National Collaborating Centre
for Determinants of Health

Centre de collaboration nationale
des déterminants de la santé

Evidence Review

The Influence of Socio-economic Status and Ethno-racial Status on the Health of Young Children and Their Families

OCTOBER, 2008

National Collaborating Centre
for Determinants of Health

www.nccdh.ca

The National Collaborating Centre for Determinants of Health (NCCDH) focuses on the social and economic factors that influence the health of Canadians, engaging public health practitioners, policy makers and researchers to improve policy and public health practice decisions to contribute to social justice and health for all.

Contact Information

National Collaborating Centre for Determinants of Health (NCCDH)
St. Francis Xavier University
Antigonish, NS B2G 2W5
nccdh@stfx.ca
tel: (902) 867-5406
fax: (902) 867-6130
www.nccdh.ca

This material is made possible through a contribution agreement from the Public Health Agency of Canada. The views expressed herein do not necessarily represent the views of the Public Healh Agency of Canada.

National Collaborating Centre for Determinants of Health
Centre de collaboration nationale des déterminants de la santé

The Influence of Socio-economic Status and Ethno-racial Status on the Health of Young Children and Their Families

The purpose of this evidence review is to improve understanding of the ways in which social determinants of health influence child and family health, and the implications this holds for public health policy and practice. This review identifies significant child and family health outcomes that are strongly influenced by socio-economic status (SES) and ethno-racial status (ERS), and points to gaps in the research. It is largely focused on issues affecting children aged six years and under.

National Collaborating Centre
for Determinants of Health
Centre de collaboration nationale
des déterminants de la santé

National Collaborating Centre for Determinants of Health
Centre de collaboration nationale des déterminants de la santé

Table of Contents

The Influence of Socio-economic Status and Ethno-racial Status on the Health of Young Children and Their Families . . . 3

Child and Family Issues and the Social Determinants of Health . . . 6

- Health impacts of low socio-economic status . . . 6
- Influence of neighbourhood on child and family health . . . 9
- Impact of ethno-racial status on child and family health . . . 10
- Research gaps . . . 10
- Implications for public health . . . 11

Highlights . . . 13

- Who are Canada's Poor? . . . 13
- How does poverty affect child health? . . . 13
- What can be done? . . . 14

Reference List . . . 15

National Collaborating Centre for Determinants of Health
Centre de collaboration nationale des déterminants de la santé

Child and Family Issues and the Social Determinants of Health

The first six years of life mark a time of enormous growth and development in physical, cognitive, emotional, social, and communication skills and abilities.[1] The effects of early experiences on children's health and development can last a lifetime.[2]

There is a clear link between the health of young children and the wealth of their households and neighbourhoods. Beyond income, socio-economic status takes into account occupation, education, prestige, privilege, and power. Using Statistics Canada's low income cut-off (LICO), 788,000 children (11.7% of all children) were living in low-income families in 2005.[3, 1]

Health impacts of low socio-economic status

Early child development – including physical, social/emotional, and language/cognitive development – is critical to the child's lifecourse.[4] The wide-ranging impacts of low-income and low socio-economic status include poor physical health; increased number of emotional and behavioural issues; compromised school readiness and cognitive outcomes; low birth weight; and obesity. Low neighbourhood income also has an impact on health, behaviour and injuries among children. Ethno-racial status has been linked to the social determinants of health, particularly low income.

The effects of early experiences on children's health and development can last a lifetime.

Physical health

While the link between child health and poverty is clear, the strength of association is still under discussion and can be very sensitive to the type of poverty measure used.[5] Based on measures of functional health (a combination of vision, hearing, speech,

1 Statistics Canada's low income cut-offs (LICOs) convey the income level at which a family may be in "straitened circumstances" because it has to spend significantly more of its income on the basics (food, shelter and clothing) than does the average family.

mobility, dexterity, cognition, emotion, pain, and discomfort), children living in poverty have, on average, worse health outcomes than other children.[6]

Looking at infant mortality rates – a common measure of child health – Canada's overall rate is comparatively low, with about one-half of one percent of infants failing to survive their first year (5.5 of 1000 births). However, infants born into low-income neighbourhoods are at greater risk of dying. A 1996 study found that 6.5 of 1000 infants died in the poorest fifth of Canadian urban neighbourhoods while 3.9 infants per 1000 died in the richest fifth of neighbourhoods.[7]

Emotional and behavioural outcomes

Children of lower-income households are reported to experience more emotional and behavioural challenges than those of higher-income groups including aggression, anti-social behaviour, conduct problems, hyperactivity, and inattention.[6,8] However, research shows that individual and family characteristics have much more of an impact on children's behaviour than neighbourhoods.[8] More research is required to determine the contribution of SES to emotional and behavioural issues.

