

*This four-part series provides an overview of children's health in Canada and prospects for the future. It does so through a population health approach that is informed by a social determinants of health perspective. Part I provides some key indicators of Canadian children's health at the national and provincial levels, and presents them within a comparative international perspective. Part II highlights the mechanisms and pathways by which children's health becomes shaped by their living conditions and the public policies that create these living conditions. Part III explores the social determinants of children's health and considers their quality within various governmental policy frameworks. Part IV considers the role physicians can play in improving the quality of the social determinants of health, thereby improving Canadian children's health.*

## The health of Canada's children. Part I: Canadian children's health in comparative perspective

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In the present article, the state of Canadian children's health is provided through an examination of scores on a set of key health indicators. National and provincial infant mortality rates show little recent improvement, and in the case of low birth weight rates, a worsening trend is evident. These health indicators are strongly related to income, and studies documenting these associations are reviewed. Compared with other wealthy nations, Canada performs poorly with regard to infant mortality rates and somewhat less so for low birth weight rates. For other health indicators and measures of the quality of the social determinants of children's health (such as poverty) and children's well-being, Canada's performance suggests that there are numerous areas for improvement.

**Key Words:** *Paediatrics; Public policy; Social policy*

The current article presents the most recent evidence on the state of key indicators of Canadian children's health, with a special focus on infant mortality and low birth weight rates. National and provincial data are provided, and these figures are presented from an international perspective. The role that income plays in health outcomes is examined via an analysis of findings from a Statistics Canada pan-Canadian study of urban areas, a Quebec-wide study of childbirth outcomes and a recent City of Toronto study of inequalities in children's health. The concept of the social determinants of children's health is introduced, and recent evidence concerning the quality of these determinants of health in Canada is presented.

### HEALTH STATUS

A wide range of indicators of children's health exist, but the initial focus of the present article is on two key indicators that have been the focus of much international attention: infant

### La santé des enfants canadiens. Partie I – La santé des enfants canadiens dans une perspective comparative

Dans le présent article, on détermine l'état de santé des enfants canadiens grâce à l'examen d'indices sur une série d'indicateurs clés de la santé. Les taux provincial et national de mortalité des nourrissons se sont peu améliorés récemment, et pour ce qui est du taux de petit poids de naissance, on constate une tendance évidente vers l'aggravation. Ces indicateurs de la santé sont fortement liés au revenu, et les études étayant ces associations font l'objet d'une analyse. Par rapport à d'autres pays riches, le Canada obtient un mauvais rendement en ce qui a trait au taux de mortalité des nourrissons et un rendement un peu moins mauvais en matière de petit poids de naissance. À l'égard des autres indicateurs de santé et des mesures de la qualité des déterminants sociaux de la santé (comme la pauvreté) et du bien-être des enfants, le rendement du Canada laisse supposer que de nombreux secteurs laissent place à l'amélioration.

mortality and low birth weight rates (1). Infant mortality rate refers to the incidence of newborns dying during their first year of life, and is considered by many to be the single best indicator of overall population health (2). Low birth weight rate is also an important indicator of health because it is associated with a wide range of health problems across the life-span (see addendum) (3). In the present article, additional illustrative indicators of children's health and well-being are provided. Later articles in the series will consider the factors that shape scores on these indicators.

### Infant mortality rate

The most recent national and provincial data on infant mortality in Canada are available for 2005 (4). The national infant mortality rate for Canada in 2005 was 5.4 per 1000 live births, which was higher than the 2001 rate of 5.2 per 1000 live births. Recent national figures (2001, 5.2 per 1000 live births; 2002, 5.4 per 1000 live births; 2003, 5.3 per 1000 live

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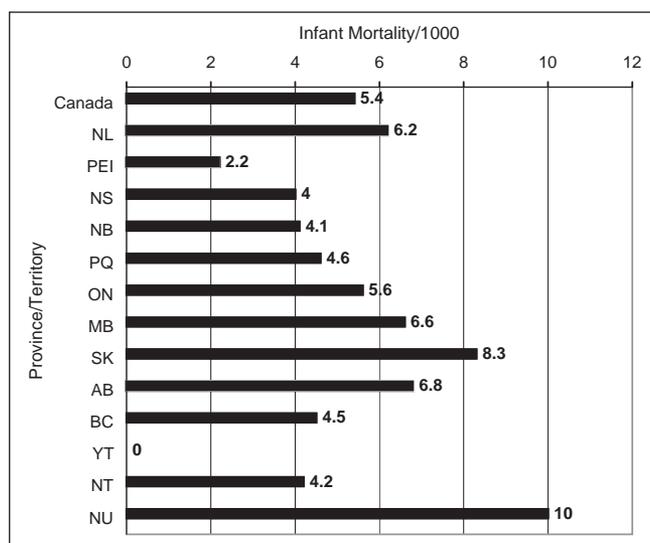


Figure 1) Infant mortality rates by Canadian provinces and territories, 2005. AB Alberta; BC British Columbia; MB Manitoba; NB New Brunswick; NL Newfoundland and Labrador; NS Nova Scotia; NT Northwest Territories; NU Nunavut; ON Ontario; PEI Prince Edward Island; PQ Quebec; SK Saskatchewan; YT Yukon Territory. Adapted from reference 4

births; 2004, 5.3 per 1000 live births; and 2005, 5.4 per 1000 live births) indicate no evidence of improvement. Figure 1 shows provincial/territorial data for 2005. Of note is that infant mortality rates are higher in the Prairie provinces, with the highest rate occurring in Nunavut, a reflection of the generally higher infant mortality rates observed among Canadian Aboriginals (1.5 to four times greater than the non-Aboriginal population), who constitute a larger proportion of the population in these jurisdictions (5). (The rate for Yukon represents the unreliability of a single annual indicator for smaller populations.) Of note is that every province and territory except for Prince Edward Island reports rates greater than 4.0 per 1000 live births. This is noteworthy because, as will be discussed later, 10 wealthy developed nations have national rates that are lower than this rate.

### Low birth weight rate

The most recent national and provincial/territorial data on low birth weight rate in Canada are available for 2005 to 2006 (6). Two rates are available: in-hospital births and all births. These rates reflect the standard practice of including babies weighing less than 2500 g but, because of reporting differences, excluding those weighing less than 500 g. Figure 2 provides Canadian Institute for Health Information in-hospital data and Statistics Canada data for 2005. For both measures, low birth weight rates have been increasing in Canada.

Figure 3 shows provincial data for in-hospital births for 2005. The pattern seen for infant mortality of higher rates in the Prairie provinces is not evident for low birth weight rates. Besides the high rate in Nunavut, of note are the rather high rates seen in Alberta and Ontario, two provinces

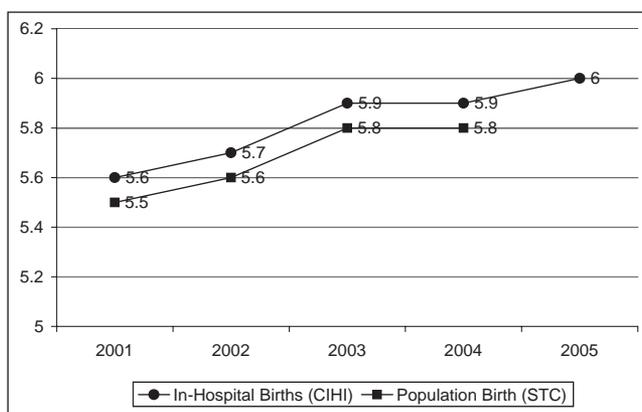


Figure 2) Rates of low birth weight per 100 newborns (excluding babies weighing less than 500 g) in Canada from 2001 to 2005 using in-hospital (Canadian Institute for Health Information [CIHI]) and population births (Statistics Canada [STC]). Adapted from reference 6

commonly believed to be the wealthiest in Canada. While there are numerous clinical factors that influence infant mortality and low birth weight, at a population level these indicators, in large part, represent the living conditions to which prospective mothers are exposed (3,7).

### VARIATIONS IN INFANT MORTALITY BY NEIGHBOURHOOD INCOME

It is well established that variations in health indicators are strongly related to income. Three representative sources of data confirm this point. The first is data from Statistics Canada on variations in health outcomes as a function of neighbourhood income in urban Canada. The second is a report on birth outcomes in Quebec, while the third is a very recent report on health inequalities from Toronto Public Health (similar data are available from the BC Early Learning Partnership and the Manitoba Centre for Health Policy).

#### Statistics Canada analysis

Analyses by Statistics Canada indicate systematic variations in infant mortality, and low birth weight rates are related to average neighbourhood income. The most definitive work in Canada on income and health is by Wilkins et al (8,9), who studied these issues among residents classified in quintiles based on average neighbourhood income in which they live.

Data on Canadians' income are not routinely collected by health authorities, so researchers frequently examine the relationship between income and mortality and morbidity by drawing on census tract data to estimate family income. First, neighbourhoods are placed in one of five quintiles based on the percentage of residents living below Statistics Canada's low-income cut-offs. The first quintile includes the areas where the average income is the highest; the fifth quintile includes areas where the average income is the lowest. The analyses by Wilkins et al (8,9) of urban areas in Canada revealed that in 1996, 7.6% of people living in the first quintile, 12.8% of those in the second quintile, 19.2% of those in the third quintile, 27.1% of those in the fourth quintile and

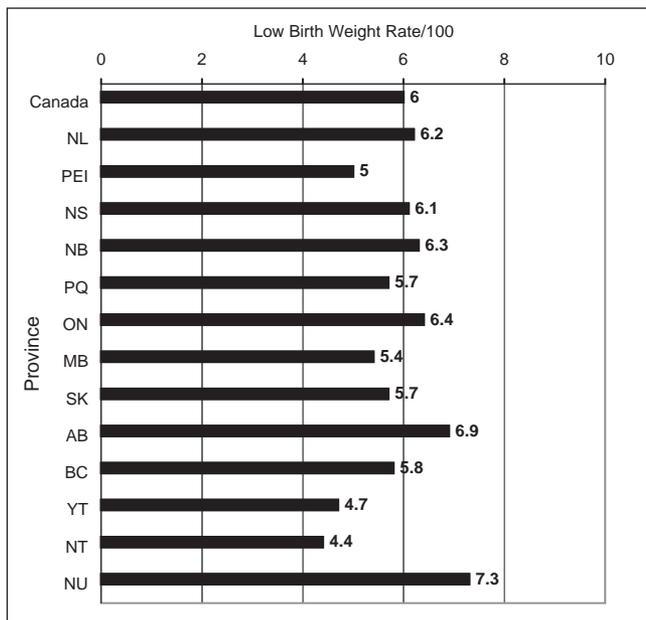


Figure 3) Low birth weight rate by Canadian provinces and territories, 2005 to 2006. AB Alberta; BC British Columbia; MB Manitoba; NB New Brunswick; NL Newfoundland and Labrador; NS Nova Scotia; NT Northwest Territories; NU Nunavut; ON Ontario; PEI Prince Edward Island; PQ Quebec; SK Saskatchewan; YT Yukon Territory. Adapted from reference 6

41.7% of those in the fifth quintile were living in poverty, as defined by Canada's low-income cut-offs.

Then, based on information available from hospital records, infant mortality and low birth weight rates for the areas within each income quintile are calculated. Figure 4 shows the most recent data available for urban Canada analyses. The gap between the lowest income quintile and the next quintile was the largest for infant mortality and low birth weight rates. The infant mortality rate is 60% higher in the poorest income quintile than in the richest quintile areas. The low birth weight rate is 43% higher in the poorest income quintile than in the richest quintile areas.

**Birth outcomes in Quebec**

Luo et al (10) correlated neighbourhood income with several birth-related health outcomes using sets of Statistics Canada data for the time period 1991 to 2000. Table 1 provides the details of how income quintile is related to a host of health outcomes.

As shown, neighbourhood income quintile is related to a whole range of birth outcomes. The findings are all robust, and the Q5 versus Q1 ratio is 1.23 for preterm births, 1.40 for small gestational age births, 1.44 for stillbirths, 1.16 for neonatal deaths and 1.48 for postneonatal deaths.

**Health inequalities among children in Toronto, Ontario**

A Toronto report looked at three key indicators of children's health and well-being as a function of average neighbourhood income: singleton low birth weight, readiness to learn at age of school entry, and teen pregnancy rate (11).

