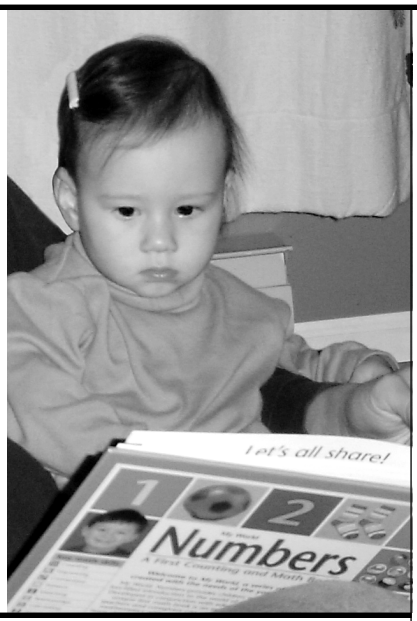
MAKING EARLY CHILDHOOD DEVELOPMENT A PRIORITY



Lessons from Vancouver

by Clyde Hertzman

MAY 2004

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Contents

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ACKNOWLEDGEMENTS

This paper summarizes a much longer study. Thanks for the original paper go to the Community Asset Mapping Project team for technical support; to the (former) Vancouver-Richmond Health Board, Human Resources Development Canada, and the BC Ministry of Child and Family Development for their support; and to the Vancouver School Board, First Call, Windows of Opportunity, the United Way of Greater Vancouver, and the Vancouver Foundation for collaboration and logistical support.

Thanks also to Rita Chudnovsky, Seth Klein, Marc Lee, Arlene McLaren and Michael Zlotnik for reviewing this paper.

Cover photo credit: Jessie Smith

ISBN 0-88627-400-1

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Summary

CANADIANS HAVE BECOME INCREASINGLY AWARE OF THE BENEFITS OF EARLY CHILDHOOD development. Traditional voices demanding increased access to child care and the prevention of childhood poverty were joined by those who, from a scientific perspective, recognized that the experiences of early childhood can have a profound impact on health, well-being, and coping skills across the entire life course. Governments too have recognized the value of funding these programs, and have implemented agreements that have brought modest levels of federal-provincial transfer payments.

While this is a good start, it is only a start. Funding for children from birth to age 5 remains only a fraction of that spent on children in the K-12 system, despite mounting evidence that programs and services are needed earlier.

This paper draws on findings from the National Longitudinal Survey of Children and Youth, which suggests that as many as one-quarter of Canada's young children may be developmentally vulnerable at school entry. It also summarizes findings of a Vancouver initiative, the Early Development Instrument, which measured readiness for school across Vancouver's 23 neighbourhoods. Among the EDI's findings are:

- vulnerability spans all neighbours – although the highest risk is found in the poorest neighbourhoods, the largest number of children at risk is found more thinly spread across the middle class neighbourhoods;
- segregated neighbourhoods are at the highest risk – mixed neighbourhoods lead to lower levels of developmental vulnerability than economically segregated poor neighbourhoods;
- programs are underfunded and unstable – and were so even before the latest round of provincial childcare cuts;
- there is a 10-fold difference in neighbourhood child care accessibility rates across Vancouver – ironically, the least-served neighbourhoods are found in the working class areas of the east side, where quality child care would likely have the greatest developmental benefit;
- current spending per child in BC on all child care and development programs for the 0 to 5 age range is less than one-fifth what it is on public education starting at age 6; and
- barriers to access are significant – and are clearly more significant in lower socioeconomic neighbourhoods.

Importantly, the EDI also showed that vulnerabilities at the kindergarten level are a powerful determinant of Vancouver schools' success in assisting children to achieve their basic academic competencies.

These results show clearly that it is time to develop a system of publicly-funded, universal access to opportunities for development, learning and care for children from birth until school age.

Policy implications include:

- an expanded focus on children's environments, rather than one-on-one services;
- improved inter-sectoral collaboration;
- equalized access to quality childcare; and
- enhanced universal access across neighbourhoods.