School readiness and learning

A variety of indicators of school readiness show that children living in low-income households are generally less prepared for learning when they begin school.[9,10] They are also more likely to experience poorer educational outcomes including repeating grades, disengaging from school, and dropping out before completing high school.[10,11,12] This may result from the fact that children who are less emotionally ready for school are more likely to do poorly and to act out leading to anti-social behaviour and a negative school experience.

Lower-quality schooling and school environments are correlated with high rates of neighbourhood poverty.[13] This may also exacerbate the difficulties low-income children experience and have an impact on their ability to complete high school. Research shows that the effect of child poverty on academic achievement can also influence adult poverty.[2,13]

National Collaborating Centre for Determinants of Health
Centre de collaboration nationale des déterminants de la santé

Low birth weight

Low birth weight (LBW) babies (those born weighing less than 2,500 grams) typically have higher rates of mortality and illness, lower rates of growth, and more developmental problems and health-related limitations in life.[14] There is a strong relationship between income level of the mother and the baby's birth weight.[15,16] In 1996, the LBW rate was 40% higher in Canada's lowest-income urban neighbourhoods (7%) than in the highest-income urban neighbourhoods (4.9%).[7,14] Research in Manitoba found that low-income mothers were 20% more likely to give birth to a low-weight baby than high-income women (5.3% vs. 4.4%).[17] U.S. research has found that babies in low SES families have higher rates of asphyxia, birth defects, disabilities, fetal alcohol spectrum disorder, and AIDS compared to other children.[18]

The wide-ranging impacts of low income and low socio-economic status include poor physical health, increased number of emotional and behavioural issues, compromised school readiness and cognitive outcomes, low birth weight and obesity.

Maternal education also influences low birth weight and aspects of infant health although the exact relationship is unclear.[19] A Quebec study found that infants in low-income households were more likely to be admitted to hospital in the first five months of life and were more likely than other infants to have less than excellent health (as reported by mothers) even controlling for maternal education.[20]

Obesity

Obesity rates are higher in Canada among children from low-income households. An analysis from the National Longitudinal Survey of Children and Youth (NLSCY) found that in 1998/99, one-quarter of children aged 2-11 living in families with incomes below the low income cut-off (LICO) were obese compared to 16% of children in families above the LICO. The proportion of overweight and obese children decreased as family income increased.[21] There are also more overweight children in low-SES neighbourhoods in Canada.[22] Research suggests that characteristics such as access to safe play areas directly influence the odds of being overweight.

The long-term impacts of obesity can influence a child's development and functioning, and self-esteem. Poor body image and social marginalization may impact healthy functioning for children.

National Collaborating Centre for Determinants of Health
Centre de collaboration nationale des déterminants de la santé

Influence of neighbourhood on child and family health

While relatively little research exists on the influence of neighbourhood income on child health, data show that children in lower-income neighbourhoods have worse health outcomes in a variety of areas, on average, than children living in affluent neighbourhoods. For younger children, it appears that individual and family characteristics have a stronger influence on health and behaviour problems than neighbourhood characteristics.[8]

Young children living in lower-income neighbourhoods are prone to poorer cognitive abilities, motor and social development,[23] and increased behavioural issues[8, 21, 24] They also tend to be less prepared for school. A Vancouver study found that 38% of kindergarten children living in the lowest-income areas showed low levels of learning readiness compared to 6% of children in the highest-income neighbourhoods.[25]

Higher rates of both fatal and non-fatal injuries are another risk for children of lower SES.[26,27] Data are sparse due to the lack of studies on non-fatal injuries at the population level and the fact that reporting of injuries is often dependent on whether medical care is obtained. However, one study found a consistent relationship between poverty and injury. The youngest children (0-4 years) living in impoverished areas were 23% more likely to experience a non-fatal injury relative to their more affluent neighbours.[28] Among slightly older children (5-14 years), neighbourhood factors appear to influence child injury risk independent of individual and household factors.[29]

Young children living in lower-income neighbourhoods are prone to poorer cognitive abilities, motor and social development and increased behavioural issues.

