendation 3** - Engage and invest with local partners in the development, adoption and improvement of research tools, methods and analyses of the vulnerabilities and resilience of children ages 0 – 6.
>
> **Recommendation 4** - Prioritize and leverage local and Indigenous communities' expertise and leadership in ECD processes and governance.

Chapter 6: Conclusion

Before closing the report with final reflections, the following section offers a brief discussion on strategic or research implications for the CHF to consider which are germane to the report's recommendations.

STRATEGIC OR RESEARCH IMPLICATIONS

While the MCFD's shift with the EYSF to investing in "more direct programming in communities", through "systems leaders at local levels" (Frog Hollow Neighborhood House, 2019) could pose some challenges for established ECD services in the Vancouver Island area, particularly in funding streams, it also provides CHF stakeholders an opportunity to evaluate and create new partnerships and then develop, and or advocate proposals for multisectoral, integrated ECD while also supporting or buoying those partners who may struggle to adapt.

Further, solid partnerships between CHF and ECD service providers across Vancouver Island have already been established, yet there is always room for improvement. For example, through multi-sourced funding the Greater Nanaimo Early Years Partnership, provides a co-located hub model to offer and/or connect families and children to multiple discipline specific services (Greater Nanaimo Early Years Partnership, n.d). Collaborative partnerships such as this provide an opportunity for CHF stakeholders to develop or operationalize existing data collection tools to better understand and address community level childhood well-being and vulnerabilities. Consider HELP's newly piloted Toddler Development Instrument (TDI), a population-based measurement tool based on the EDI, for children between the ages one and two (TDI, now in pilot stages in five BC communities, which uses a voluntary questionnaire to collect data from caregivers; the TDI's purpose:

> is to increase our understanding of the early experiences, needs, and barriers faced by families with young children…findings from the TDI will be shared with communities and stakeholders to inform planning and action at local and regional levels [and] will contribute to building family and community resources (HELP, n.d.).

Finally, The CHF has invested considerable resources in the forthcoming Q̓ʷalayu House, located in Campbell River, BC (Chan, 2019). Q̓ʷalayu House promises to be the "home away from home" for family and children needing medical attention that its predecessor Jeneece Place, a homestay facility on Victoria General Hospital grounds is, but it is just the beginning (CHF,

2020). The engagement that has already happened with the We Wai Kai and Wei Wai Kum First Nations in the house's naming bely fertile grounds for further collaborations in PPBA and CDD ECD with Indigenous community members (Chan, 2019).

FINAL REFLECTIONS

As a final reflection, I would like to acknowledge the extraordinary circumstances of this reports' completion, as the entire world began to comprehend and respond to a global pandemic in March of 2020. I believe acknowledging the magnitude of this event is both a matter of common sense and a reflection germane to the literature review's findings.

On March 11, 2020 the director general of WHO declared that COVID-19, an "infectious disease", caused by a recently discovered coronavirus was a pandemic (WHO, 2020). In the coming weeks and months countries' responses to slow the spread of the disease, via respiratory droplets, whose symptoms can result in debilitating or fatal respiratory illnesses was swift and unprecedented. In the midst of this, of all the personal losses, challenges and uncertainty that became part of daily life during a global pandemic, the research team behind the project this literature review was a part of, continued with their work.

While not implicit, the literature review's findings reflect the uncertainty of the times we live in. The critical importance of understanding our environment's impact on development at both individual and societal scales, that our responses to developmental vulnerabilities must be as progressive and reactive as the uncertain futures we navigate, and perhaps most importantly, that if we want to thrive as a whole, we must expand our definitions and measures of vulnerabilities and resilience to include everyone.