Finally, this paper sets out that funding for these improvements can be easily provided though a "demographic harvest" – holding real spending on education relative to GDP constant, even as the number of school-aged children declines, and assigning the surplus to the 0-5 age group.

Creating a long-term plan to reap the demographic harvest on behalf of young children would be a marked departure in planning for our federal and provincial governments. It is the sort of intelligent use of public resources that we need.

Making Early Childhood Development a Priority

Lessons from Vancouver

IN CANADA, OVER THE PAST DECADE, THE EARLY CHILDHOOD PERIOD (FROM BIRTH TO AGE 5) has begun to make a transition from being a purely private matter, of concern only to families, to a time of life with a public profile. A National Children's Agenda was agreed to in the late 1990s. This led, first, to the Federal-Provincial Early Childhood Development Agreement and later to the Multilateral Framework on Early Learning and Child Care. These agreements bring with them modest, but accelerating, levels of federal-provincial transfer payments that, together, will amount to approximately $1 billion per year when they reach their maximum in 2005/06 (ECDA) and 2007/08 (ELCC). The impetus for these agreements came from several sources. Traditional voices demanding increased access to child care and the prevention of childhood poverty were joined by those who, from a scientific perspective, recognized that the experiences of early childhood can have a profound impact on health, well-being, and coping skills across the entire life course.

This paper makes the case that what we have done so far is a good start, but it is only a start. Much more needs to be done and more resources need to be invested into early childhood development if all children are to have a fair chance of school and life success.

Early Childhood Development – An Overview

The early years last a lifetime. Although this statement can be dismissed as a truism, it is profoundly significant. There is now an impressive body of evidence, from a wide range of sources, demonstrating that early child development affects health, well-being and competence across the balance of the life course. 'Early child development,' as I use it here, is not a program or a service (though it is influenced by them), but rather an understanding of the way a child functions at a given age. The dimensions of early child development that matter the most are the physical, the social/emotional, and the cognitive/language. How a child develops across *each of* these dimensions, from before birth to school age, influences *each* of health, well-being and competence for the rest of life.

We now know with certainty that the chances for successful early physical, social/emotional, and cognitive/language development are strongly influenced by the day-to-day qualities of the environments where children grow up, live and learn. A young child's brain is an 'environmental organ' just like the lungs or the skin, growing and developing according to the amount and quality of stimulation in the child's immediate environment. Engaged, supportive emotional environments condition the developing brain in positive ways that, in turn, influence positively how children will perceive and respond to stressful experiences for the balance of their lives. Rich and responsive language environments allow children to acquire language much more rapidly than environments where little conversation takes place, making children more ready for school.

The National Longitudinal Survey of Children and Youth

Starting in the mid-1990s, Canada began a national long-term follow-up study of development and health, called the National Longitudinal Survey of Children and Youth (NLSCY). This study began with a random sample of 22,000 children aged 0-11 and has followed them every other year, adding more newborns at each cycle. The study is a partnership between Human Resources Development Canada, Statistics Canada, and the research community. I am one of those who has helped design the survey and analyze its results on an ongoing basis.

From a policy standpoint, two key facts have emerged from the NLSCY. First, the range of 'normal' environments in which Canadian children grow up differ enough from one another to influence early development in important ways. It is not only the profoundly abusive or neglectful environments that make a difference. Second, these differences rapidly translate into developmental inequalities that, in turn, have long lasting effects.

The NLSCY shows that threats to healthy child development are found across the entire socio-economic status (SES) spectrum, though at increasing intensity as one goes from high to low SES. Inequalities in child development emerge over the first five years of life, according to family income, parental education, parenting style, neighbourhood safety and cohesion, neighbourhood socio-economic characteristics, and access to quality child care and developmental programs. In other words, family circumstances do not operate on their own. Children who grow up in safe and cohesive neighbourhoods do better, in general, than those from dangerous and socially fragmented neighbourhoods. Similarly, children from vulnerable family backgrounds who grow up in mixed income neighbourhoods tend to fare better than those who grow up in uniformly low-income neighbourhoods. Access to quality child care and developmental programs and services, both those that include parents and those that do not, can and do provide important developmental benefits for Canadian children. Thus, society is implicated in early child development, whether it wants to address its role or not.