High rates of injuries can, in part, be explained by the quality of housing;[30] fewer safe play areas, such as parks and fenced-in yards; and proximity to high-traffic and/or industrial areas[26] in economically disadvantaged areas.

Impact of ethno-racial status on child and family health

Recent immigration trends have increased the percentage of visible minorities in Canada.[2] For example, 13.4% of the Canadian population, mainly clustered in large urban areas, is composed of visible minorities.[31] The percentage of citizens who identify as a visible minority rose from just under 14% to 37% between 1981 and 2001.[29]

In Canada, there is a well-established link between income and race and ethnicity. In 2000, 76% of Toronto children under the age of five who lived in low-income households were visible minorities.[32] New Canadians and those who are members of socially disadvantaged racial and/or ethnic groups may be more likely to be poor because of a combination of social factors that influence employment. These include a lack of recognition of international credentials and work experience, and discrimination.[33] For example, recent Canadian research found higher levels of low-birth weight, poor child health status (as reported by a parent) and less access to healthcare services and other social supports among immigrant populations.[30]

Despite the importance of healthy development, including the basic physical, cognitive, emotional, social, and communication skills developed in the first six years of life, most health research continues to focus on death, disease and disability outcomes.

Infant mortality rates among some Aboriginals are higher than the Canadian average. For example, a conservative estimate puts the rate at 7.0 deaths per 1,000 live births among First Nations people living on reserve and 16.0 deaths per 1,000 live births in Nunavut, where most of the population is Inuit.[34]

Research gaps

While it is clear that children growing up in poverty have worse physical health and more developmental problems than other children, research has not yet specifically established how poverty in early childhood influences health. Also, not all influences are severe or long lasting. Knowledge of the connections between SES and health must be clarified through further research.

2 Visible minorities are defined by the *Canadian Employment Equity Act* as “persons, other than Aboriginals, who are non-Caucasian in race or non-white in colour.”

There is little Canadian research that directly examines the impact of poverty on the health of low-income children from ethno-cultural groups, nor studies that explore how ethno-cultural status, and social and economic variables interact to influence child health.[30] Researchers studying the health of immigrant and refugee children have characterized the literature on the issue as being riddled with paradoxes; inconsistent results and unanswered questions.[35]

The health and developmental problems poverty engenders can impede children from developing to their full potential making it a key population health concern.

Despite the importance of healthy development, including the basic physical, cognitive, emotional, social, and communication skills developed in the first six years of life, most health research continues to focus on death, disease and disability outcomes.

Implications for public health

Research has clearly established that poverty matters when it comes to child health with potential consequences including low birth weight, poor physical health, emotional and behavioural challenges, school and cognitive difficulties, and obesity. The health and developmental problems poverty engenders can impede children from developing to their full potential making it a key population health concern. The role of public health is particularly important when health is viewed as more than the absence of disease, disability and injury, but as “a resource for everyday living” as defined by the World Health Organization.[36]

A variety of programs exist to address the deficits associated with child poverty. They include nutrition education and support, home visiting programs, training on parenting skills, early childhood intervention programs, and community-based physical activity programs. Some programs target low SES or ethno-racial groups within universal programs to prevent the stigma that may result from focused programs.

Public policy can have a far-reaching affect on alleviating the impact of child poverty. A review of Canadian and international approaches identified three key elements in effective policy: (1) income transfers, (2) parental attachment to the labour force that balances work and family life, and (3) programs and services that include low-income

families with children in society. Among international models, Sweden stands out as exemplary. Its policy interventions focus on these three areas by providing generous child benefits, child care and housing allowances; promoting employment, particularly for women and lone-parent families; and reducing income inequities through training, child care and parental leave. Efforts that address household income, rather than individual behaviours, appear to be most effective.

Actions to address low SES and child health should:

* be coordinated within and across governments, and involve sectors other than health including partnerships with the community and those affected
* use a strength-based approach to maximize healthy development and healthy functioning
* pay special attention to the cultural, linguistic and ethno-racial makeup of participants
* focus on early intervention, beginning pre-natally
* apply an integrated service approach bringing together public health with other social services.

As the voice for population health concerns, public health has a key leadership role to play in underlining the health impacts of poverty on children's and families' lives. In several jurisdictions in Canada, efforts are under way to create strategies and policies that focus on early child development, parental supports and broader policy levers related to income. Detailed evaluations of these initiatives will provide a foundation for building future interventions that have concrete and sustained effects.