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Appendices

Appendix A

Lit Review Template and Themes for Lit Reviews

Date: March 2, 2020

Title page

Executive Summary - no longer than one page

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Appendices

Appendix B

Universal ECD Service Delivery

Service	Description	Implementing Features	Secondary Features	Optional Features	MS	INT
Western Australia's Purple Book Health Checks	"The Purple Book is a free, parent-held child health record, provided by WA Health to every child at birth…[it]helps parents keep a record of their child's health and development from birth to school entry, in partnership with child health nurses and other health professionals." (WACAHS, 2020).	• Birth registry • Universal immunization program • ECD professionals to facilitate health checks • ECD service network	• Population based ECD data • Guiding partnership policies	• Localized ECD physical infrastructures (public schools/libraries, private daycares) as a hub sites for service access and community engagement	X	X

Selective ECD Service Delivery

Service	Description	Implementing Features	Secondary Features	Optional Features	MS	INT
New Hampshire's, Family Resource Centre's family support programs (FSP)	FSP offer: "prenatal and infant care, parenting and co-parenting education, infant growth and child development, childcare, preschool and after school services, ages and stages developmental screenings, growing great kids [curriculum], [Triple P] program curriculum" and other community resources (FSP, 2017).	• High-quality evidence-based programs, curricula and tools • ECD professionals to facilitate screenings, assessments and programming • Physical infrastructure to host activities	• Collaborative ECD system infrastructure: namely, Coös' coalition and Coös Director Network	• Population specific services, such as the *Supportive Services for Veteran Families* program	X	X
Salteau First Nation's [SFN] Cree-ative Wonders Daycare (CWD)	CWD is an ELCC Aboriginal Head Start On Reserve (AHSOR) program in Northern BC offering two mixed programs and listing seven components which anchor the culturally specific context of SFN as key to their ELCC: "culture and language, education, health promotion, nutrition, social support and parental and family involvement" (SFN, n.d).	• Community based culturally specific curricula • Local ELCC professionals • Physical infrastructure to host activities	• Collaborative partnerships with academic institutions and MS federal ECD programs • Generative Curriculum Model		X	X

Indicated ECD Service Delivery

Service	Description	Implementing Features	Secondary Features	Optional Features	MS	INT
Mainland BC's Multicultural Early Childhood Development (MECD)	"This project provides [a variety] of services for families with children ages 0-6 who reside in [Anmore, Belcarra, Coquitlam, Port Coquitlam and Port Moody], and are primarily from three different ethnic communities (Korean, Farsi and Chinese)" (SUCCESS, 2020).	• Physical infrastructure (established community-based cultural centre) • ECD service network • ECD professionals to facilitate programming, referrals	• Reciprocal service referral relationships with external ECD services	• Provision of culturally competent ECD training to broader community	X	X

Appendix C

Aboriginal Head Start in Urban and Northern Communities [AHSUNC] and Aboriginal Head Start On Reserve [AHSOR]	Pan-Canadian	"AHSUNC and AHSOR programs are national community-based programs, locally managed, that address the unique needs of each community. The programs focus on providing culturally appropriate early childhood development programs populations and work to benefit the health, well-being, and social development of Indigenous children through a population health approach that embraces culture as a core determinant of health." (CCSDH, 2017, p. 9)
Better Beginnings Better Futures [BBBF]	Ontario	"BBBF began as a large-scale, multi-year, longitudinal research- demonstration project, and has become a program model designed to reduce emotional and behavioural problems experienced by children, promote healthy child development, and enhance family and community. Service integration is a key principle of BBBF: the aim is that children and their families receive seamless support from the BBBF projects, schools, and other services. The initiative has a proven economic outcome, with cost savings to Ontario government funders of more than $2 for each $1 originally invested." (CCSDH, 2017, p. 5)
Canada Prenatal Nutrition Program [CPNP]	Pan-Canadian	"CPNP aims to improve maternal-infant health, increase the rates of healthy birth weights, and promote and support breastfeeding. It also promotes the creation of partnerships within communities and strengthens community capacity to increase support for vulnerable pregnant women and new mothers. This initiative includes a separate funding stream for First Nation Communities with activities related to nutrition screening, education, and counselling; maternal nourishment; and breastfeeding promotion, education, and support." (CCSDH, 2017, p. 10)