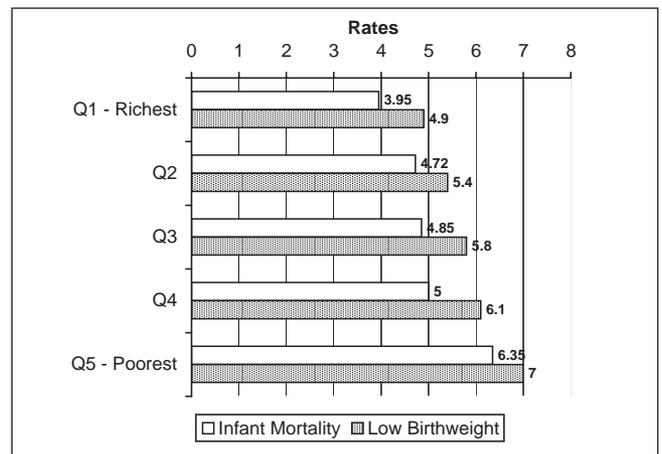


Figure 4) Infant mortality (per 1000 live births) and low birth weight rates (per 100 newborns) by income quintile of neighbourhood in urban Canada, 1996. Adapted from references 8 and 9

**TABLE 1**  
**Adverse birth outcomes by neighbourhood income quintile in Quebec, 1991 to 2000**

	Quintile by income				
	Q5 – Poorest	Q4	Q3	Q2	Q1 – Richest
Preterm births, %	8.2	7.4	7.2	7.0	6.7
SGA births, %	12.3	11.2	10.6	9.8	9.1
Stillbirths per 1000 births	4.6	4.0	3.9	3.4	3.2
Neonatal deaths per 1000 births	3.9	3.8	3.3	2.9	3.3
Postneonatal deaths per 1000 births	2.0	1.5	1.3	1.5	1.4

SGA Small for gestational age. Adapted from reference 10

All of these indicators are well established indicators of both childhood and adult health status, as well as general well-being (12-14). Table 2 provides some key demographics of Toronto neighbourhoods in the income quintiles on the basis of percentage of residents living below the Statistics Canada low-income cut-offs. Clearly, these areas differ on some key income-related criteria.

Figure 5 shows that there are clear differences in various measures of children's health and well-being: low birth weight rate, percentage lacking readiness to attend school at time of school entry, and teenage pregnancy rate as a function of income quintile. Indeed, whichever health indicator – for children or adults – one chooses to examine, such profound differences as a function of income are common (15,16). The manner in which income plays such an important role in shaping health is discussed in the next instalment of this series.

**PLACING CANADIAN CHILDREN'S HEALTH INDICATORS IN COMPARATIVE PERSPECTIVE**

A population health perspective both situates and explains health status differences among jurisdictions in terms of the living conditions to which citizens are exposed (17,18). It is increasingly accepted that the quality of these living conditions result, in large part, from the

**TABLE 2**  
**Key demographic characteristics of differing income quintiles within Toronto, 2006**

	Quintile by income				
	Q5 – Poorest	Q4	Q3	Q2	Q1 – Richest
Population	507,965	481,700	512,510	484,740	508,710
Per cent living below LICO	40.9	29.5	23.5	18.1	10.5
Average household income (after tax)	\$43,480	\$49,822	\$56,143	\$63,660	\$94,381
Unemployed, 15 years of age or older, %	10.4	8.4	7.4	6.8	5.3

LICO Low-income cut-offs. Adapted from reference 11

public policy environments of these jurisdictions (19). Where does Canada stand on these health indicators compared with other developed nations? The Organisation for Economic Co-operation and Development (OECD) periodically provides such comparative data in its *Health at a Glance* and *Society at a Glance* series.

### Infant mortality

Figure 6 shows 2005 infant mortality rates for 30 OECD nations. Canada's rate of 5.3 per 1000 live births gives it a relative ranking of 24 among 30 nations (2). (The OECD infant mortality rate reported differs slightly from the Statistics Canada reported rate of 5.4, but does not change Canada's ranking.) The national rates of the top seven nations are superior to rates seen among the wealthiest 20% of urban neighbourhoods in Canada. A recent United States report (20) points out that in 1980, Canada was ranked 10th among 30 wealthy developed nations on this indicator. By 2002, Canada's relative ranking had fallen to 22nd among 30. Its rank is now 24th among 30.

Figure 6 also shows very low infant mortality rates common to a wide range of nations: northern Europe, central Europe and Asia. While Turkey and Mexico's high rates should not be surprising, the United States also has higher rates than just about every other wealthy developed nation.

### Low birth weight rates

Figure 7 shows 2005 low birth weight rates for 30 OECD nations (2). Canada's rate of 5.9 per 100 newborns gives it a somewhat better ranking of ninth among the 30 nations. Of note are the very low rates of the Nordic nations. The USA ranks 25th among the 30 nations.

The nations doing better than Canada in both infant mortality and low birth weight rates are for the most part not as wealthy as Canada in terms of gross domestic product (21). For example, the average Swede is worth \$2,000 less than the average Canadian in terms of the overall wealth of these nations (per capita gross domestic product), yet its children's health indicators are far superior to Canada's (21).

### Other indicators

In passing, it is worth noting that during the period 1991 to 1995, 9.7 Canadian children per 100,000 died from injuries (22). Canada's rate gives it a ranking of 18th among

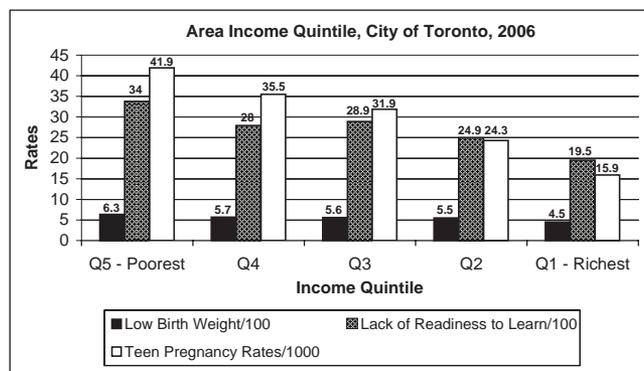


Figure 5) Child health indicators as a function of area income quintile of the City of Toronto, 2006. Adapted from reference 11

26 wealthy industrialized nations. Canada's teenage birth rate during the 1990s was 20.2 births to 1000 women younger than 20 years of age (12), a ranking of 21st among 28 wealthy industrialized nations for which these data were available.

## INTRODUCING THE SOCIAL DETERMINANTS OF CHILDREN'S HEALTH

How can income-related differences in Canadian children's health status and Canada's relative standing among developed nations on these health indicators be explained? As elaborated on in subsequent parts of the present series, there is an emerging consensus that the answer is in the economic and social conditions to which children and their families are exposed (19,23). These conditions include levels of income, education and wealth; degree of employment, housing and food security; working and community conditions; and the quality of health and social services that are available.

These conditions have come to be known as the social determinants of health, and accumulating evidence indicates that their impact on health among members of wealthy industrialized nations are stronger than the commonly ascribed factors of behavioural risk factors, genetics and even health care (1,23-25).

### Child poverty

As an introduction to the social determinants of health, child poverty has been the subject of many international health-related surveys, because living in poverty represents a clustering of disadvantage in exposures to a range of social determinants of health (26,27). These analyses reveal that nations with higher poverty rates generally show poorer population health across the entire range of the population, an issue examined in future articles (28).

A quick glimpse of where Canada falls in this larger picture can be seen in Figure 8. In the mid-2000s, Canada's poverty rate – defined as living in a family whose income is less than 50% of the national median income – was among the highest of developed nations, placing Canada 20th among 30 OECD nations (29). This same report by the OECD identified Canada as one of three nations showing the greatest increase in poverty and income inequality since the mid-1990s (29).

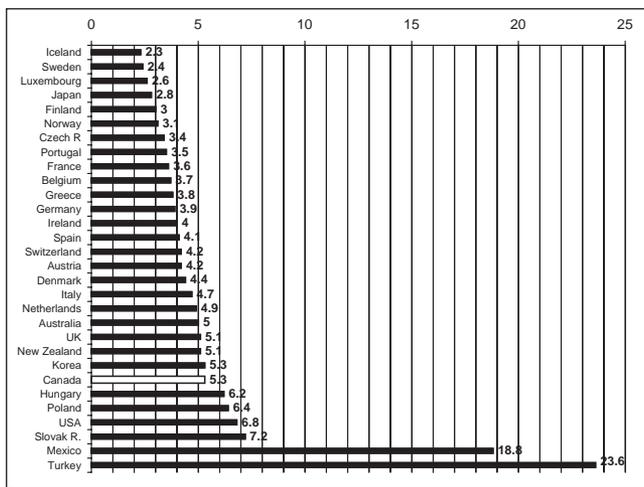


Figure 6) Infant mortality rates per 1000 live births in Organisation for Economic Co-operation and Development nations, 2005. Adapted from reference 2. R Republic; UK United Kingdom; USA United States

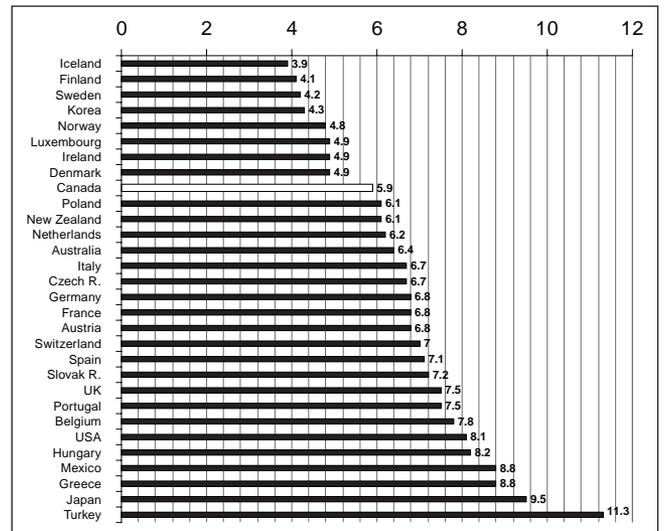


Figure 7) Low birth weight infants per 100 newborns in Organisation for Economic Co-operation and Development nations, 2005. Adapted from reference 2. R Republic; UK United Kingdom; USA United States

**A range of issues should be of concern**

Further analyses of the range of health determinants and Canada's place among developed nations can be seen in two reports (1,25) by the Innocenti Research Centre.

**Report 1:** The first report is entitled, "An overview of child well-being in rich countries: A comprehensive assessment of the lives and well-being of children and adolescents in the economically advanced nations" (25).

The report examines six themes: material well-being; health and safety; educational well-being; family and peer relationships; behaviours and risks; and subjective well-being. Multiple indicators are provided for each theme.

The material well-being theme consists of relative income poverty as measured by the percentage of children living in homes with equivalent incomes below 50% of the national median; households without jobs as measured by the percentage of children in families without an employed adult; and reported deprivation as measured by the percentage of children reporting low family affluence, percentage of children reporting few educational resources, and the percentage of children reporting fewer than 10 books in the home.

Health and safety consists of health at age zero to one year as measured by the number of infants dying before age one year per 1000 births and percentage of infants born with low birth weight (less than 2500 g); preventive health services as measured by the percentage of children aged 12 to 23 months immunized against measles, DPT (diphtheria, pertussis and tetanus) and polio; and safety as measured by deaths from accidents and injuries per 100,000 aged zero to 19 years.

Educational well-being consists of school achievement at age 15 years – average achievement in reading literacy, average achievement in mathematical literacy, and average achievement in science literacy; beyond basics – percentage aged 15 to 19 years remaining in education; and transition

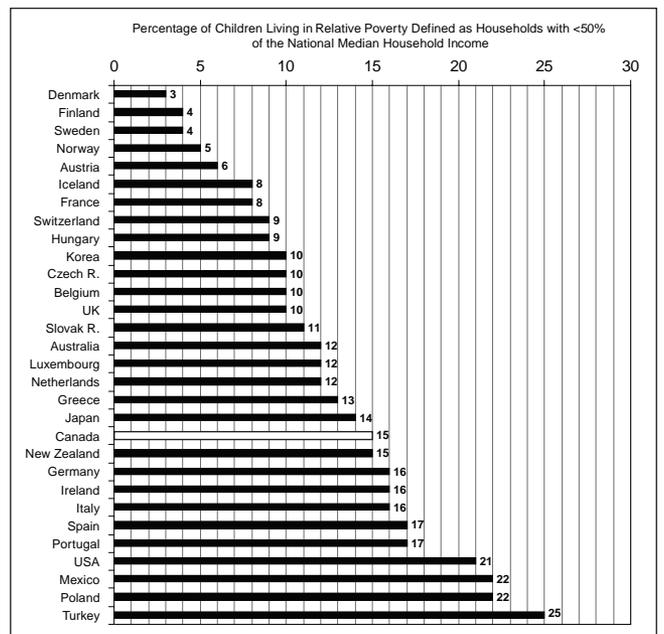


Figure 8) Child poverty in wealthy nations, mid-2000s. Adapted from reference 29. R Republic; UK United Kingdom; USA United States

to employment – percentage aged 15 to 19 years not in education, training or employment, and percentage of 15-year-olds expecting to find low-skilled work.

Relationships consists of family structure – percentage of children living in single-parent families and percentage of children living in stepfamilies; family relationships – percentage of children who report eating the main meal of the day with parents more than once a week and percentage of children who report that parents spend time 'just talking' to them; and peer relationships – percentage of 11-, 13- and 15-year-olds who report finding their peers 'kind and helpful'.