> The early years last a lifetime. Although this statement can be dismissed as a truism, it is profoundly significant. There is now an impressive body of evidence, from a wide range of sources, demonstrating that early child development affects health, well-being and competence across the balance of the life course.

Evidence from the NLSCY suggests that as many as one-quarter of Canada's young children may be developmentally vulnerable at school entry. For instance, the NLSCY shows that there is a 4.5 fold increase (or 'gradient') in the proportion of children with delayed vocabulary development across the household income spectrum, ranging from less than 8 per cent for children of Canada's most affluent families, to approximately 20 per cent among lower middle class children, to more than 35 per cent among poor children. This gradient is not set in stone – it can be mitigated by school, family and societal efforts – but once the gradient in school readiness establishes itself as a population trend among a group of children, it tends to track forward as they go through school.

Despite our general knowledge of the importance of healthy child development, until recently we have had no way of monitoring how it unfolded in specific communities, or understanding how local circumstances could be changed to improve the life chances of children.

The Early Development Instrument

In this paper, I summarize an initiative we have taken in Vancouver that is spreading across British Columbia and is mirrored in other parts of Canada. It begins with a developmental assessment of all kindergarten children within a school district (in this case, the city of Vancouver) using a statistical index we call the Early Development Instrument. The EDI measures readiness for school in three key domains of child development: language/cognitive, social/emotional and physical. These are the domains that research evidence shows have a long-term impact on health, well-being and school success. On the EDI, these three domains are measured using five scales: the 'physical health and well-being' scale addresses the physical domain of development; the 'social competence' and 'emotional maturity' scales address the social/emotional domain; and the 'language and cognitive development' and the 'communication skills and general knowledge' scales address the language/cognitive domain of development. The interpretation of these scales is described below.

Physical health and well-being

- Above the 90th percentile, a child is physically ready to tackle a new day at school, is generally independent, and has excellent motor skills.
- Below the 10th percentile, a child has inadequate fine and gross motor skills, is sometimes tired or hungry, usually clumsy, and may have flagging energy levels.

Social competence

- Above the 90th percentile, a child never has a problem getting along, working, or playing with other children; is respectful to adults, self-confident, has no difficulty following class routines; and is capable of pro-social behavior.
- Below the 10th percentile, a child has poor overall social skills; has regular serious problems in more than one area of getting along with other children, accepting responsibility for their own actions, following rules and class routines, respect for adults, children, and others' property, with self-confidence, self-control, adjustment to change; and is usually unable to work independently.

Emotional maturity

- Above the 90th percentile, a child almost never shows aggressive, anxious or impulsive behavior, has good ability to concentrate, and is often helping other children.
- Below the 10th percentile, a child has regular problems managing aggressive behavior, is prone to disobedience, and/or is easily distractible, inattentive, impulsive, usually unable to show helping behavior towards other children, and is sometimes upset when left by the caregiver.

Language and cognitive development

- Above the 90th percentile, a child is interested in books, reading and writing, and rudimentary math, is capable of reading and writing simple sentences and complex words, and is able to count and recognize numbers and geometric shapes.
- Below the 10th percentile, a child has problems in both reading/writing and numeracy, is unable to read and write simple words; is uninterested in trying, and often unable to attach sounds to letters, has difficulty with remembering things, counting to 20, recognizing and comparing numbers, and is usually not interested in numbers.

Communication skills and general knowledge

- Above the 90th percentile, a child has excellent communication skills, can tell a story and communicate with both children and adults, has no problems with articulation; and English is this child's first language.
- Below the 10th percentile, a child has poor communication skills and articulation, limited command of English, has difficulties in talking to others, understanding and being understood, and has poor general knowledge.