Caring, Helping, And Nurturing, Children Every Step [CHANCES]	Prince Edward Island	"CHANCES is a community- based, non-profit initiative that provides a range of child development and parent support services, particularly to more vulnerable families. The initiative carries out its mission through seven program streams: prenatal and postnatal programs (Canada Prenatal Nutrition Program); Best Start Program; Strong Start; Early Years Centres / Smart Start; parenting and child development programs; Smart Play; CHANCES Family Health Clinic." (CCSDH, 2017, p. 10)
Community Action Program for Children [CAPC]	Pan-Canadian	"CAPC provides funding to community-based groups and coalitions to develop and deliver comprehensive, locally and culturally appropriate prevention and early intervention initiatives. Programs aim to promote the health and social development of young children and families facing challenging life conditions (e.g., low- income families, teenage parents, children with developmental delays), Indigenous children, recent immigrants and refugees, single-parent families, and families in remote/ isolated communities. Program-wide, many CAPC sites have developed partnerships with a broad variety of organizations from different sectors of activity (e.g., health organizations, educational institutions, community associations, early childhood or family resource centres). Programming may be offered through family resource centres, parenting classes, drop-in groups, parent- child groups, home visiting, or specialized programs." (CCSDH, 2017, p. 12)
Early Childhood Development Centres (ECDCs)	New Brunswick	"Located in schools and integrated into existing pre-school, childcare and parenting programs, the ECDC sites serve as neighbourhood hubs where early childhood services can be accessed in an integrated way, under the direction of a local community network and a non-profit board of directors. They also provide research and evaluation to inform provincial strategies" (CCSDH, 2017, p. 13)
Positive Parenting Programs (Triple P)	International; in 25 countries	"Triple P is a parenting and family support system, a suite of interventions of increasing intensity for parents, designed to prevent—as well as treat—behavioural and emotional problems in children and teenagers. It aims to prevent

		problems in the family, school, and community before they arise, and to create family environments that encourage children to reach their potential" (CCSDH, 2017, p. 7).
Success by 6 [SB6]	British Columbia	The SB6 Provincial Initiative and Partnership strengthens communities by funding programs and engaging citizens in building child- and family-friendly communities. A central pillar of the initiative is a focus on meaningful engagement of Indigenous peoples, guided by a province- wide strategy and framework based on recognition of self-determination, as well as the Truth and Reconciliation Commission's Report and Calls to Action. Its Aboriginal Engagement Strategy, developed in 2006 and backed by a dedicated funding stream, is designed to support Indigenous-identified priorities through the development of partnerships and relationships intended to promote collaboration across sectors and across cultures, as communities strive to support young Indigenous children and their families. To date, SB6 has supported the development and ongoing strategic planning of over 120 community-based Early Years and Aboriginal Early Years Planning Tables/ Councils. These tables bring together local stakeholders from multiple sectors to plan and improve service integration and program delivery for young children and their families. (CCSDH, 2017, p.14).
Sure Start Children's Centre	United Kingdom	Children's centres offer services to all families with young children living in disadvantaged neighbourhoods without stigmatizing users. They assess local needs by studying the characteristics of local communities and undertaking outreach to attract and serve the most vulnerable families. Some services are therefore targeted to particular groups of high-risk families (e.g., teenage parents, jobless households (CCSDH, 2017, p. 6).

Appendix D

	Reference	Abstract
Framework/ Model		
Logic Models and Outcomes for Early Childhood Programs	Bronte-Tinkew, J., & Calkins, J. (2001). Logic models and outcomes for early childhood programs. *Prepared for the DC Children and Youth Investment Trust Corporation). Washington, DC: Child rIrends*.	The primary purpose of this report is to provide revised logic models and measurable outcomes for the early childhood programs of the DC Children and Youth Investment Trust Corporation (DCCYIT). The logic model was revised from the initial draft of the Board of Directors of DCCYIT using the framework and terminology developed by the United Way Foundation of America.[1] The report combines both an academic and applied research perspective on child development, and is intended to complement, not duplicate in any way, the work that has already been completed by the DCCYIT in this program area. The report focuses on Early Childhood Development and contains a brief overview of the research literature that informs our conceptualization of the logic model and proposed outcomes.
Development of a Child Evaluation Framework for early childhood services using deliberative democratic evaluation and the mosaic approach	Kingston, K. (2016). Development of a Child Evaluation Framework for early childhood services using deliberative democratic evaluation and the mosaic approach. *Evaluation Journal of Australasia*, *16*(3), 25-34.	The purpose of this article is to present an evaluation design for the development of a Child Evaluation Framework (Framework). If implemented, this Framework would give four to six year old children attending early childhood services in an Australian context the capacity to impact upon the design and delivery of their early childhood service. As highlighted, the current lack of ability for children to have a voice and participate in the evaluation of their early childhood service infringes upon their rights under Article 12 of the 1989 United Nations Convention on the Rights of the Child (UNCRC) which calls for the child's right to freedom of expression and information, and for participation. It is hoped that the successful development and implementation of this design would advance child participation rights and child empowerment. The design utilises the principles of deliberative democratic evaluation, and methodologies advocated within the mosaic approach to researching with young children.