**TABLE 3**  
**Canada's relative rankings on six thematic sets of indicators of child well-being (n=21)**

Thematic area	Component 1	Component 2	Component 3
Material well-being – 6th	Relative income poverty – 15th	Households without jobs – 8th	Reported deprivation – 4th
Health and safety – 13th	Health at age 0 to 1 year – IMR: 21st; LBW: 8th	Preventive health services – 16th	Safety – 13th
Educational well-being – 2nd	School achievement – 2nd	Beyond basics – n/a	Transition to employment – 10th
Relationships – 18th	Family structure – 15th	Family relationships – 18th	Peer relationships – 23rd
Behaviours and risks – 17th	Health behaviours – 12th	Risk behaviours – 17th	Experience of violence – 15th
Subjective well-being – 15th	Self-reported health – 10th	School life – 12th	Personal well-being – 10th

IMR Infant mortality rate; LBW Low birth weight; n/a Not available. Adapted from reference 25

Health behaviours and risks consists of health behaviours measured by percentage of children who eat breakfast, percentage who eat fruit daily, percentage physically active and percentage overweight; risk behaviours measured by percentage of 15-year-olds who smoke, percentage who have been drunk more than twice, percentage who use cannabis, percentage having sex by age 15 years, percentage who use condoms and teenage fertility rate; and experience of violence measured by percentage of 11-, 13- and 15-year-olds involved in fighting in the past 12 months, and the percentage reporting being bullied in the past two months.

Subjective well-being consists of health – percentage of young people rating their own health no more than 'fair' or 'poor'; school life – percentage of young people 'liking school a lot'; and personal well-being – percentage of children rating themselves above the mid-point of a 'life satisfaction scale', and percentage of children reporting negatively about personal well-being. Table 3 provides Canada's relative rank on each of these indicators.

Twenty-one OECD nations were included in the analysis. Overall, Canada ranked 12th among 21 nations. Canada's thematic rankings were as follows: material well-being, sixth of 21; health and safety, 13th of 21; educational well-being, second of 18; family and peer relationships, 18th of 21; behaviours and risks, 17th of 21; and subjective well-being, 15th of 21. Clearly, Canada has numerous issues related to the health of children that could be improved.

**Report 2:** The second report entitled, "The child care transition: A league table of early childhood education and care in economically advanced countries" (1), rates Canada as last – tied with Ireland at 25th among 25 wealthy developed nations – for meeting internationally (Canada meets one of 10) applicable benchmarks for early childhood care and education (1). The report describes these as a "set of minimum standards for protecting the rights of children in their most vulnerable and formative years". Importantly, the report shows that the nations with the greatest number of benchmarks met had the lowest infant mortality and lowest birth weight rates.

## CONCLUSION

In the present article, the general parameters of children's health in Canada have been outlined. Canada's performance on several key indicators of children's health is at best mediocre and the sequential cross-sectional analyses provide little evidence of recent improvement. Scores on child

health indicators are strongly related to the income received by Canadian families. The effect of income on health is a function of the importance of the social determinants of health, which are best described as comprising the living conditions to which children are exposed. Canada performs poorly in international comparisons on health and determinant indicators, and recent surveys provide a troubling picture with regard to many aspects of children's health in Canada. The strong association of socioeconomic status to adverse birth outcomes, and Canada's relatively poor performance on these indicators compared with other wealthy nations, led one prominent researcher to comment with regard to intrauterine growth restriction (IUGR) – an important cause of adverse birth outcomes (3):

Indeed, countries with the lowest rates of IUGR and preterm birth have achieved those low rates not by health care interventions, but rather by reducing the prevalence of socio-economic disadvantage. It may not be possible to eliminate the higher risks of IUGR and preterm birth among the poor without eliminating poverty itself.

In part II of the series, the mechanisms and pathways by which children's health is either supported or threatened are outlined. This analysis is about how living conditions 'get under the skin' to determine health. The living conditions to which children are exposed are especially important, because these not only shape children's health but also play a large role in shaping the health status children come to experience as adults.

**ADDENDUM:** There is a lively debate concerning the criteria for data collection on low birth weight and how the data might be affected by the introduction of reproductive technologies (Consensus statement on healthy mothers-healthy babies: How to prevent low birth weight, Institute of Health Economics Consensus Statements, 2007). However, these issues would not substantially alter the basic conclusions concerning the broad picture of Canadian children's health indicators, which are very consistent over time and consistent with what is known about the social determinants of pregnancy outcomes in Canada and elsewhere.

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# The health of Canada's children. Part II: Health mechanisms and pathways

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The present article provides models that explain how exposures to differing quality living circumstances result in health inequalities among children. Living circumstances – the social determinants of health – operate through a variety of mechanisms to shape children's health and cognitive, emotional and social development. Specific processes set children off on trajectories such that these exposures – in interaction with their environments – not only shape their health as children but also provide the foundations for their health status as adults. In addition to specifying the mechanisms that mediate the relationship between living circumstances and health outcomes, the article also identifies some of the economic and political factors that shape the quality of the living circumstances to which Canadian children are exposed.

**Key Words:** *Public health; Public policy; Social paediatrics*

Part I of the present series, "Canadian children's health in comparative perspective", provided various indicators of children's health and showed how these are related to family income. As family income increases, children's health improves. The health of low-income children is especially problematic (see addendum 1). Canada's rankings on health and determinants of health indicators compare unfavourably with other wealthy industrialized nations and suggest numerous areas for improvement. Because children's living circumstances are the primary determinants of their health, improving health requires an understanding of how living circumstances shape health as well as how these living circumstances come about. Once such understandings are achieved, responses to these challenges can be devised and implemented.

The present article considers the mechanisms and pathways by which exposures to differing quality living circumstances result in health inequalities among children. It also introduces the economic and political factors that determine the living circumstances of Canadian children. The next article in the present series explores how policy-makers can respond to these health inequalities, thereby improving the health of Canada's children.

## SETTING THE STAGE

Bartley (1) places existing explanations for health inequalities into a useful typology (Table 1). These are the

## La santé des enfants canadiens. Partie II : Les mécanismes et les voies de la santé

Le présent article fournit des modèles qui expliquent comment l'exposition à différentes qualités de conditions de vie suscite des inégalités dans la santé des enfants. Les conditions de vie, c'est-à-dire les déterminants sociaux de la santé, définissent par divers mécanismes la santé ainsi que le développement cognitif, affectif et social des enfants. Des processus précis orientent les enfants vers des trajectoires telles que cette exposition, en interaction avec leurs environnements, façonne non seulement leur santé pendant l'enfance, mais également les fondements de leur état de santé à l'âge adulte. En plus de préciser les mécanismes qui déterminent la relation entre les conditions de vie et les issues de santé, l'article présente également quelques-uns des facteurs économiques et politiques responsables de la qualité des conditions de vie auxquelles les enfants canadiens sont exposés.

materialist, cultural/behavioural, psychosocial, life course and political economy. Each approach is relevant for understanding the determinants of children's health, but the key question is, "Which of these approaches are most useful for understanding – and acting upon – the health inequalities that exist among children?"

The literature on the determinants of health in general and the determinants of children's health in particular suggest an emphasis on the materialist and life-course approaches (2,3). The health of children is strongly related to living circumstances, of which family income is an excellent indicator. However, income, by itself, is not the cause of health inequalities. Rather, income is an excellent marker for a cluster of life circumstances such as quality of nutrition, clothing, housing, and educational and recreational opportunities (4). Income is also an excellent predictor of a variety of family characteristics and the quality of children's environments (5). All of these factors have been shown to be determinants of children's health and responsible for existing health inequalities.

Sloat and Willms (6) provide evidence that Canadian parents' socioeconomic position – of which income is a strong component – has a direct relationship with children's health and various developmental outcomes. Socioeconomic position also influences these outcomes by operating through mediating processes of family resources (eg, family functioning, parenting styles, maternal depression and parental

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**TABLE 1**  
**Explanations for the relationship between socioeconomic position and children's health**

Explanation type	Influences
Materialist	Parental income and employment situations determine children's access to adequate diet, housing quality, and educational and recreational opportunities. Income and place of residence shapes the quality of schools, neighbourhoods and polluted environments
Cultural/behavioural	Parental beliefs, norms and values expose children to qualitatively inferior behaviours such as use of tobacco and alcohol, poor diet and lack of physical activities
Psychosocial	Children's perceived status, psychosocial stress, sense of control, family environment and social support influence health through their impact on bodily systems and functions
Life course	Events and processes starting before birth, and occurring during childhood influence both physical health and the ability to maintain health during childhood, adolescence and adulthood. Health and social circumstances influence each other over time
Political economy	Political processes and distribution of power affect distribution of economic resources, provision of citizen supports and services, and quality of physical environments and social relationships. Children from families with different income levels experience profoundly different exposures to health-influencing circumstances

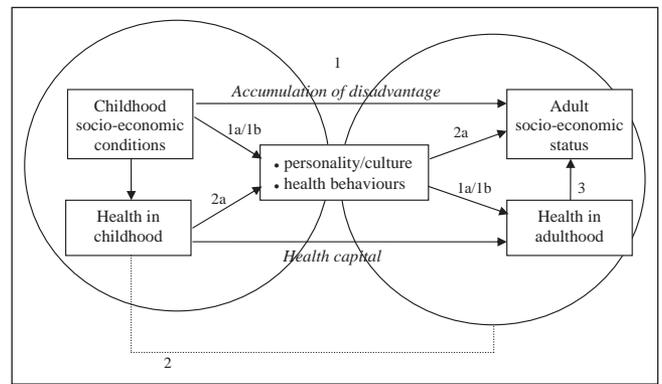
Adapted from reference 1

engagement) and the opportunity structure (eg, community support, neighbourhood support, quality daycares and quality schools). At every level, lower socioeconomic position is associated with poorer quality mediators.

The child health outcomes related to income include rates for infant mortality, low birth weight, childhood injuries, readiness to learn at time of school entry, functional health, and numerous mental health and social problems (7). The 'social gradient' refers to the consistent finding that health is related to income across the income distribution from wealthy to middle income to poor. Materialists argue health parallels living circumstances because "the social structure is characterized by finely graded scale of advantage and disadvantage with individuals differing in terms of their length and level of their exposure to a particular factor and in terms of the number of factors to which they are exposed" (4, page 102).

In addition to explaining differences in family and children's health across the distribution of living circumstances, the materialist approach is especially useful for understanding how children living in poverty are especially likely to experience adverse health and cognitive, affective and social developmental outcomes (8).

The life-course explanation is also important because evidence exists that experiences at one stage of the life course shape later health status (2). At any age, children's health is influenced by earlier exposures, including those experienced during pregnancy. Additionally, many chronic diseases of adulthood have their origins in children's experiences (9).



**Figure 1) Living conditions, socioeconomic inequalities and children's health.** 1 – contribution of childhood socioeconomic conditions to socioeconomic health inequalities in adult life; 1a – independent effect of childhood socioeconomic conditions on adult health; 1b – independent effect of childhood socioeconomic conditions on adult health through health behaviours and personality/cultural factors; 2 – contribution of childhood health to socioeconomic health inequalities in adult life; 2a – contribution of childhood health to socioeconomic health inequalities in adult life through selection on health in childhood; 3 – selection on health in adult life. Adapted from reference 11

Material living circumstances across the life course also shape the factors that comprise the cultural/behavioural and psychosocial models. The experience of psychosocial stress and familial and child attitudes associated with the adoption of risk behaviours are systematically related to living circumstances (see addendum 2) (10). Two important models illustrate the materialist approach to living circumstances and children's health.

### LIVING CIRCUMSTANCES, SOCIOECONOMIC INEQUALITIES AND HEALTH

van de Mheen et al (11) lay out the basic materialist position (Figure 1). Childhood socioeconomic circumstances are strongly related to childhood health. These circumstances also set the child on a trajectory that, if left unchanged, will continue to accumulate socioeconomic advantage or disadvantage over time. Childhood circumstances have a direct influence on adult health and an indirect influence on adult health through mediating processes of personality and health behaviours. These mediating processes include psychological sense of personal control and efficacy, and the eventual adoption of health-threatening behaviours such as tobacco use, inadequate diet and alcohol use. Evidence in support of the basic tenets of this model is abundant with regard to adverse birth outcomes, readiness at school age to begin school, adults' psychological attributes and precursors of adult chronic diseases such as heart disease, respiratory disease and type 2 diabetes (12-14).

### LIVING CIRCUMSTANCES AND HEALTH: LATENCY, PATHWAYS AND CUMULATIVE INFLUENCES

Hertzman's influential approach focuses on early child development and incorporates both a materialist and a

life-course perspective to explain how living circumstances shape children's health and their cognitive, emotional and social development (15). For example, diverse areas of children's functioning such as emotional regulation, sensory regulation, gross and fine motor skills, generalized brain development and hypothalamic-pituitary-adrenal function have been associated with socioeconomic position (5,16). According to Hertzman, "Long-term-exposure-to-expression relationships" (ie, associations of childhood circumstances with health outcomes) cluster into three generic patterns that, while probably overlapping, provide a heuristic method for examining the determinants of children's health (Table 2).