EDI data collection is completed by teachers, drawing on knowledge of their students by the middle of the kindergarten year. Although it is completed for each child, data is interpreted at the group level (i.e. school or neighbourhood) to help communities assess how well they are doing in supporting young children and their families. The EDI was developed by Dan Offord and Magdalena Janus at McMaster University and validated through cross-Canada pilot studies by a team of investigators, including the author.

Our work addressed a number of factors, including: neighbourhood differences in children's school readiness; socioeconomic characteristics; neighbourhood climate; early health risks, detection and intervention; child care, literacy and parenting programs; and school performance. Neighbourhoods were characterized in terms of their socio-demographic status, developmental risk circumstances, and *de facto* access to services and facilities meant to assist child development.

What emerges is a comprehensive understanding of Vancouver as an environment for early child development, rich in insights as to what we, as a community, should address in order to improve the life chances of our youngest citizens. The insights from Vancouver are worthy of consideration in communities across the country.

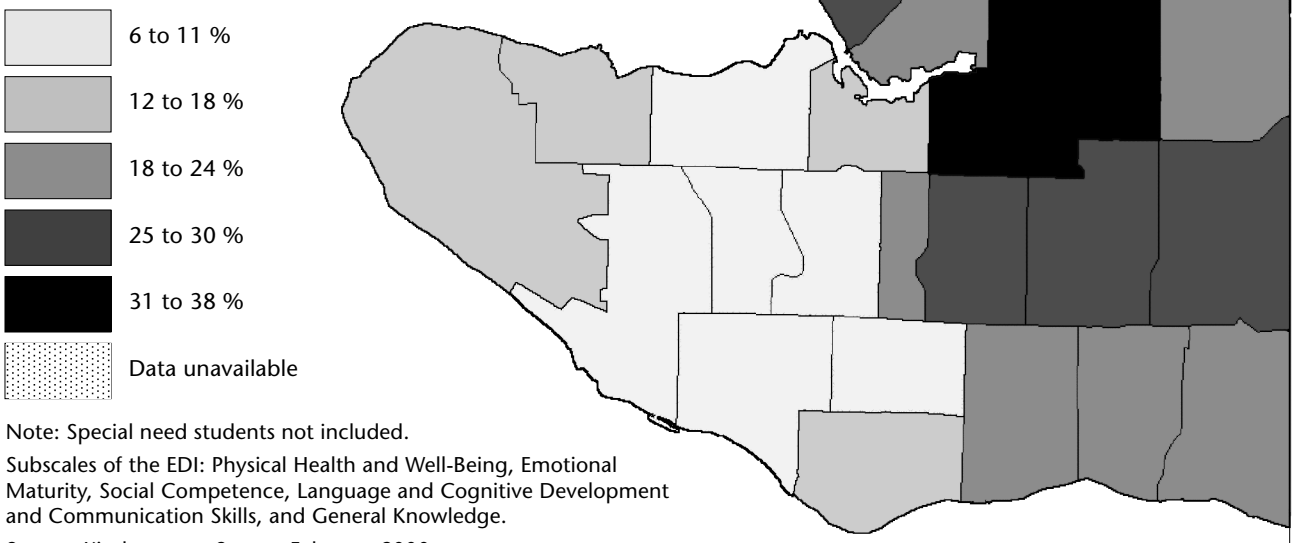
Summary of Findings from Vancouver

The EDI was completed in February 2000 by all kindergarten teachers in the Vancouver School District, for a total of 3,921 children (97 per cent of kindergarten age children in Vancouver). The full report (available at www.earlylearning.ubc.ca) presents results according to children's residence in one of Vancouver's 23 neighbourhoods. These neighbourhoods, set by the city's social planning department, were used because they represented the environments where children spent their early years better than the school of attendance.

Here, we base our summary on the proportion of "vulnerable" children by neighbourhood. These are the children found to have low scores on one or more dimensions of the EDI and to be less ready for school than their peers. The following are the key findings from the Vancouver EDI research.