Better Beginnings, Better Futures: Theory, research, and knowledge transfer of a community-based initiative for children and families	Worton, S. K., Caplan, R., Nelson, G., Pancer, S. M., Loomis, C., Peters, R. D., & Hayward, K. (2014). Better beginnings, better futures: Theory, research, and knowledge transfer of a community-based initiative for children and families. *Psychosocial Intervention*, *23*(2), 135-143.	This paper provides an overview of the Better Beginnings, Better Futures initiative from its outset in 1990 to the present, with a view towards examining the ways in which knowledge generated from such initiatives can be transferred to other communities. [Logic model on pg. 138].
EarlyON Action Plan (2018-2020)	City of Toronto. EarlyON Action Plan. Retrieved from: https://www.toronto.ca/wp-content/uploads/2018/12/94fd-cs-early-on-action-plan-2019.pdf	What follows is a blueprint that will be universally applied to all service providers across the city. It outlines how Toronto's vision for the early years and care system will be achieved through an ambitious series of Action Items. These Action Items consist of processes and tools that will help us create greater consistency across the EarlyON sector. They also include approaches that will ensure EarlyON Centres reach and support traditionally marginalized communities, including Indigenous and Francophone families. Through EarlyON, our intention is to create a community-led, |7| City of Toronto | Children's Services city-managed resource that provides all families with the local supports that they need. This Action Plan will help us do that. [Logic model on page 6-7].
Scaling early child development: what are the barriers and enablers?	Cavallera, V., Tomlinson, M., Radner, J., Coetzee, B., Daelmans, B., Hughes, R., ... & Dua, T. (2019). Scaling early child development: what are the barriers and enablers?. *Archives of disease in childhood*, *104*(Suppl 1), S43-S50.	Abstract The Sustainable Development Goals, Global Strategy for Women's, Children's, and Adolescents' Health (2016–2030) and Nurturing Care Framework all include targets to ensure children thrive. However, many projects to support early childhood development (ECD) do not 'scale well' and leave large numbers of children unreached. This paper is the fifth in a series examining effective scaling of ECD programmes. This qualitative study explored experiences of scaling-up among purposively recruited implementers of ECD projects in low- and middle-income countries. Participants were sampled, by means of snowball sampling, from existing networks notably through Saving Brains®, Grand Challenges Canada®. Findings of a recent literature review on scaling-up frameworks, by the WHO, informed the development of a semi structured interview schedule. All interviews were conducted in English, via Skype, audio

		recorded and transcribed verbatim. Interviews were analysed using framework analysis. Framework analysis identified six major themes based on a standard programme cycle: planning and strategic choices, project design, human resources, financing and resource mobilisation, monitoring and evaluation, and leadership and partnerships. Key informants also identified an overarching theme regarding what scaling-up means. Stakeholders have not found existing literature and available frameworks helpful in guiding them to successful scale-up. Our research suggests that rather than proposing yet more theoretical guidelines or frameworks, it would be better to support stakeholders in developing organisational leadership capacity and partnership strategies to enable them to effectively apply a practical programme cycle or systematic process in their own contexts. [Program cycle on page 44].
A Practical Guide to Evaluating Systems Change in a Human Services System Context	Latham, N. (2014). A Practical Guide to Evaluating Systems Change in a Human Services System Context. *Center for Evaluation Innovation*.	Ultimately, the Guide proposes that we can tackle complexity by staying grounded in straightforward and familiar concepts – while at the same time respecting the complex nature of systems change. To help evaluators walk this fine line, the Guide offers: • A concrete way to operationalize the concept of systems (with a focus on human service delivery systems), • A correspondingly concrete way to visualize what it means to say that the system is changing, • A way to think about the factors contributing to the effectiveness of the collaboratives that undertake systems change initiatives, • A list of the steps involved in systems change evaluation (likening this evaluation to standard change-over-time program evaluation), • A set of tools for you to tailor and use in your own evaluation, and • Guidance for how to bring together this approach with some key aspects of a developmental evaluation.