Highlights

Who are Canada's Poor?

(2004 and 2005 statistics, Statistics Canada)

* Almost 8% of Canadian families (684,000 families) were poor.
* Almost 12% of Canadian children (or 788,000) were living in poverty.
* Just under half of all poor children live in female lone-parent families. They require, on average, $9400 in income just to bring them up to the poverty line.
* 49% of recent immigrant families live in poverty.
* 40% of off-reserve Aboriginal children live in poverty.
* 34% of children in visible minority families are poor.
* Quebec is the only province or territory where child poverty has consistently fallen over the past decade.

Campaign 2000 (2006). *Child Poverty in Ontario. Promises to Keep*. 2006 Report Card on Child Poverty in Ontario

How does poverty affect child health?

Potential consequences of child poverty include:

* Poor physical health as measured using "a combination of vision, hearing, speech, mobility, dexterity, cognition, emotion, pain, and discomfort."6
* Higher infant mortality – 6.5 of 1000 infants dying in their first year of life in the poorest fifth of Canadian urban neighbourhoods and 3.9 infants per 1000 in the richest fifth.
* The possibility of more emotional and behavioural challenges including aggression, anti-social behaviour, conduct problems, hyperactivity, and inattention.
* School and cognitive difficulties, with children of low SES less prepared for learning when they begin school, and poorer educational outcomes, including higher drop-out rates.
* Low birth weight, which leads to higher rates of mortality and illness; lower rates of growth; and more developmental problems and health-related limitations in life.
* Obesity levels are greater (25% among low-income children as compared to 16% in higher-income families).

What can be done?

Leadership on the part of public health can promote policies that greatly alleviate the impact of child poverty. Successful policies focus on:

* Income transfers, including generous child benefits and parental leave, and child care and housing allowances;
* Employment options that provide adequate income and balance work and family life, particularly for women and lone-parent families; and
* Programs and services that fully integrate low-income families with hildren into society.

Reference List

1 Shore, R. Rethinking the Brain: New Insights into Early Development. New York: Families and Work Institute. 1997

2 McCain, M. & Mustard, J.F. Early Years Study: Reversing the Real Brain Drain. Toronto, Ontario: Ontario Children's Secretariat; 1999.

3 Statistics Canada (2005). *Income in Canada*. Catalogue no. 75-202-XWE

4 Irwin LG, Siddiqi A, Hertzman C. Early Child Development: A Powerful Equalizer, Final Report for the World Health Organization's Commission on the Social Determinants of Health; 2007.

5 Phipps, S. The Impact of Poverty on Health: A Scan of Research Literature. From Poverty and Health, CPHI Collected Papers; 2003..

6 Ross, D.P., & Roberts, P. Income and Child Well Being. A New Perspective on the Poverty Debate. Ottawa, Ontario: Canadian Council on Social Development; 1999.

7 Wilkins, R., Houle, C., Berthelot, J.-M. & Ross, N.A. The changing health status of Canada's children. Canadian Journal of Policy Research. 2000). 1(2):57-63.

8 Tremblay, R.E., Boulerice, B., Foster, H., Romano, E., Hagan, J. & Swisher, R. Multi-Level Effects on Behaviour Outcomes in Canadian Children. Working Paper Series, W-01-2E; 2001.

9 McCain, M.N., Mustard, J.F. & Shanker, S. Early Years Study Two: Putting Science into Action. The Council for Early Childhood Development; 2007.

10 Schweinhart, L.J., & Weikart, D.P. The High/Scope Preschool Curriculum Comparison Study through Age 23. Early Childhood Research Quarterly. 12(2): 117-143; 1997.

11 Curtis, L. & Phipps, S. Economic Resources and Children's Health and Success at School: An analysis with the NLSCY. Applied Research Branch. Strategic Policy, Human Resources Development Canada. Working Paper W-01-1-4E; 2000.

12 Raudenbush, S.W., & Kasim, R. (1998). Cognitive skill and economic inequality: Findings from the National Adult Literacy Survey. *Harvard Educational Review.* Vol. 68(1): 33-79.

13 Brooks-Gunn, J. & Duncan, G.J. (1997). The effects of poverty on children. *Future Child*. Vol. 7(2): 55-71

14 Toronto Public Health (2006). Impact of Poverty on Children's Current and Future Health. Staff report. August 28, 2006.