Vancouver

Proportion of students living in each neighbourhood that scored in the vulnerable category on one or more scales



Note: Special need students not included.

Subscales of the EDI: Physical Health and Well-Being, Emotional Maturity, Social Competence, Language and Cognitive Development and Communication Skills, and General Knowledge.

Source: Kindergarten Survey, February 2000.

Vulnerability spans all neighbourhoods

Developmental vulnerability follows a gradient across Vancouver, such that, as one goes from the south west of the city to the north central neighbourhoods, the proportion of vulnerable children on at least one dimension of the EDI rises from 6 per cent to 38 per cent (see map[1]). The patterns tend to follow socioeconomic differences. Thus, affluent neighbourhoods tend to be those at lowest developmental risk, and poor neighbourhoods at highest developmental risk. The overall difference on the EDI parallels neighbourhood differences on each individual scale. For the language and cognitive development scale, no children were identified as vulnerable in the lowest risk neighbourhood, while 21 per cent of children in the highest risk neighbourhood fell into the vulnerable category; for physical health and well-being, the range was 0 to 22 per cent; for social competence, the range was 1 to 17 per cent; for emotional maturity, the range was 2 to 16 per cent; and for communication skills in English and general knowledge, the range was 0 to 16 per cent. As rates of vulnerability rise, so does the frequency of multiple vulnerabilities that cut across more than one dimension of the EDI. Although the highest risk is found in the poorest neighbourhoods of town, the *largest number of children at risk* is found more thinly spread across the middle class neighbourhoods that, taken as a whole, have a much larger number of young children than the poorest neighbourhoods. In real numbers, approximately 20 per cent of the vulnerable children living in Vancouver lived in the three 'high risk' neighbourhoods shown on the map, while the other 80 per cent of vulnerable children were spread across the other 20 neighbourhoods in town. Thus, if the purpose of an early child development strategy is to increase resilience, decrease vulnerability, and reduce social inequality, a strategy to provide universal access to the conditions that support healthy child development is needed. This may mean addressing issues in different ways in different neighbourhoods, but it does *not* mean focusing exclusively on the highest risk areas. Such a strategy would miss most of the vulnerable children in Vancouver.

Segregated poor neighbourhoods are at the highest risk

The character of the urban environment can make an important difference for child development. Like most major Canadian cities, Vancouver's neighbourhoods are gradually becoming more economically stratified. Families with young children are concentrated in areas of the city that are closest to commercial districts and transportation zones, rather than in neighbourhoods designed for child rearing – mainly due to zoning, a greater supply of affordable housing, and high vacancy rates near to commercial districts. Also, the majority of non-market housing for families in Vancouver has been built in existing low-socio-economic areas – increasing the level of segregation. These are the neighbourhoods at highest developmental risk.

However, Vancouver is also a showpiece for urban forms that support early child development. In two neighbourhoods, Granville Island/Fairview Slopes and Champlain Heights, middle class and non-market housing have been 'plan-fully' mixed together. In these neighbourhoods developmental outcomes are better than would be predicted based upon individual family risks alone. In Vancouver, children whose family backgrounds might put them at risk, but who live in mixed-income neighbourhoods, tend to be protected compared to their counterparts in low socio-economic segregated neighbourhoods. In other words, it seems that mixed neighbourhoods lead to lower levels of developmental vulnerability than economically segregated poor neighbourhoods. This has been recognized in the United States for several years (see Duncan and Brooks-Gunn), but it is just now being recognized that Canadian cities are ghettoized enough in places for the same differences to be detected here.

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[1] The map excludes 72 children defined as 'low prevalence special needs' by the school board. These are children who have well defined congenital anomalies, such as Down's Syndrome. Children with common, acquired problems such as Attention Deficit Disorder, Fetal Alcohol Syndrome, etc are *included* in the maps. Also, it should be noted that, when the 72 low prevalence special needs children are divided between affluent and non-affluent neighbourhoods, the relative developmental advantages for those in affluent neighbourhoods are larger, not smaller, than for the majority of children.