'Latency effects' are about how specific exposures during pregnancy and early childhood manifest in both childhood and adult health status. 'Cumulative effects' identify how children living in advantaged or adverse living circumstances over time come to express different health and developmental outcomes. 'Pathways effects' draw attention to how children's life-course trajectories are shaped by previous circumstances and whether various societal institutions (eg, child care, communities, schools, etc) either maintain or shift these trajectories.

#### Latency effects

Biological embeddedness describes how specific exposures and experiences come to have long-lasting effects on health and developmental outcomes (17). Much of the evidence that cognitive, affective and social processes are set at early ages come from animal studies, and there is debate as to the permanence of these effects. What appear to be latency effects may actually be contemporaneous effects associated with the tendency of children to maintain their general life circumstances over time. The lack of longitudinal data that can isolate these effects makes interpretation difficult.

However, on the health side, there is clear evidence – based on human longitudinal studies – that early childhood and even prebirth experiences predispose children to either good or poor health regardless of later life circumstances (12). As one example, low birth weight babies are generally more susceptible to a variety of child health problems during childhood. In addition, low birth weight babies are more likely to experience cardiovascular disease and type 2 diabetes as adults – this is especially the case for those living under conditions of disadvantage (18). However, all is not determined by early childhood experiences. Among advantaged populations – which are less likely to have children of lower birth weight – low birth weight children are much less likely to show these health problems (19).

These latency effects result from biological processes during pregnancy associated with poor maternal diet, risk behaviours or experience of stress (20,21). Early childhood experiences, such as the experience of numerous infections or exposures to adverse housing conditions, also appear to have later health effects regardless of later life circumstances. Psychological health-related effects may also result from early experience. A general nonadaptive reaction to

**TABLE 2**  
**Long-term-exposure-to-expression relationships cluster into three generic patterns**

**Latency** – refers to relationships between an exposure at one point in the life course and the probability of health expressions years or decades later, irrespective of intervening experience. The effects of asbestos on elevating the risk of various cancers decades after exposure has ceased, is one vivid example of such a relationship

**Cumulative** – refers to multiple exposures over the life course whose effects on health combine. These may be either multiple exposures to a single recurrent factor (eg, chronic poverty or persistent smoking) or a series of exposures to different factors

**Pathways** – represent dependent sequences of exposures in which exposure at one stage of the life course influences the probability of other exposures later in the life course, as well as associated expressions. For example, the divorce of one's parents in early childhood may reduce readiness to learn at school entry, which may, in turn, affect school performance, which could affect later employment opportunities and thus socioeconomic trajectory through life

*Adapted from reference 15*

stress may be established during early childhood as well as a general sense of hopefulness and lack of control, both of which are important determinants of health (22).

#### Pathways effects

Hertzman and Power (15) point out that children's exposures at one point may not have immediate health effects but can lead to other experiences that do have health consequences. An important instance of this would be young children's lack of readiness to learn as they enter school. This by itself is not necessarily a health issue, but it leads to experiences that clearly are.

Socioeconomic position is strongly related to school readiness (13). Much of this has to do with the quality of parental interaction and the ability of parents to provide supportive, nourishing and stimulating environments. Lack of school readiness leads to adverse educational and employment attainments, both of which have clear health effects.

School readiness is, therefore, both a result of socioeconomic position as well as a predictor of later socioeconomic position, the latter of which is clearly related to health outcomes. One way of interrupting this sequence is to weaken the relationship between parents' socioeconomic position and children's developmental outcomes through the provision of early childhood education.

This intervention has been implemented in many nations. Willms (23) shows that the link between socioeconomic position and developmental outcomes is weaker in nations with well-developed early childhood education programs. In response to such data, Evans et al (24) argue that establishment of a comprehensive early childhood development program in Canada would be the single best means of improving Canadian health outcomes.

#### Cumulative effects

Cumulative effects are illustrated by findings that the longer children live under conditions of material and social deprivation, the more likely they are to show adverse health and developmental outcomes. These can be cognitive deficits

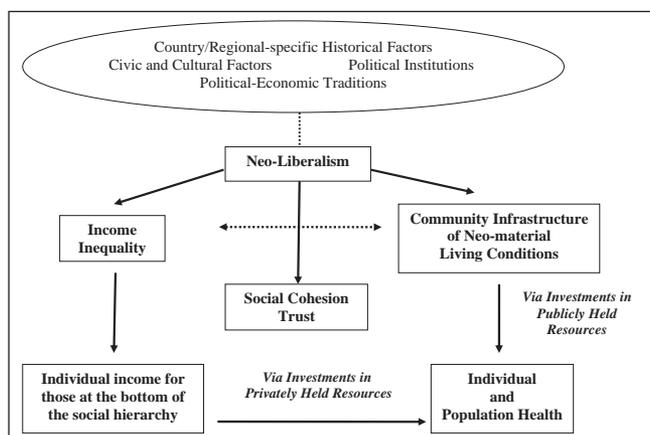


Figure 2) A neo-material interpretation of national approaches to resource allocation. Adapted from reference 29

that contribute to lack of school readiness for children (eg, physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge) on entering the education system (13). Cumulative adverse experiences during early childhood can predispose children toward learned helplessness in which children feel unable to act effectively on their world (25). Such helplessness is a strong determinant of health in general and a precursor of adopting health-threatening behaviours.

Hertzman and Power (15) suggest that the policy response provided by the latency argument is to intervene, 'the earlier the better'. The message of the pathways view is 'to intervene at strategic points in time'. The suggestion of the cumulative model is 'intervene wherever there is an effective intervention'. But these arguments beg two questions: "Why is such intervention required?" and "Why are there such great differences in life circumstances among Canadian children?" To answer these questions requires attention to the political economy of Canadian children's living circumstances.

### THE POLITICAL ECONOMY PERSPECTIVE

Canadians working in early child development often ask themselves, 'Why don't we just give up and move to Sweden?' (26, page 843).

While attempts can be made to intervene in the processes by which living circumstances come to shape health, perhaps the primary focus should be on understanding why Canadian children differ so much in their living circumstances. Should we not concern ourselves with reducing the variation that exists among Canadian children in income and wealth, food and housing security, and quality of community environments? Political economists argue in the affirmative, suggesting that health inequalities are actually health inequities because they are both 'unfair' and 'avoidable'.

The political economy approach extends the materialist and life-course approaches by examining how the broader social, political and economic context creates health

advantageous or disadvantageous living conditions (27). Nations differ profoundly in how their institutions distribute income and wealth among the population and the extent to which governmental authorities allocate greater national resources to aspects of social infrastructure (28). (Social infrastructure indicators include spending on – and quality of – health care and social services, educational facilities and libraries, employment and training opportunities, and supports for the unemployed, those with disabilities or other forms of disadvantage.) Nations that have a more equitable economic distribution are also the ones that allocate more resources to social infrastructure, and it appears that these nations provide superior living circumstances and health outcomes for children (28). (Within the United States, for example, states that expend a greater percentage of revenues on these programs show superior health status than those spending less [28].)

Canada has a less skewed distribution of income and wealth among the population and spends somewhat more on social infrastructure than the United States. Not surprisingly, Canadian children enjoy better health than American children as measured by rates of infant mortality, low birth weight, teenage pregnancy and deaths from childhood injuries (see the first article in the present series). However, Canada does not do as well on these indicators as many European nations where distribution of economic resources is more equitable, low-income rates are lower and support for early childhood education is better.

Lynch (29) provides a model that, while developed initially to explain health-related effects of income inequality, illustrates many of these issues (Figure 2). Of special relevance for the health of Canadian children is the component of the model euphemistically termed 'individual income for those at the bottom of the social hierarchy'. This term refers to those living in poverty, and Canada's child poverty rates are among the highest of the member nations of the Organisation for Economic Co-operation and Development. Low income among children is associated with a range of health threats that can be understood through recourse to both van de Mheen's and Hertzman's models.

Children live in poverty as a result of decisions by societies on how to allocate resources. Children are poor as a direct result of their parents receiving low wages or if their parents are unemployed or on some form of social assistance, from rather limited benefits. In nations with greater inequality – this includes Canada – there is simultaneously limited investment in community infrastructure via investments in publicly held resources such as daycare, education, housing, public transportation and recreational facilities, among other areas (28). These limited commitments affect the health of children living in poverty most severely, but also affect many children who, for example, do not have access to quality early childhood education.

Greater income inequality and poverty rates are usually associated with societal messaging as to the benefits of neo-liberal public policy approaches to resource organization

and distribution. Neoliberalism is the belief that the marketplace – rather than governments' policy-making – should be the primary arbiter of how economic and other resources are distributed (30). It suggests limiting governmental intervention in a wide range of areas. However, nations that intervene more in influencing citizens' lives are more likely to enact policies that support children's health (28).

Figure 2 also depicts that whether a nation chooses to take this path is related to many factors such as history, traditions, institutions, and organization of civic society and culture.

These factors help to explain why nations such as Sweden, Norway and Denmark proactively act to meet the needs of children through provision of early childhood education and child care, poverty-reducing labour policies (ie, wage protection, employment training, etc), and provision of strong supports to families (eg, baby bonuses, housing subsidies, child care, etc), while Canada does less in these areas.

For readers who wish to place these issues in an even broader political economy perspective, Figure 3 introduces some issues that are taken up in later articles in the present series. Coburn (30) outlines how economic globalization – the integration of economies across national states and certainly an important Canadian public policy concern – is associated with both neo-liberal-oriented policy-making and the power of capital (investment monies) to shape public policy (Figure 3, label A). These forces interact with a nation's form of the welfare state and the market (Figure 3, label B) to create public policy approaches that shape the quality of living circumstances (eg, income inequality, poverty, and differential access to numerous social resources including work type, education, health care, housing, transportation, nutrition, etc) that are important determinants of children's health (Figure 3, label C). The end result of these public policy approaches is quality of health status and well-being as well as a nation's overall economic wealth (Figure 3, label D). Coburn's analysis draws attention to whether increasing emphasis on market approaches to public policy may be influencing – for the worse – the determinants of children's health.

A recent volume provides compelling evidence that this is the case (31). Income inequality among Canadian families is increasing, and the housing and food security situation of many Canadian families is declining. Minimum wages and social assistance levels are not keeping up with the rate of inflation. Indeed, the Organisation for Economic Co-operation and Development has identified Canada as one of the wealthy industrialized nations showing the greatest recent increases in family poverty and income inequality (32). Is children's health suffering as a result? As shown in the first article of the present series, there is evidence to suggest that this may be the case.

## CONCLUSIONS

Materialist and life-course explanations focus on how Canadian children experience systematically different life circumstances that become translated into health

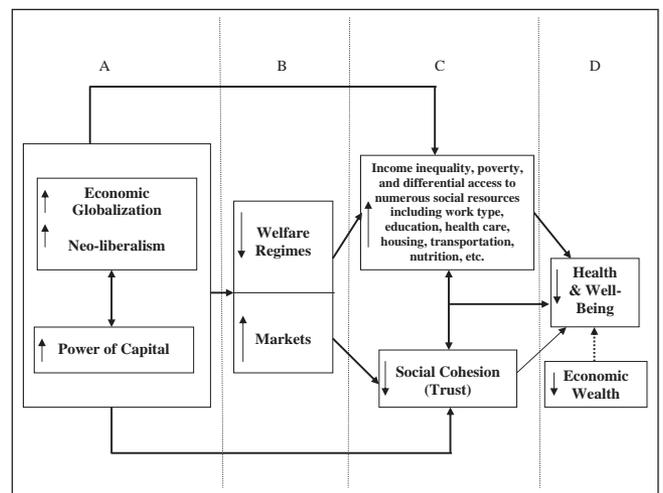


Figure 3) Globalization, welfare states and population health. Adapted from reference 30

differences. These processes involve the operation of latent, pathway and cumulative effects that link a variety of specific exposures to both child and adult health outcomes.

Political economy explanations focus on how societies distribute resources to the population, thereby creating differences in living circumstances among Canadian children. There is evidence that Canada has greater inequality in children's living conditions than many other wealthy developed nations. These differences show themselves in generally poorer indicators of Canadian children's health compared with other wealthy developed nations.

Political and economic models place these issues in broader frameworks of economic distribution that are influenced by globalization and other forces. These latter models suggest the importance of understanding the nature of the welfare state in each nation and how this shapes public policy-making. These public policy activities influence the extent of inequality in living conditions and the health-related experiences of children in Canada.

In the next article of the present series, public policies that governments could implement to improve the living conditions of children are considered. These include policies that provide adequate income for families with children, develop family-friendly labour policies, implement active employment policies for parents requiring training and support, provide adequate social safety nets, and improve the provision of health and social services to children.