15 Canadian Institutes for Health Information (2004). Improving the Health of Canadians. Ottawa: CIHI.

16 Kehrer, B. & Wolin, C. (1979). Impact of income maintenance on low birth weight: Evidence from the Gary Experiment. *Journal of Human Resources*, 14(4), 434-462.

17 Brownell, M., Martens, P., Kozyrskyj, A., Fergusson, P., Lerfald, J., Mayer, T., Derksen, S. & Friesen, D. Assessing the Health of Children in Manitoba: A Population-Based Study; 2001.

18 Bradley, R.H., & Corwyn, R.F. Socio-economic status and child development. Annual Review of Psychology. 2002; vol.53: 371-399.

19 Chen, J., Fair, M., Wilkins, R. & Cyr, M. (1998). Maternal education and fetal and infant mortality in Quebec. Health Rep. Vol. 10:53-64.

20 Seguin, L., Xu, Q., Potvin, L., Zunzunegui, M.V. & Frohlich, K.L. (2003). Effects of low income on infant health. CMAJ. Vol. 168(12): 1533-8.

21 Statistics Canada. National Longitudinal Survey of Children and Youth: Childhood obesity. The Daily, October 18, 2002.

22 Oliver, L.N. & Hayes, M.V. Neighbourhood Socio-Economic Status and the Prevalence of Overweight Canadian Children and Youth. Canadian Journal of Public Health 2005 96(6): 415-420.

23 Kohen, D.E., Brooks-Gunn, J., Leventhal, T. & Hertzman, C. Neighborhood income and physical and social disorder in Canada: associations with young children's competencies. Child Dev. Nov-Dec, Vol.73(6): 1844-60; 2002.

24 Boyle, M.H. & Lipman, E.L. Do places matter? Socio-economic disadvantage and behavioral problems of children in Canada. J Consult Clin Psychol. Vol.70(2): 378-89; 2002.

25 Hertzman, C., McLean, S.A., Kohen, D.E., Dunn, J. & Evans, T. Early Development in Vancouver: Report of the Community Asset Mapping Project (CAMP).Vancouver, BC: Human Early Learning Partnership, University of British Columbia, 2002.

26 Dougherty, G., Pless, I.B. & Wilkins, R. Social class and the occurrence of traffic injuries and deaths in urban children. Can J Public Health 1990 81: 204–9.

27 Durkin, M.S., Davidson, L.L., Kuhn, L., et al. Low-income neighborhoods and the risk of severe pediatric injury: a small-area analysis in northern Manhattan. Am J Public Health. 1994 84: 587–92

28 Faelker, T., Pickett, W. & , Brison, R.J. Socio-economic differences in childhood injury: a population based epidemiologic study in Ontario, Canada. Inj Prev. 2000 6(3): 203-8.

29 Haynes, R., Reading, R. & Gale, S. Household and neighbourhood risks for injury to 5-14 year old children. Soc Sci Med. 2003 57(4): 625-36.

30 Fauth, R.C., Leventhal, T. & Brooks-Gunn, J. Short-term effects of moving from public housing in poor to middle-class neighborhoods on low-income, minority adults' outcomes. Soc Sci Med. 2004 59(11): 2271-84.

31 Statistics Canada. Canada's Ethnocultural Portrait: The changing mosaic: Catalogue no. 96F0030XIE2001008; 2001.

32 Toronto Public Health. Impact of Poverty on the Health of Children from Racialized Groups. Staff report. April 10, 2007

33 Campaign 2000 (2006). Child Poverty in Ontario. Promises to Keep. 2006 Report Card on Child Poverty in Ontario.

34 Public Health Agency of Canada,The Chief Public Health Officer's Report on the State of Public Health in Canada 2008, available at http://www.phac-aspc.gc.ca/publicat/2008/cpho-aspc/index-eng.php (accessed October 10, 2008)

35 Beiser, M., Ogilvie, L., Rummens, J. A., Armstrong, R. & Martinez-Oxman, J. The New Canadian Children and Youth Study: Research to Fill a Gap in Canada's Children's Agenda. Canadian Issues / Thèmes Canadiens.2005; Spring, 21-24.

36 World Health Organization (2000). *Glossary*. Retrieved July 21, 2008 from http://www.who.int/health-systems-performance/docs/glossary.htm#health.