Programs are underfunded and unstable

Although Vancouver has a rich variety of child care centres and child development programs, funding levels are low, programs are unstable, neighbourhood accessibility is variable, capacities and population coverage are often impossible to determine, and the mix of programs is *ad hoc*. For instance, even before the latest round of cuts to child care subsidy programs, there was a 10-fold difference in neighbourhood child care accessibility rates across Vancouver (from .89 slots per child to .09 slots per child). Ironically, the least-served neighbourhoods are found in the working class areas of the east side, where quality child care would likely have the greatest developmental benefit. Current spending per child in British Columbia on all child care and development programs for the 0 to 5 age range is less than one-fifth what it is on public education starting at age 6.

Barriers to access are significant

One of our most consistent findings is the role of barriers to access to programs and services that might assist child development. Although these barriers are not associated with direct program costs, they are clearly more significant in lower socio-economic neighbourhoods. As one goes down the socio-economic spectrum, the data reveal that many developmental issues are not identified and addressed until later in childhood. Yet, when it comes to child development, the earlier a problem is identified and addressed, the better for prevention. We do not have a thorough understanding of these barriers, although from *ad hoc* and indirect sources the following factors seem to be at issue: varying levels of parental knowledge and understanding of early child development; work-life, home-life time conflicts that make it hard to access services and programs at the times they are offered; transportation and local access constraints; and language barriers and feelings of illegitimacy in the face of middle class professionals. At the same time, several *outreach* programs in Vancouver, including the local Canada Prenatal Nutrition Program (Healthiest Babies Possible) show that barriers to access can be broken down, and developmental disadvantages overcome, through strategic program design and execution.

Kindergarten vulnerabilities are a powerful determinant of school success

At present, schools are society's principal child development agencies. However, school mandates do not start at birth and the notion of 'education' is often interpreted much more narrowly than 'development.' In Vancouver, we have shown that as much as 60 per cent of the between-school variation in basic competency tests at Grade 4 can be 'explained' by a combination of kindergarten vulnerability rates, using the EDI and the socio-economic status of the catchment area of the school. The proportion of children who enter school vulnerable on one or more dimension of development is a powerful determinant of a school's success in assisting children to achieve their basic academic competencies.

In Vancouver, we have shown that as much as 60 per cent of the between-school variation in basic competency tests at Grade 4 can be 'explained' by a combination of kindergarten vulnerability rates.

Policy Implications

In seeking to address the issue of improving child development as a society, the evidence presented above has the following policy implications:

Focus on environments, not one-on-one services

Because the developing brain is an "environmental organ," improving child development depends upon improving the environments where children grow up, live and learn. It is not simply a question of fulfilling specific service mandates to narrowly-defined client populations. The challenge is one of bringing an environmental perspective to agencies that have traditionally understood their role to be exclusively the provision of one-on-one client services. For example, speech and language pathology services are meant to deal with children with profound difficulties. However, the proportion of children with such difficulties tends to be lower in communities where language use within families and in care environments is both rich and responsive. Thus, primary prevention of speech and language pathology means working to create a richer language 'environment' in the community. Family literacy programs are an example of such an approach. The principle here is the same as reducing high cholesterol in the population by changing the fat content of the food supply, rather than concentrating first on individual diet choices.

Improve inter-sectoral collaboration

It is clear from our work that creating the conditions for healthy child development will require a profound degree of inter-sectoral collaboration. The programs, services, and environmental influences on children's development involve federal, provincial, and municipal governments as well as philanthropies, businesses, neighbourhoods, and families. Some factors, such as how the housing market affects the neighbourhoods that children grow up in, are rarely thought about in this context. Decisions made in one sector can have a profound effect on the effectiveness of other sectors in assisting in child development. For instance, when regional health authorities decide to eliminate kindergarten screening for hearing, vision, and/or dental problems they may do so on the understanding that such services are not central to their mandate of patient care. However, the repercussions for the school system, and for the long-term health, well-being, and coping skills of the children affected, may be considerable.

