

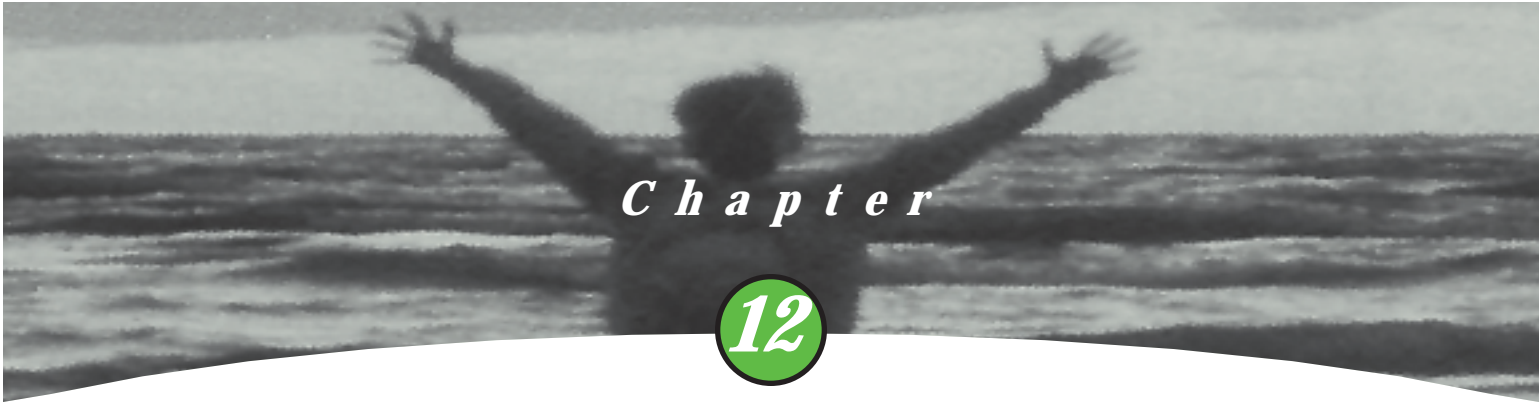


*Part*

**C**

# Challenges — Today and Tomorrow

*Part C addresses some of the key challenges Canada will face in the 21st century — many of which already call for action — as well as core requirements for addressing the challenges.*



## Chapter

# 12

## Challenges

### Overview

We all want the best for our children. However, in a changing world that is growing more and more complex, achieving this is neither predictable nor assured. Our children's world holds much promise: the United Nations Convention on the Rights of the Child, the electronic revolution, longer life expectancies, and access to the world through telecommunications and travel. At the same time, children in our society face the threat of exposure to environmental pollutants, violence, pressures of time and money, and an increasingly global economy that demands a highly skilled work force. Today, as in most generations, children at all income levels and in all ethnic groups face a combination of opportunities, stresses and threats that were inconceivable just 50 years ago.

The purpose of this section is twofold: to provide a summary of and stimulate thinking around trends selected from among those presented in the previous chapters that will likely affect the future of child health. Understanding the forces that shape young people's health involves a look at the determinants of health, including the physical, family, school, community and workplace environments, and the obstacles presented by poverty. As a starting point, several crosscutting issues will be considered: child development, the population health model, the inter-sectoral approach, decentralization, globalization, the Information Age, aging of the population, and children's perspectives. These issues are complex and far reaching; in fact, our understanding of the effects of some of these issues may take years to emerge.



Although most children grow up healthy, and numerous indicators of their well-being reveal many successes — including infant mortality rates that are at a record low and test scores in reading and science that are among the highest in the world — a number of other indicators paint a picture of shortcomings, such as increased violence and suicide among youth. The issues and problems related to the healthy development of children and youth are magnified for the Canadian Aboriginal population. Our grasp of the future of young people’s health needs to be grounded in an understanding of a wide range of influences or determinants that may support or compromise their health. This understanding is key to our being able to take action and make decisions that will lead to the improvement of the situation for Canada’s children and youth and their families.



## Overarching Issues for the 21st Century

### Child Development

Research shows that an adult's health is strongly linked to his or her early childhood experiences (Federal, Provincial and Territorial Advisory Committee on Population Health, 1998, p. 2). It follows, then, that getting off to a good start is critical to a child's general well-being. The two decades of transition from the helpless newborn baby to the independence of an adult are characterized by periods of enormous change. Each of these transitions can be viewed as windows of opportunity for influencing future development. It has long been acknowledged that early health promotion and protection reap benefits later on in a person's life. An extensive body of knowledge regarding child development is available which allows us to plan ways and means of influencing optimal development (Keating and Hertzman, 1999).