**ADDENDUM 1:** There is debate as to whether the focus should be on understanding the 'social gradient' by which health differences are seen across the entire distribution of factors such as income, wealth or education, or whether the focus should be on the situation of those at the bottom of these distributions, eg, those living in poverty. Adopting the first course of action can lead to a greater understanding of how determinants work at a variety of levels but may also lead to a minimizing of the very adverse, unhealthy and unpleasant living situations of those at the bottom of the distribution.

**ADDENDUM 2:** Unhealthy attitudes and behaviours are also seen as reflecting the adoption of maladaptive coping mechanisms in response to material and social deprivation. The psychosocial and cultural/behavioural explanations are attractive to many because they suggest that interventions at these levels can be effective in promoting health and preventing illness even if the material conditions of the lives of citizens cannot be improved. It may be that such efforts will generally be ineffective without substantially improving the material quality of people's lives (31).

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# The health of Canada's children. Part III: Public policy and the social determinants of children's health

Dennis Raphael PhD

D Raphael. The health of Canada's children. Part III: Public policy and the social determinants of children's health. *Paediatr Child Health* 2010;15(3):143-149.

The health of Canada's children does not compare well with other wealthy industrialized nations. Significant inequalities in health exist among Canadian children, and many of these inequalities are due to variations in Canadian children's life circumstances – the social determinants of health. The present article describes the social determinants of children's health and explains how the quality of these social determinants is shaped, in large part, by public policy decisions. The specific public policies that shape the quality of Canadian children's health are examined, and Canadian approaches in comparison with other wealthy developed nations are described. Policy directions that would improve the quality of the social determinants of children's health are presented and barriers to their implementation are considered.

**Key Words:** *Public policy; Social determinants; Social paediatrics*

Part I of the present series provided key indicators of Canadian children's health and identified health inequalities among Canadian children. When placed in comparative perspective, Canada's performance in relation to other wealthy industrialized nations was seen as mediocre at best. Part II described mechanisms and pathways that shape health outcomes. Living circumstances set children on health-related pathways. Childhood living circumstances have immediate effects on children's health and also contribute to their health status as adults.

In the present article, children's living circumstances are placed within a social determinants of health perspective. Various social determinants of children's health are outlined. The specific public policies that shape the quality of health determinants are examined, and Canada's approach is compared with those of other wealthy developed nations. Various policies that would improve the quality of the social determinants of children's health – thereby improving children's health – are presented. Significant barriers to implementing these policies are considered.

## THE SOCIAL DETERMINANTS OF CHILDREN'S HEALTH

The idea that living circumstances shape health is not new. The concept first appeared with Plato in the fourth century BC and was later restated by Virchow and Engels in the mid-19th century (1). The publication of the Black Report

## La santé des enfants canadiens. Partie III : Les politiques publiques et les déterminants sociaux de la santé des enfants

La santé des enfants canadiens ne tient pas la comparaison par rapport à celle des autres riches pays industrialisés. On remarque des écarts de santé importants entre les enfants canadiens, et bon nombre de ces écarts sont imputables aux variations de leur situation de vie, c'est-à-dire les déterminants sociaux de la santé. Le présent article décrit les déterminants sociaux de la santé des enfants et expose en quoi leur qualité dépend largement des décisions en matière de politiques publiques. L'auteur examine les politiques publiques qui façonnent la qualité de la santé des enfants canadiens et décrit les approches canadiennes par rapport à celles d'autres riches pays industrialisés. Il présente les orientations gouvernementales qui amélioreraient la qualité des déterminants sociaux de la santé des enfants et examine les obstacles à leur mise en œuvre.

in the United Kingdom rekindled interest in these issues during the 1980s, and the term 'social determinants of health' emerged as a means of describing the important living circumstances that shape adults' health. The term has since been applied to children's health, and 'early childhood development' is itself commonly designated as a social determinant of health (2).

The social determinants of health concept explicitly considers how children and their parents' living circumstances shape children's health (3). Various formulations of the social determinants of health share a concern with societal risk conditions rather than personal risk factors (Table 1). Because the quality and distribution of social determinants of health are shaped by public policy decisions, the Social Determinants of Health National Conference list is especially useful; it specifically focuses on the public policy environment (eg, income and its distribution) rather than characteristics associated with individuals (eg, income and social status) (4).

Social determinants are important for children's health in two main ways. First, poor-quality social determinants directly threaten children's health. The social determinants that best exemplify these processes are food insecurity, poor-quality housing and lack of responsive health care services. Aboriginal status and income are important social determinants of children's health because they influence the extent of food security, and quality of housing and health care services that children experience.

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**TABLE 1**  
**Various conceptualizations of the social determinants of health**

Ottawa Charter for Health Promotion (30)	Peace, shelter, education, food, income, stable ecosystem, sustainable resources, social justice and equity
Dahlgren and Whitehead (31)	Agriculture and food production, education, work environment, unemployment, water and sanitation, health care services and housing
Health Canada (32)	Income and social status, social support networks, education, employment and working conditions, physical and social environments, healthy child development, health services, sex and culture
World Health Organization (33)	Social (class health) gradient, stress, early life, social exclusion, work, unemployment, social support, addiction, food and transport
Centers for Disease Control and Prevention (34)	Socioeconomic status, transportation, housing, access to services, discrimination by social grouping (eg, race, sex or class), and social or environmental stressors
Social Determinants of Health National Conference (3)	Aboriginal status, early life, education, employment and working conditions, food security, sex, health care services, housing, income and its distribution, social safety net, social exclusion, unemployment and employment security

Second, social determinants of health influence the ability of parents to support, stimulate and nurture their children's intellectual, emotional and social development (5). Social determinants of health experienced by parents that influence their children's health include parental education, employment and working conditions, social safety net, social exclusion, and unemployment and employment security.

### PUBLIC POLICY AND THE SOCIAL DETERMINANTS OF HEALTH

Despite growing acceptance of the importance of the social determinants of children's health, the explicit link between social determinants and public policy-making is sometimes neglected (6). For example, reports frequently identify income as a social determinant of children's health, but the need for governments to raise minimum wages or increase social assistance payments to health-sustaining levels may be downplayed (see addendum) (7).

Governmental authorities shape children's living circumstances by influencing how income is distributed and determining the availability of affordable housing and early childhood education and care. Governments shape parents' employment security and working conditions through legislation and regulation. Nations, regions and cities differ in how these issues are approached, with resultant health outcomes; historical analysis reveals that governments also go through periods of greater or lesser attention to social determinants of health-related issues (8).

Table 2 presents examples of how public policy influences the quality of the social determinants of children's health. It should be noted that in many social determinant of health-related policy domains – eg, income inequality, employment, housing and food insecurity, etc – Canada lags

**TABLE 2**  
**Social determinants of health and their public policy antecedents**

Early life	Wages that provide adequate income inside the workforce, or assistance that does so for those unable to work, affordable quality childcare and early education, affordable housing options, and responsive social and health services
Education	Support for adult literacy initiatives, adequate public education spending, tuition policy that improves access to postsecondary education
Employment and working conditions	Training and retraining programs (active labour policy), support for collective bargaining, enforcing labour legislation and workplace regulations, increasing worker input into workplace environments
Food security	Developing adequate income and poverty-reduction policies, promoting healthy food policy, providing affordable housing and affordable child care
Health services	Managing resources more effectively, providing integrated, comprehensive, accessible, responsive and timely care
Housing	Providing adequate income and affordable housing, reasonable rental controls and housing supplements, providing social housing for those in need
Income and its distribution	Fair taxation policy, adequate minimum wages, and social assistance levels that support health, facilitating collective bargaining
Social exclusion	Developing and enforcing antidiscrimination laws, providing ESL and job training, approving foreign credentials, supporting a variety of other health determinants for newcomers to Canada
Social safety net	Providing economic and program supports to families and citizens comparable with those provided in other wealthy developed nations
Unemployment and job insecurity	Strengthening active labour policy, providing adequate replacement benefits, provisions for part-time benefits and advancement into secure employment

*ESL English as a second language*

behind most wealthy industrialized nations (9,10). This has not always been the case; Canadian public policy during the 1970s showed many similarities with the Swedish welfare state (11).

Consider the social determinant of health most relevant to children – early child development. There are two sets of public policy domains that influence early child development.

The first public policy domain is concerned with the provision of economic security. Early development is shaped by the availability of sufficient material resources that assure adequate nutrition and housing, and cognitive and emotionally supportive family environments among others. Much of this domain has to do with parents' employment situation and wages, the availability of affordable housing, educational and recreational opportunities, and if necessary, retraining opportunities and social assistance. Child poverty rate is an excellent overall indicator of these policy activities. Canada ranks poorly (20th of 30) among Organisation for Economic Co-operation and Development (OECD) nations in child poverty rates (14).

The second public policy domain is specifically oriented to families with children. Known as family policies, these include availability of quality early child education and care, family-friendly leave provisions, and program support and financial transfers to families. The availability of quality, regulated child care is an excellent indicator of these forms of policy activities.

### PLACING THESE ISSUES IN COMPARATIVE PERSPECTIVE

There is much to gain – eg, assessing Canadian performance and identifying policy options – by examining how Canada fares in addressing these issues compared with other wealthy industrialized nations. Two approaches inform this analysis. The first compares Canadian public policy approaches to other wealthy developed nations. The second places the Canadian approach in the broad context of varying forms of political economies.

#### Societal commitments to families and governmental spending

All wealthy developed nations have market economies, but governing authorities can choose to distribute national wealth more equitably among the population through provision of cash benefits or benefits in kind. One key set of indicators of public commitment to supporting citizens is percentage of gross domestic product (GDP) transferred to citizens through programs, services or cash benefits.

The OECD – consisting of member states of 30 wealthy industrialized nations – regularly provides indicators of government operations including provision of supports and services ([www.oecd.org](http://www.oecd.org)). An especially important indicator is the extent of government transfers to households. Transfers refer to governments taking fiscal resources that are generated by the economy and distributing them to the population as services, monetary supports or investments in social infrastructure. Such infrastructure includes education, employment training, social assistance or welfare payments, family supports, pensions, health and social services, and other benefits.

#### Average public expenditures

Average OECD public expenditure – which includes social expenditures – in 2003 was 23.5% of the GDP (12). There is a rather large variation among countries, with Sweden (spending 37.1% of the GDP) and France (spending 33.1% of the GDP) being the highest public spenders. Canada ranks 18th of 24 wealthy industrialized nations (for which 2003 data are available) and spent 19.6% of the GDP on public expenditures. The only nations that allocated a smaller percentage of the GDP to public expenditure are Japan (19.1%), Slovak Republic (19%), Ireland (17.9%), the United States (17.4%), Mexico (7.6%) and Korea (6.5%).

#### Health care, income support and social services

How does spending translate into specific policy areas? Canada is among the highest spenders on public

expenditure on health care (6.8%) and is exceeded only by Germany (8%), the United States (7.7%), France (7.6%), Belgium (7.2%), Iceland (7.2%) and Sweden (7.1%). It is in the other areas of benefits and supports to citizens that Canada reveals itself as a frugal public spender.

One way to slice up the expenditure pie is to consider spending on income support to the working-age population and social services. Income support involves family benefits, wage subsidies and child support paid by governments to help keep low-income individuals and families out of poverty. Social services include counselling, employment supports and other community services.

Canada ranks very low on income support to the working-age population and low on social services. In 2001, Canada spent just 2.8% of the GDP on income support to the working-age population (rank 27th of 30) and 2.2% on social services (rank 8th of 30). Sweden spent 7.0% on income support and 5.8% on social services, and Denmark spent 8.7% on income support and 5.4% on social services.

#### Active labour policy

Active labour policy refers to the extent that government supports training and other policies that foster employment and reduce unemployment. In the Nordic nations, laid-off workers are provided with employment retraining as a matter of course (13). In Canada, governing authorities usually respond to these issues in a case-by-case piecemeal manner. In 2003, Canada allocated 0.4% of the GDP to such policies. This provides Canada with a ranking of 19th of 29 wealthy industrialized nations for which data were available. The highest spenders were Denmark (1.6%), Sweden (1.3%) and Belgium (1.2%).

### FAMILY POLICY

Three indicators provide a snapshot of family policy in Canada. The first indicator is the percentage of the GDP spent on family benefits, the second is public expenditure on child care and early education services, and the third is support for parental leave.

#### Public spending on family benefits

Figure 1 provides 2005 data on a variety of benefits provided to families in wealthy developed nations. Canada ranked 32nd of 37 nations providing data. Even the United States provided a greater proportion of the GDP to families than Canada. These findings provide much insight into why Canada was recently reported as being one of the nations showing the greatest increases in income inequality and poverty among OECD nations (14).

#### Public spending on child care and early childhood education services

Figure 2 provides 2005 data on wealthy nations' child care and preprimary spending. Canada scored 36th of 37 nations. Regarding public spending on family benefits, France, the Nordic nations and northern Continental nations are the highest spenders on families and children.