Equalize access to quality childcare

Our research in Vancouver supports the findings of the National Longitudinal Survey of Children and Youth that shows that influences on child development exist at all levels of society: family, neighbourhood, community and economy. This observation underlines the importance of a strategy that is not only intersectoral, but also multi-level, and has strong local leadership. Ensuring quality care arrangements, increasing neighbourhood safety and cohesion, and ensuring that neighbourhoods do not become ghettoized all require leadership at the municipal and neighbourhood level. Improving parenting skills requires leadership from individuals who have credibility with society, on the one hand, and vulnerable families on the other. The child care issue is particularly significant. Our analyses of the NLSCY show that licensed child care has the largest developmental benefits for children of the least well-educated parents. Yet, in Vancouver, licensed child care is concentrated in areas where the parent population is well educated, and hard to find in the areas where parents have the least education. Equalizing access to quality care child needs to be one of the cornerstones of an effective early child development strategy.

Enhance universal access across neighbourhoods

The gradient in child development demonstrates that there is room for improvement in the environments in which most children grow up, right across the socio-economic spectrum, and not just in those walks of life traditionally considered high risk. In other words, the issue is one of universal access to environments that will support healthy child development, not just targeting high-risk neighbourhoods. In Vancouver, 80 per cent of children at developmental risk live *outside* the three highest risk neighbourhoods on the map; they are spread more thinly across the other 20 Vancouver neighbourhoods. Thus, a

strategy that simply targets the highest risk neighbourhoods will miss most of the children at risk. A universal access system would involve reversing the trend towards economically segregated neighbourhoods by spreading lower cost housing opportunities across town; addressing the barriers to neighbourhood access to the full range of information, supports and services that could improve early child development; helping to build increased neighbourhood cohesion on behalf of children; and, finally, addressing the funding issues.

Funding Early Childhood Development in BC

As the evidence shows, it is time to develop a system of publicly funded, universal access to opportunities for development, learning and care for children from birth until school age.

At present, BC public spending per child is approximately $6,600 in the K-12 school system, but only $1,000 per child on child care and development programs (analogous to school) in the 0-5 age range. Yet, as this article makes clear, there is no justifiable logic for arbitrarily setting school entry as the age at which we provide publicly funded, universal access to opportunities for learning and development. Indeed, the research indicates that the developmental opportunities we should be collectively providing from age 0-5 are equally if not more important. Therefore, early child development should be funded to at least the same level that we have established for the K-12 system.

It might appear that the cost of funding children age 0-5 at the same level as school-aged children would be considerable: in BC, for example, the added cost would be in the order of $1.5 billion per year. However, the costs seem less considerable when viewed in the long term, where resources are generated through what could be called a 'demographic harvest.' According to Statistics Canada, the fraction of the Canadian population 0-18 will decline from 25 per cent to 21 per cent over the 10 years 2001-2011. All we would need to do is hold *real* spending on education and development among the entire 0-18 group constant, as though their share of the population were not declining, and assign the surplus to the 0-5 age group. Education spending relative to provincial GDP could be held constant, even while the percentage of people age 0-18 was in decline. By the middle of the next decade, spending on children 0-5 would gradually approach the same level as school age children, giving us time to phase in sensible approaches to early child development. This plan would not foreclose funding increases to the K-12 system.

All we would need to do is hold *real* spending on education and development among the entire 0-18 group constant relative to GDP, as though their share of the population were not declining, and assign the surplus to the 0-5 age group.

Turning schools into centres for human development, from the time of birth onward, is the sort of intelligent use of public resources that we need. Indeed, some school boards are already doing precisely this – using freed-up classroom space to offer expanded early childhood development programming. Creating a long-term plan to reap the demographic harvest on behalf of young children would be a marked departure in planning for our federal and provincial governments. But it would not be unprecedented. The funding plan to ensure that the Canada Pension Plan remains solvent, as our population ages, is really no different. If our seniors deserve this level of planning, why not our children?

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