Conceptualization of Quality of ECD Programs and Policies at Setting and Systems Levels	Britto, P. R., Yoshikawa, H., & Boller, K. (2011). Quality of Early Childhood Development Programs in Global Contexts: Rationale for Investment, Conceptual Framework and Implications for Equity and commentaries. *Social Policy Report*, *25*(2), 1-31.	The framework proposed by the authors includes the multiple dimensions of quality identified in the literature and takes account of different systemic layers that bear upon implementation. These range from distal quality influences such as the programming and policy system in which programs are located, to the actual program delivery interface affecting caregiver and/or child. Furthermore, the quality dimensions are cross cutting and equally applicable to any form of ECD program including those targeting primary caregivers as well as those offered directly to children. While the quality dimensions may have differing importance depending on the program, the broad common framework makes it possible to compare different approaches to ECD servicing.

Appendix E

TABLE 1 ECD Evidence-Based Programs, Curricula, and Tools

Programs	Training	Screening/Observation Tools
• Growing Great Kids (GGK) Curriculum • Triple P Positive Parenting Program • Helping the Noncompliant Child • Healthy Families America (HFA) Program • Parents as Teachers • Mindfulness Social/Emotional Learning • Kindness Curriculum • Creative Curriculum	• Parents Interacting With Infants (PIWI) • Positive Solutions for Families • Pyramid Model Train the Trainer Services • Teaching Pyramid Observation Tool (TPOT) • Practice-Based Coaching (PBC) • Trauma-Informed Care Training	• TPOT • Teaching Strategies Gold (TS-Gold) • Ages and Stages Questionnaire (ASQ-3) • Ages and Stages Questionnaire-Social-Emotional (ASQ-SE2) • Strengths and Difficulties Questionnaire (SDQ) • The Pyramid Infant Toddler Observation Scale (TPITOS) • Early Childhood Environment Rating Scale (ECERS) • Social, Academic, and Emotional Behavior Risk Screener • Patient Health Questionnaire (PHQ-2 – depression screen) • Edinburgh Depression Screen • Swanson, Nolan, and Pelham Questionnaire (Attention-Deficit/Hyperactivity Disorder screening) • Modified Checklist for Autism in Toddlers (M-CHAT)