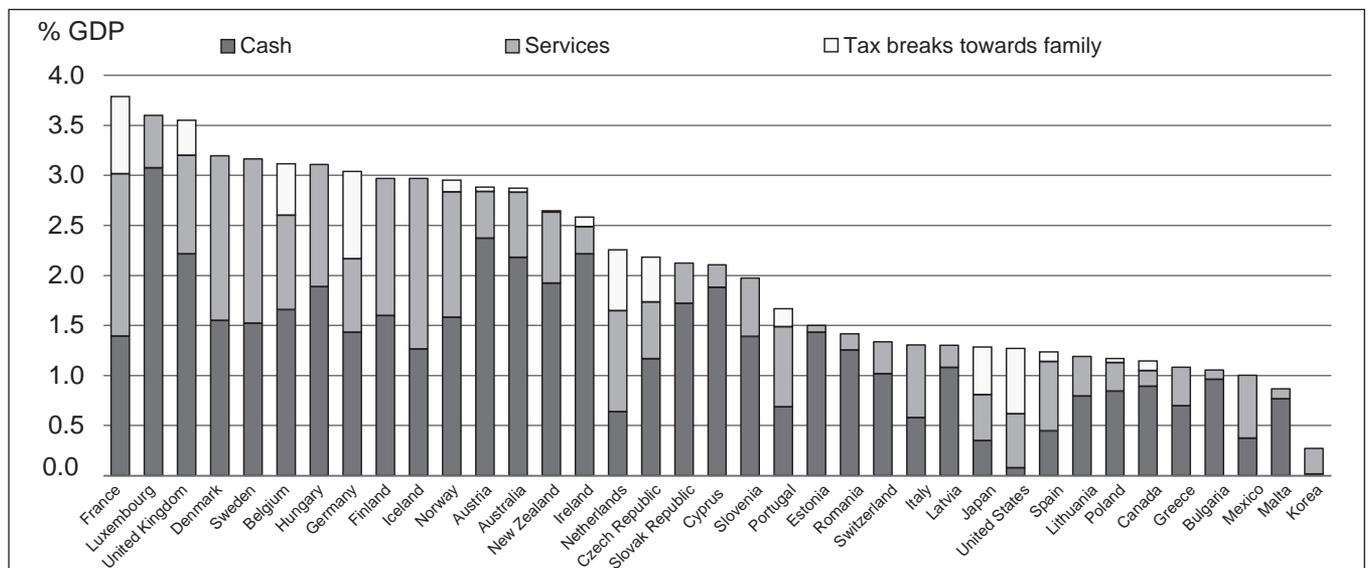


Figure 1) Public spending on family benefits in cash, services and tax measures, in per cent of the gross domestic product (GDP), 2005. Public support accounted here only concerns public support that is exclusively for families (eg, child payments and allowances, parental leave benefits and child care support). Spending recorded in other social policy areas, such as health and housing support, also assists families, but not exclusively, and is not included here. Adapted from reference 35

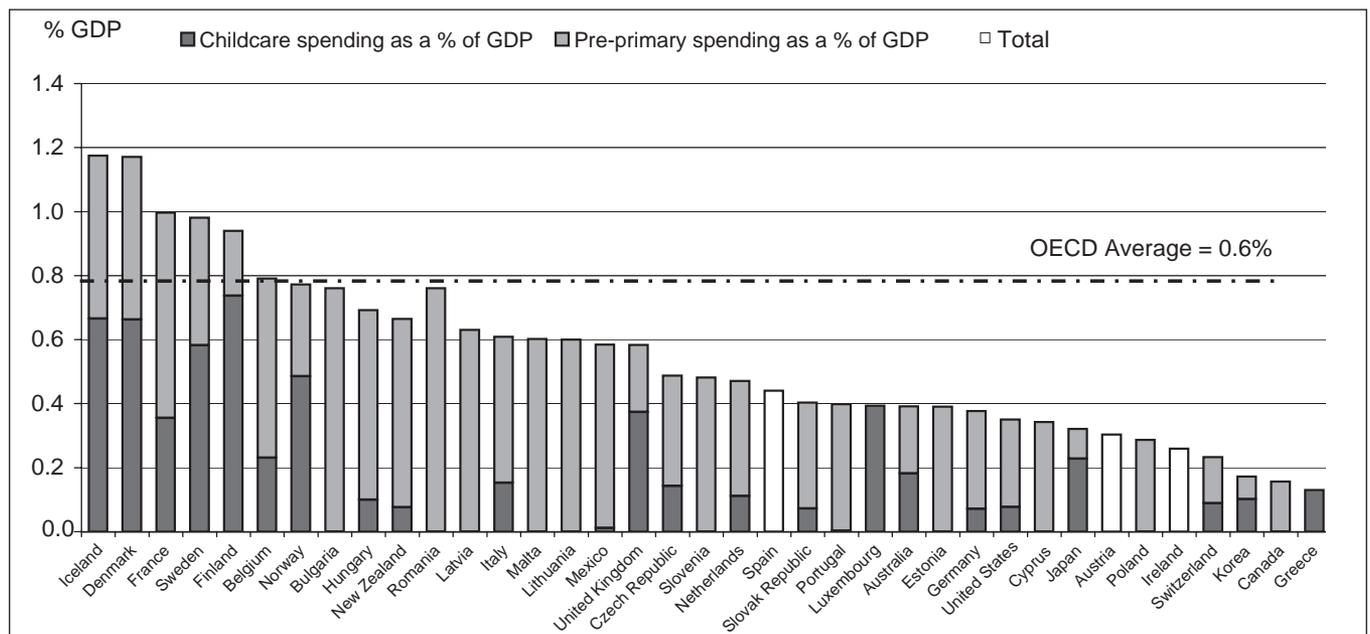


Figure 2) Public expenditure on child care and early education services, in per cent of the gross domestic product (GDP), 2005. Bars for Austria, Ireland and Spain cannot be disaggregated by educational level. OECD Organisation for Economic Co-operation and Development. Adapted from reference 35

**Effective parental leave**

A calculation that takes into account enrolment in paid maternity leave (in weeks) multiplied by per cent of usual salary paid gives Canada a ranking of 13th of 25 nations (9). France, Germany and the Nordic nations provide strong supports. The United States ranked dead last with no provision for any effective parental leave.

Chaussard et al (15) provide a detailed provincial/territorial assessment of scores on a Work Equity Canada Index. Canada as a nation lags behind other nations in

terms of leave around childbearing, annual leave and sick leave. The wide variation that exists among provinces suggests areas of local advocacy activities.

**A LEAGUE TABLE OF EARLY CHILDHOOD SERVICES**

A recent evaluation of OECD nations' policies considered 10 benchmarks for early childhood services. These are identified as "a set of minimum standards for protecting the rights of children in their most vulnerable and formative years"

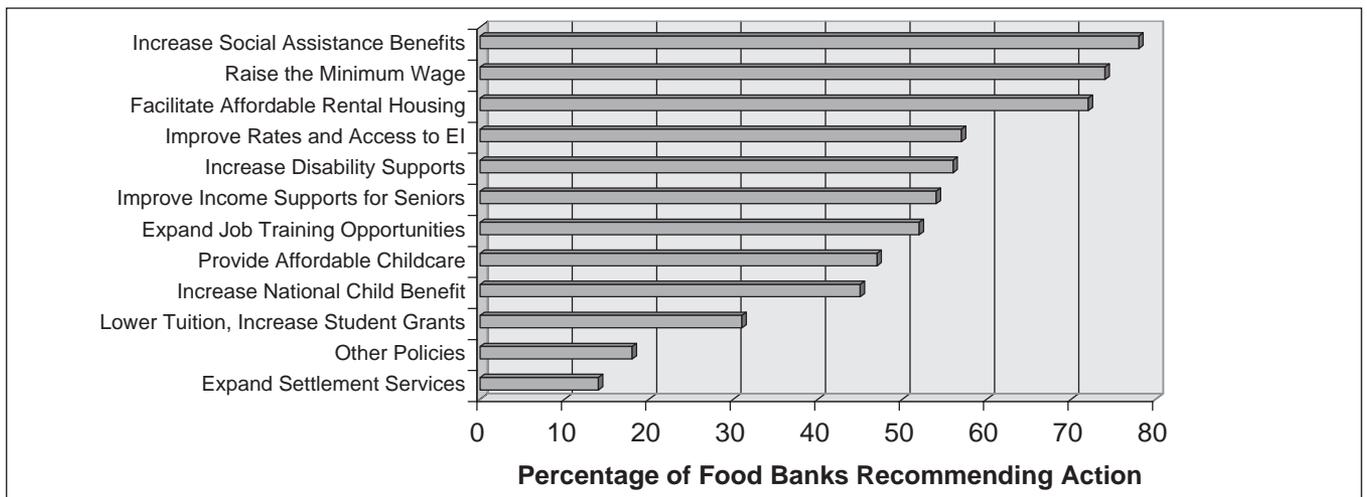


Figure 3) Policy priorities of Canadian food banks. EI Employment insurance. Adapted from reference 21

(9, page 2). The benchmarks are the following: parental leave of one year at 50% of salary; a national plan with priority for disadvantaged children; subsidized and regulated child care services for 25% of children younger than three years of age; subsidized and accredited early education services for 80% of four-year-olds; 80% of all child care staff trained; 50% of staff in accredited early education services tertiary educated with relevant qualification; minimum staff-to-children ratio of 1:15 in preschool education; 1.0% of the GDP spent on early childhood services; child poverty rate less than 10%; and near-universal outreach of essential child health services.

Canada received a score of 1 of 10, sharing the lowest ranking with Ireland. Canada's reached benchmark was 50% of staff in accredited early education services tertiary educated with relevant qualification. Sweden achieved a score of 10 of 10, and Iceland, Denmark, Finland, France and Norway all achieved scores of 8 of 10. The United States achieved a score of 3. The report notes that nations achieving the greatest number of benchmarks are those with the lowest infant mortality and low birth weight rates.

These profound variations among nations indicate that some choose to transfer relatively small amounts, allowing the marketplace to serve as the primary arbiter of how economic and other resources are distributed. These resources include not only wages, but whether child care, housing, and educational and recreational opportunities are made available to citizens as entitlements or as commodities to be purchased.

Governing authorities intervene in market operations through legislation that sets wages and facilitates labour organizing, ensures employment, and provides programs and benefits. It is well documented that nations that intervene are those showing lower child poverty rates and better indicators of children's health (14,16,17).

### SPECIFIC POLICY AREAS FOR ACTION

Improving the quality of the social determinants of health through public policy action has health implications for Canadians – and their children – right across the

TABLE 3  
Campaign 2000 policy options to reduce child poverty

An enhanced child benefit for low-income families to a maximum of \$5,100 (2007 dollars) per child
Restore and expand eligibility for employment insurance
Increase federal work tax credits to \$2,400 per year
Establish a federal minimum wage of \$10 per hour (2007 dollars)
Create a national housing plan including substantial federal funding for social housing
Establish a system of early childhood education and care that is affordable and available to all children (0 to 12 years of age)
Include a strong equity plan to ensure equal opportunities for all children and address systemic barriers
Develop appropriate poverty reduction targets, timetables and indicators for Aboriginal families, irrespective of where they live, in coordination with First Nations and urban Aboriginal communities.

Adapted from reference 22

socioeconomic spectrum (3,18). Besides improving the situation of the most vulnerable, well-off Canadians benefit from improved quality social determinants of health in terms of improved community quality of life, reduced social problems and improved Canadian economic performance (19,20).

Examples of proposals for improving the living circumstances of Canadian children come from the Canadian Association of Food Banks and Campaign 2000 (Figure 3 and Table 3) (21,22).

Not only are these recommendations similar to those of other Canadian policy organizations (23,24), they are similar to policy directions proven to be effective in improving the living circumstances of families with children in other wealthy industrialized nations (14,16,17).

### A TYPOLOGY OF NATIONAL APPROACHES TO ECONOMIC SECURITY

Despite the accumulating evidence of the importance of the social determinants of health, there have been little systematic efforts by Canadian governmental decision makers to institute the profoundly successful family support approaches of the Nordic and many continental European nations (17). Given the importance of living circumstances

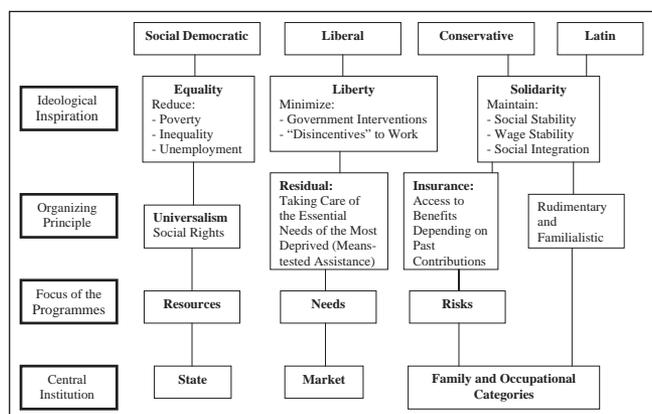


Figure 4) Ideological variations in forms of the welfare state. Adapted from reference 25

for children’s health, the difficult circumstances many Canadian children now experience, and the available policy options for improving these conditions, why does there seem to be so little public policy activity to address these issues?