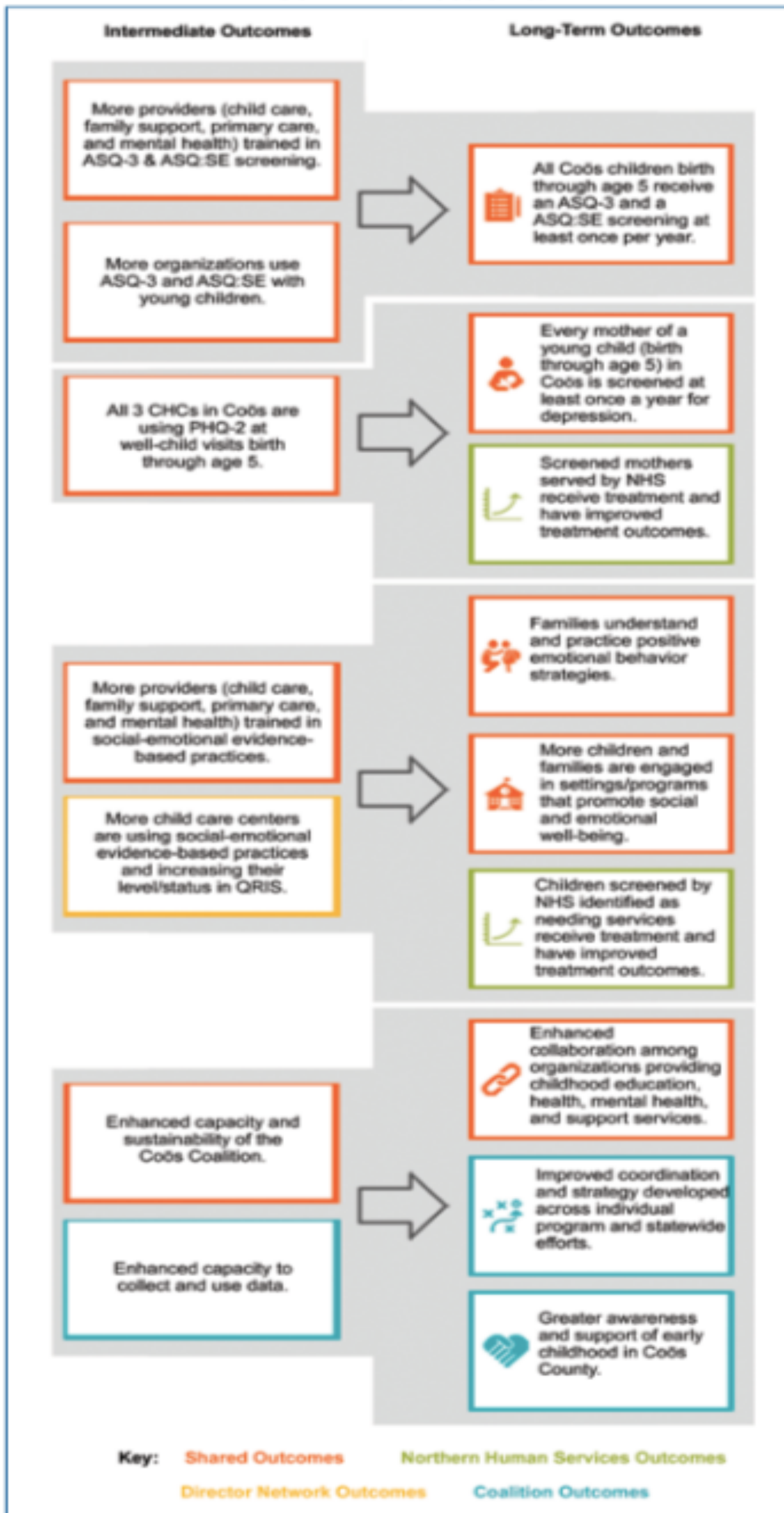
FIGURE 4 ECD Outcomes
Intermediate Outcomes
Long-Term Outcomes
More providers (child care, family support, primary care, and mental health) trained in ASQ-3 & ASQ:SE screening.
More organizations use ASQ-3 and ASQ:SE with young children.
All Coös children birth through age 5 receive an ASQ-3 and a ASQ:SE screening at least once per year.
All 3 CHCs in Coös are using PHQ-2 at well-child visits birth through age 5.
Every mother of a young child (birth through age 5) in Coös is screened at least once a year for depression.
Screened mothers served by NHS receive treatment and have improved treatment outcomes.
More providers (child care, family support, primary care, and mental health) trained in social-emotional evidence-based practices.
More child care centers are using social-emotional evidence-based practices and increasing their level/status in QRIS.
Families understand and practice positive emotional behavior strategies.
More children and families are engaged in settings/programs that promote social and emotional well-being.
Children screened by NHS identified as needing services receive treatment and have improved treatment outcomes.
Enhanced capacity and sustainability of the Coös Coalition.
Enhanced capacity to collect and use data.
Enhanced collaboration among organizations providing childhood education, health, mental health, and support services.
Improved coordination and strategy developed across individual program and statewide efforts.
Greater awareness and support of early childhood in Coös County.
Key: Shared Outcomes
Northern Human Services Outcomes
Director Network Outcomes
Coalition Outcomes