Perhaps there is something about the Canadian economic and political system that can shed light on these issues. Political economist Gosta Esping-Andersen identifies Canada, the United States and the United Kingdom as liberal political economies (25). What exactly is a liberal political economy and how does it explain the situation of Canadian children? And more importantly, what does it suggest about developing and implementing public policy in the service of children’s health?

The workings of economic and political systems and their dominant values and organizing principles have been nicely organized by two Canadian sociologists (25). They provide a narrative and graphic view that succinctly sums up the roots of differing public policy approaches (Figure 4).

Of particular interest are their guiding principles and dominant institutions. In a comparative perspective, liberal welfare states provide the least support and security for its citizens. Despite the persistence of the United States as a welfare state outlier characterized by rather striking shortcomings in the provision of economic security, both Canada and the United Kingdom’s policy profiles are consistently found to be closer to the United States than to European welfare states where economic security and support are more assured (26).

Within liberal welfare states, the dominant ideological inspiration is that of liberty, which is associated with minimal governmental intervention in the workings of the marketplace. Indeed, such interventions are viewed as providing a disincentive to work, thereby breeding ‘welfare dependence’. The results of this ideological inspiration are the meagre benefits provided to those on social assistance in Canada, the United States and the United Kingdom, generally weaker legislative support for the labour movement, underdeveloped policies for assisting families and children, and reluctance to provide universal services and programs. Programs that exist are residual, meaning that they exist to meet the most basic needs of the most deprived.

TABLE 4  
Illustrative child health outcomes among differing welfare states, early 2000s

Welfare state type	Infant mortality /1000	Low birth weight /100	Death by injury /100,000	Teenage births /1000
<b>Social democratic</b>				
Denmark	4.4	5.5	8.1	8.0
Finland	3.1	4.1	14.9	10.0
Norway	3.4	4.9	13.0	10.0
Sweden	3.1	4.5	7.6	9.0
<b>Mean</b>	<b>3.5</b>	<b>4.8</b>	<b>10.9</b>	<b>9.2</b>
<b>Conservative</b>				
Belgium	4.3	6.5	15.1	11.0
France	3.9	6.6	12.5	10.0
Germany	4.2	6.8	13.4	14.0
Netherlands	4.8	5.4	9.0	5.0
<b>Mean</b>	<b>4.3</b>	<b>6.3</b>	<b>12.5</b>	<b>10.0</b>
<b>Liberal</b>				
Canada	5.4	5.8	14.8	20.0
Ireland	5.1	4.9	15.0	15.0
UK	5.3	7.6	8.4	28.0
USA	7.0	7.9	22.9	48.0
<b>Mean</b>	<b>5.7</b>	<b>6.6</b>	<b>15.3</b>	<b>27.8</b>

UK United Kingdom; USA United States. Adapted from reference 36

Political economists have argued that liberal welfare states and their ideological characteristics represent the interests of those allied with the central institution of these nations: the Market. It is no accident that these liberal welfare states have the greatest degree of wealth and income inequality, the weakest safety nets, and poorest performance on indicators of population health such as infant mortality and life expectancy, and as has been demonstrated in the present article and previous articles, mediocre performance on numerous indicators of children’s health (27).

The opposite situation is seen among social democratic welfare states. The ideological inspiration for the central institution of these nations – the State – is the reduction of poverty, inequality and unemployment. Rather than seeing government responsibility as being limited to meeting the most basic needs of the most deprived, the organizing principle here is universalism and provision of social rights of all citizens. Denmark, Finland, Norway and Sweden are the best exemplars of this form of the welfare state. Governments with social democratic political economies are proactive in identifying social problems and issues, and strive to promote citizens’ economic and social security. This form of the welfare state has been associated with the virtual elimination of poverty, striving for gender and social class equity, and regulation of the market in the service of citizens (28). Their indicators of children’s health are excellent.

Even the so-called conservative (eg, France, Germany and The Netherlands) and Latin (eg, Greece, Italy and Portugal) welfare states generally provide superior economic and social security to their citizens than liberal welfare states (29). The ideological inspiration of maintaining social stability, wage stability and social integration is accomplished through provision of benefits based on

insurance schemes geared to a variety of family and occupational categories.

What this typology suggests is that there are strong institutional structures and historical traditions that shape how public policy is made. Canada has a tradition – compared with other wealthy industrialized nations – of minimizing governmental intervention in the operation of the marketplace. The result of minimal intervention is the existence of greater differences in living conditions among Canadian children – with resultant differences in health outcomes – than is the case in many other wealthy industrialized nations. Table 4 illustrates some of these outcomes that differ systematically among welfare state types. Note how children in the social democratic nations generally fare better than those in liberal or conservative welfare states.

Faced with evidence of these structures and traditions, and their importance for determining the degree of social and health inequalities, what are those who reside in liberal

political economies to do in their attempts to improve the quality of the social determinants of health to which children are exposed? Answering this question constitutes part IV of the present series.

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**ADDENDUM:** It is common, however, for governmental and other authorities to ‘individualize’ public policy issues – ie, view them as personal problems rather than public issues requiring policy responses. As an example, governmental authorities frequently choose to understand early child development as being primarily about parents’ behaviours toward their children. They then focus on developing programs that promote better parenting, parents reading to their children and children’s physical activity. These activities are useful, but take little account of the important role of socioeconomic circumstances of parents on their ability to accomplish these goals. Issues of reducing income, housing and food insecurity among families are neglected.

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# The health of Canada's children. Part IV: Toward the future

Dennis Raphael PhD

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Canadian children's health is influenced, in large part, by the living circumstances that they experience. These living circumstances – also known as the social determinants of health – are shaped by public policy decisions made by governmental authorities. While public policy should be focused on providing all Canadian children with the living circumstances necessary for health, it appears that Canada is far from achieving this goal. Instead, there are programs directed at Canada's most severely disadvantaged families and children. While vital, these programs appear to achieve less than that which would be achieved if governmental action was designed to strengthen the social determinants of health for all children. Considering the governmental actions that would achieve this goal are well known – with rather little evidence of policy implementation – it is essential to understand the processes by which public policy is made. An important physician role – in addition to providing responsive health care services – is to become forceful advocates for public policy in the service of health. It is in the latter sphere that physician involvement may yield the strongest benefits for promoting children's health.

**Key Words:** *Public policy; Social determinants; Social paediatrics*

Part I of the present series provided an overview of children's health in Canada. Numerous areas of concern were identified. Part II presented the mechanisms by which children's health is shaped by their living circumstances. For many families with children, their living circumstances are clearly a cause for concern. Part III described specific aspects of children's living circumstances – the social determinants of children's health – that influence health and showed how their quality is determined, in large part, by public policy decisions made by governmental authorities. Numerous suggestions for improving children's living circumstances were presented.

The present and final article of this series places the previous presentations into a broader societal context. It is focused on providing physicians with a framework by which they can understand how children-related public policy is made. Such understandings can then serve to support physician activity in the service of promoting children's health.

## La santé des enfants canadiens. Partie IV : Vers l'avenir

La santé des enfants canadiens est influencée en grande partie par leurs conditions de vie, qu'on appelle aussi déterminants sociaux de la santé, et qui sont façonnées par les décisions que prennent les autorités gouvernementales en matière de politiques publiques. Ces politiques publiques devraient viser à garantir à tous les enfants canadiens les conditions de vie dont ils ont besoin pour être en santé, mais il semble que le Canada soit loin d'atteindre cet objectif. Il existe plutôt des programmes destinés aux familles et aux enfants les plus défavorisés. Bien qu'ils soient essentiels, ces programmes semblent obtenir moins de résultats que si les mesures gouvernementales étaient conçues pour renforcer les déterminants sociaux de la santé de tous les enfants. Puisqu'on connaît bien les mesures gouvernementales qui permettraient de réaliser cet objectif, mais que peu de données en attestent l'implantation, il est essentiel de comprendre les processus par lesquels les politiques de santé sont adoptées. Le médecin, en plus de dispenser des services de santé réactifs, joue un rôle important : devenir un ardent défenseur des politiques publiques au service de la santé. C'est cette sphère de la participation des médecins qui peut être la plus bénéfique pour promouvoir la santé des enfants.

### PUBLIC POLICY AND CHILDREN'S HEALTH

More developed welfare states provide public policies that produce both higher quality and more equitable distribution of various social determinants of children's health. For example, the social democratic Nordic nations of Denmark, Finland, Norway and Sweden have public policies that are especially supportive of children's health (1,2). In these nations, infant mortality and low birth weight rates, numerous indicators of children's health and well-being, and the degree of inequality in child education and literacy outcomes are clearly superior to those in Canada and other nations with public policies that are less supportive of children's health (1,2).

Even the conservative nations of continental Europe, such as Germany, France, Belgium and Holland, provide policies more supportive of children's health than the liberal nations of Canada, Ireland, the United States and the United Kingdom (1,2). Whether it be more equitable distribution of income and wealth, greater employment, food and housing

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security, greater investment in employment training and concern with working conditions, or providing supports for families such as affordable early childhood education and care, these societal features lead to stronger indicators of childhood health and well-being (see addendum) (3-7).

In Canada, however, these lessons have not been learned. Improving children's living circumstances would benefit health by reducing the experience of material and social deprivation, and enhancing psychosocial features of children's communities, families and personal environments, thereby promoting cognitive, emotional and social development (see part II). Policy recommendations to improve children's circumstances such as the following are commonplace (see part III) (8):

- An enhanced child benefit for low-income families to a maximum of \$5,100 (2007 dollars) per child
- Restore and expand eligibility for employment insurance
- Increase federal work tax credits to \$2,400 per year
- Establish a federal minimum wage of \$10 per hour (2007 dollars)
- Create a national housing plan including substantial federal funding for social housing
- Establish a system of early childhood education and care that is affordable and available to all children (zero to 12 years of age)
- Include a strong equity plan to ensure equal opportunities for all children and address systemic barriers
- Develop appropriate poverty reduction targets, timetables and indicators for Aboriginal families, irrespective of where they live, in coordination with First Nations and urban Aboriginal communities

It would be reassuring to accept that Canadian policy failure could be attributed to advocates' inability to create, disseminate, translate or exchange evidence with policymakers. This is clearly not the case. Canadian government, other institutional policy documents and *Paediatrics & Child Health* articles are chock full of these concepts and their implications for promoting children's health and well-being (9).

#### CANADIAN POLICY RESPONSES FOCUS ON PROGRAMS FOR THE MOST DISADVANTAGED

Rather than implement policies to enhance the general health and well-being of the broad population of children, the Canadian policy response is frequently targeted programs such as prenatal medical care and Best Start programs (10). Not only are these programs available only to a minority of their intended targets, but these targeted programs are inadequate to reach large numbers of children who could benefit from universal programs. With regard to early childhood education and care (but the argument can be applied to a range of targeted programs):

Restricting early intervention initiatives to low-income neighbourhoods misses the majority of vulnerable children.... It is time to recognize that

supporting the development of all children requires a system of high-quality ECEC [early child education and care] that is available and affordable to all families wishing to use it and to act on this recognition. (10, page 40)

Clearly, there must be reasons – a lack of economic resources is not one of them because Canada is one of the wealthiest nations on the planet – other than a lack of evidence as to why child health-enhancing policies are not being implemented. I argue that Canadian governments have become reluctant to implement policies that would reduce the disparities in living circumstances to which Canadian children are exposed because it involves intervention in the operation of Canada's market economy. After providing my reasons for this thinking, suggestions on how Canadian physicians can become involved in shifting this approach are presented.

#### SOCIETAL INSTITUTIONS AND LIVING CIRCUMSTANCES

Certain institutions of Canadian society shape the quality and variety of living circumstances children experience. Sociologists use the shorthand phrase 'social inequality' to refer to the important differences between people, which include their living circumstances:

Social inequality can refer to any of the differences between people (or the socially defined positions they occupy) that are consequential for the lives they lead, most particularly for the rights or opportunities they exercise and the rewards or privileges they enjoy. (11, page 2)

Societal institutions shape patterns of relationships that are systematically associated with how rights, rewards and privileges are distributed. The primary institution shaping the distribution of these resources in Canada is the operation of the economic system (12). Canadians must gain employment, and the wages they earn determine, in large part, the quality of their living circumstances – the social determinants of health – to which their children are exposed. As pointed out in earlier articles, employment is especially important for Canadians because we receive fewer benefits and supports (ie, employment training, affordable child care, family benefits, social assistance, etc) from governments than citizens of other wealthy developed nations (13,14).

Societal institutions also include the state or government, and other agencies and organizations that may intervene in the operation of the economic system to influence citizens' lives. In this manner, governments have the ability to improve, maintain or weaken the living circumstances children experience. Governments at all levels – federal, provincial/territorial, or local – influence children's living circumstances either through action or inaction. The manner in which they choose to do so is usually a function of how elected representatives think of the role of governments.

What exactly are the economic and political institutions that influence Canadian lives in general and children's lives in particular? Grabb (11) identifies three primary bases for influencing the extent of 'social inequality' – or what others would term 'differences in living circumstances'. The economic structure can operate in a manner that produces profound variations in wealth and income, influence and power – and I would add – health. Because all advanced economies are market economies, a simple indicator of the nature by which the economic system operates is the extent to which it is managed or controlled by state, governmental or other outside mechanisms, and how such interventions come about.

In all wealthy developed nations, the market economy leads to rather significant degrees of income inequality (2). However, in the nations that appear to more strongly support early child development, the government intervenes by providing numerous cash and in-kind benefits to low-income earners. These same nations are also more likely to make available free or low-cost child care, housing and training benefits for the most vulnerable. The result is a reduced disparity in living circumstances among children, with the resultant positive child health outcomes described in earlier parts of the present series (15-17).

In Canada and other liberal political economies, such as the United States, the United Kingdom and Ireland, much less effort is expended in these directions (12). The result is that ownership, education and occupation profoundly shape the rewards that are provided by the economic system (11). If there are minimal laws shaping wage levels, employment security or working conditions, then these factors (ownership, education, etc) lead to widening inequalities in income, wealth and influence (Figure 1).

The political structure reinforces the operation of the economic system by enacting laws and regulations that codify these processes (11). These decisions act to legalize the disparity that exists in children's living circumstances. Governments can enact laws that either enhance or reduce the economic resources, influence and power – the living circumstances – that members of various classes, status groups or associations come to hold. These could include employment and labour regulations, setting minimum wages, and making affordable child care and housing available.

Finally, the resultant differences in children's living circumstances – and related health inequalities – come to be justified by ideological structures, the dominant ideas in society that explain – and usually justify – these differences (11). Key ideas that serve to justify social and health inequalities are individualism (we are all ultimately responsible for how our lives end up) versus communalism (we need to take care of each other) (18); market (everyone gets what they deserve) versus social justice (everyone should have enough income and wealth to live a decent life) (19); and an emphasis on the market (the exchange of commodities is the defining feature of our society) versus the polis (shared agreement on the organization of society through

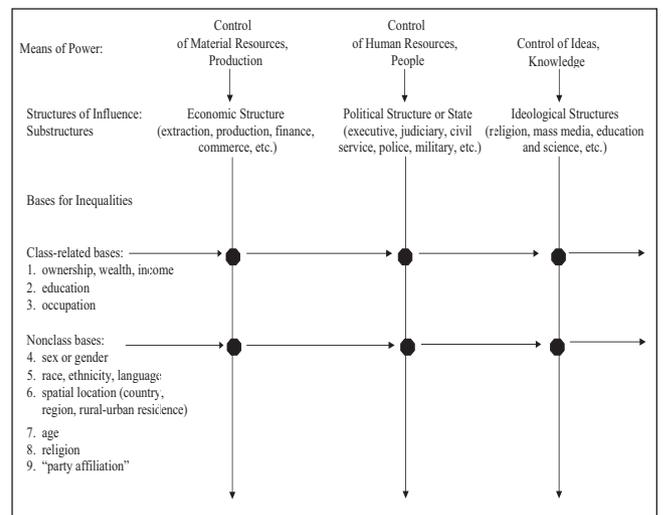


Figure 1) The major means by which differences in families' living conditions – social inequalities – come about. Adapted from reference 11

political action is paramount) as shaping the living conditions children attain (20).

#### OPERATION OF ECONOMIC AND POLITICAL SYSTEMS IN COMPARATIVE PERSPECTIVE

In part III of the present series, key differences among advanced nations in overall governmental transfers as well as supports and benefits to working-age adults (including parents) were reviewed. Canada transfers less national resources to the citizenry through progressive taxation and program spending than most nations. Therefore, citizens are much more dependent on paid labour for securing their well-being. Usually, in such a situation, wages and benefits for the most vulnerable lag behind the situation in which governmental transfers are universal and more generous (3).

The means of improving children's health would then be to draw on the lesson that has been taught by nations that do better for their children than we do. What exactly is this lesson? It is that governments must intervene by making public policies that assure adequate living circumstances for children (5). These policies involve a whole range of programs, supports, laws and regulations (21). Tax policy and transfers are especially important (22).

The Innocenti Research Centre produces an ongoing series of reports on children's health and well-being with particular focus on poverty (1,2,23). Poverty is especially important to children's health because it represents a clustering of disadvantage of a number of social determinants of children's health. Tables 1 and 2 provide some of the conclusions reported by the Innocenti Research Centre that are relevant to the issues raised in the present series (24,25).

#### MOVING FORWARD: MODELS OF POLICY CHANGE

The past 20 years has seen a retreat by Canadian governments in promoting citizen economic security (9). Numerous

**TABLE 1**  
**Policy-relevant conclusions from a league table of child poverty in rich nations, with added comments by the author relevant to Canada in parentheses**

- Child poverty rates in the world's wealthiest nations vary from under 3% to over 25% (Canada's rate was 15.5%)
- Whether measured by relative or absolute poverty, the top six places in the child poverty league are occupied by the same six nations – all of which combine a high degree of economic development with a reasonable degree of equity (Canada ranked 17th of 23 in relative poverty and ranked 7th of 19 in absolute poverty)
- There is a close relationship between child poverty rates and the percentage of full-time workers who earn less than two-thirds of the national median wage (Canada ranked 13th of 14 nations having the second highest percentage of low-wage workers [23%])
- The countries with the lowest child poverty rates allocate the highest proportions of GNP to social expenditures (Canada ranked 13th of 22 nations on social expenditures)
- Differences in tax and social expenditure policies mean that some nations reduce 'market child poverty' by as much as 20 percentage points and others by as little as 5 percentage points (Canada reduced market child poverty by 9.1 percentage points from 24.6% to 15.5%)

*Adapted from reference 23. GNP Gross national product*

analyses are available as to why this is the case, but the most compelling one is that Canadian governments have opted to let the marketplace determine the distribution of economic and social resources among the population. In contrast to the balance among the state (or government), labour sector and business sector – common during the 1960s and 1970s – the business sector has attained greater influence (26,27); greater balance is needed.

However, to address such a large undertaking may seem rather abstract and even more daunting. The value of the social determinants of health concept is that it provides manageable areas for citizen – and physician – activity in support of progressive public policy. Calling for living wages for parents, affordable quality child care, and improved income, food and housing security for families with children may appear to be more achievable.

There are two approaches as to how this may come about. The pluralist approach to public policy development sees policy development as being driven by the quality of ideas in the public policy arena (28). Those ideas judged as beneficial and useful will be translated into policies by governing authorities. This is the dominant model that is held out as representing the operation of public policy-making in an advanced democracy such as Canada. Yet, when presented with the arguments – based on evidence – proposed to advance children's health, little seems to be happening. How can this inaction be explained?

The materialist approach to public policy development sees policy development as driven primarily by powerful interests who assure their concerns receive more attention than those not so situated (28). In Canada, it is argued that these powerful interests are based in the economic market sector and have powerful partners in the political arena. Perhaps it is not in the interest of this sector to have higher minimum wages and increased employment security for

**TABLE 2**  
**Recommendations from an overview of child well-being in rich countries**

- Focus research and policy-making on the interplay between the broader forces that determine the economic well-being of children – family, market and state
- Recognize explicitly that child poverty is affected by the priorities implied in the structure of government budgets and in tax and benefit policies
- In some OECD countries where social spending by governments is increasing, children are seeing their share fall. Where social spending is falling, the losses for children and families are often disproportionate

*Adapted from reference 1. OECD Organisation for Economic Co-operation and Development*

parents, or more comprehensive public health services such as home care or pharmacare?

The pluralist and materialist approaches provide differing explanations for understanding the present situation, and each proposes different means of moving a social determinants of health – in the service of promoting children's health – agenda forward. The pluralist approach suggests the need for further research, knowledge dissemination and public policy advocacy, with the aim of convincing policy-makers to enact health-supporting public policy (28,29). Pluralism assumes that policy-makers will be receptive to these ideas. If this is the case in your local municipality or province, there is no shortage of suggestions for education, lobbying and advocacy activities in the service of improving the quality of the social determinants of children's health (see part III of the present series).

If, however, your local authorities cannot be convinced by these arguments, the materialist model suggests the need to develop strong social and political movements, with the aim of forcing policy-makers to enact health-supporting public policy. Then the task is to build social movements that will force authorities – under threat of electoral defeat – to undertake positive policy change. These grass-roots activities will involve community education and development, building of social movements, and shifting perceptions on the role of governments in assuring citizen security.

## THE ROLE OF PHYSICIANS

Physicians are well positioned to enter this debate. The Canadian Medical Association and the Canadian Paediatric Society have argued for the importance of addressing poverty (30). Physicians, nurses and other health care providers in Ontario have formed Health Providers Against Poverty (31). An Ontario Physicians Poverty Work Group has provided a five-part introduction for physicians on how to address determinants of health issues (32).

Physicians can focus on education and knowledge transmission. Such activities will not, by themselves, lead to positive public policy in support of the social determinants of children's health, but will clearly assist other sectors that can be more actively engaged in public policy advocacy. However, the ultimate goal of these activities – whether we wish to state it publicly – is to build the social and political

supports by which public policy in support of the social determinants of children's health can be implemented.

### Presenting the solid facts

The public remains woefully uninformed about the social determinants of children's health. Canadian physicians can offer a message regarding the importance of improving living circumstances of children. At a minimum, materials can be placed in waiting rooms that clearly and objectively provide information on the social determinants of children's health and what citizens can do to promote public policy in the service of their children's health.

Physicians engaged in academic activities such as research and teaching can investigate and/or publicize findings from analysis of the social determinants of children's health. This matter of information and knowledge transfer can focus on the direct social determinants of children's health (such as poverty, housing and food insecurity, and social exclusion) and the indirect determinants (such as their parents' employment security, working conditions and wages, among others). My short list of childhood afflictions shaped by these issues includes infant mortality, low birth weight, asthma, incidence and death from injuries, psychiatric and social problems, emergency room visits, school drop-out, delinquency and crime, and teenage pregnancy, among others (33).

### Providing support for policy action

The second role is the most important but potentially the most difficult: supporting policy action in support of health. Implicit in supporting policy action is recognizing the important role politics play in these activities. There is increasing evidence that the quality of any number of social determinants of children's health within a jurisdiction is shaped by the political ideology of governing parties (34).

In the past in Canada, progressive public policy related to children's well-being was formed from all three major political parties. The question to be answered is "Which party is most likely now to address these issues?" Campaign 2000's analysis (35) of federal party positions ranked parties in terms of their willingness to address child poverty: New Democratic Party (first), Liberal (second) and Conservative (third). Affordable universal child care, for example, is not on the current federal agenda of the Conservative party.

Internationally, the quality of the social determinants of children's health is highest where there has been greater rule by social democratic parties (4), even conservative governments do better than liberal governments. It has also been documented that poverty rates and government support in favour of health – the extent of government transfers to families – is higher when the popular vote is more directly translated into political representation through proportional representation (36). Canada does not have proportional representation – the lack of which is associated with higher child poverty rates and less government action in support of children's health. Proportional representation is important because it provides an ongoing influence of social democratic parties regardless of which party forms the government (37).

## TOWARD THE FUTURE

Where does this knowledge of the role of politics in shaping the quality of the social determinants of health leave physicians?

### Actions of physician associations

One avenue of action is through association action. As noted earlier, the Canadian Medical Association and Canadian Paediatric Association have, in the past, argued forcefully for action on the social determinants of children's health. The Ontario Physicians Poverty Work Group and Health Providers Against Poverty provide opportunities for physicians to become engaged in the social determinants of children's health. Without a doubt, there are other organizations and agencies working on these issues.

### Political engagement

Physicians are also citizens who can vote and support particular political parties between and during political campaigns. Most Canadians are not involved in politics, and there is no reason to believe that physicians are much different than the average Canadian (38). In 2003, only 3% of Canadians volunteered for a political party, 6% participated in a demonstration or march, 21% attended a public meeting, 26% searched for political information and 27% signed a petition. The importance of the social determinants of children's health should serve as a spur to increase participation among physicians.

Those in the best position to suggest future courses of action for physicians are the readers of *Paediatrics & Child Health*. There is no shortage of both health-related and other organizations and agencies with which you can work. The evidence seems clear: promoting the health of children requires the enactment of public policies that improve the living circumstances of children. To date, Canada has fallen short of many other nations. Improving the situation will require political action. Are physicians prepared to engage in the debate of what needs to be done?

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**ADDENDUM:** Fraser Mustard reaches a similar conclusion with regard to early child development: "In Scandinavian countries, support for families and young children is much better than in Canada and the United States" (6, page 841). Clyde Hertzman comments, "Canadians working in early child development often ask themselves: 'Why don't we just give up and move to Sweden'" (7).

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