We are learning more and more about how the environment affects brain development. For instance, sophisticated scanning technologies are increasingly shaping our capacity to visualize the way the brain is "wired." This has shed new light on the vulnerability of brain development to environmental influences — it is more so than we ever suspected (Guy, 1997, p. 6). While heredity and genes do play a role, the subtle interplay between genes and the environment means that the developing brain of a fetus is susceptible to damage from environmental factors ranging from maternal malnutrition, drug abuse, toxic substances (alcohol and environmental tobacco smoke), metals, and chemicals (pesticides) to viral infections. We now know that the brain development that takes place from conception onward is more rapid and extensive than previously realized and the influence on later brain development is long lasting. Clearly, investment in early child development is critical as these experiences have a long-lasting impact and contribute to lifelong health. Healthy children who become healthy adolescents are likely to become healthy adults.

Children are often referred to as a homogenous group. However, the experience of growing up is immensely varied and individual and is punctuated with several sensitive and critical developmental phases (Federal, Provincial and Territorial Advisory Committee on Population Health, 1998). It is generally agreed that children's physical, emotional, intellectual, social and moral development is a gradual process that begins in the early years and continues well into adulthood (Guy, 1997). The period before birth and early childhood is referred to as "the investment phase" for healthy child development, and is marked by opportunities to build language skills, coping skills, a sense of self, and physical and mental health (Hertzman, 1994). The period between ages 6 and 18 is referred to as "the enhancement phase," during which physically, socially, intellectually, psychologically and emotionally young people develop their own values, attitudes, beliefs and behaviour patterns and strengthen their sense of identity. During this phase, intervention may be required if problems arise (Federal, Provincial and Territorial Advisory Committee on Population Health, 1998, p. 7). In addressing a child's health, it is important to be clear about the stages of growth and development attained by the child. To ignore the complex aspects of development would be a disservice to the child.



## Population Health

The idea of population health has come of age in the latter part of this century, and with it tremendous implications for the future of child health. Over the last decades there has been competition between those who believe that the resources and programs to achieve health should be allocated to medical care or to those at-risk and those who advocate for prevention and the promotion of optimal health for all. For example, there are those who strive to find the latest technology to cure a child with a disability, and those who work to promote a healthy environment for child development and to prevent the existence of children with disabilities. A good case in point is the improved survival of low birthweight infants, many of whom are born premature. Some argue that the survival of these infants is gained by means of expensive medical technologies and at the expense of efforts to prevent low birthweight (Miller, 1984).

The population health approach suggests that the health of our children cannot be achieved by concentrating on the health-care system alone, but must also be associated with changes in larger societal issues. The health of children is profoundly influenced not only by the health-care system but also by factors or determinants of health such as income and social status, social support networks or social environments, education, employment, physical environment, genetic endowment, coping skills, gender, culture, child development and individual health behaviour.

It is important to note that the population health model extends beyond the notion that individuals are responsible for their behaviour and health. Earlier concepts of health held this premise — it is our fault if we smoke, do not parent well, are under stress from work, or can't find a job. Although we are responsible for our deeds, influences upon our health are much more complex. For instance, one cannot blame a parent alone for allowing her/his children to have sweets and empty-calorie foods, while failing to hold accountable the supermarket for placing candies at the checkout counter, the advertiser for creating the demand, and the manufacturer for making the product. Similarly, we cannot hold a single parent solely responsible for the well-being of her/his children if she/he lives in a neighbourhood with no green spaces, no grocery store, limited public transportation and recreation facilities and overcrowded classrooms for her/his children.

According to the population health model, what allows a person to flourish and be healthy extends beyond individual behaviour and includes a wide range of societal determinants. Individual actions can be singled out, but there is a need to look past individual behaviour and broaden our approach to include all the other determinants of health discussed in this document.

Societal beliefs that the health-care system is the major contributor to determining healthy children are gradually changing. In fact, the whole concept of health is undergoing a rethinking. The perspective is shifting from viewing health as the absence of disease to a dynamic equilibrium created by a balance of the factors or determinants. However, in the current health system — which is based on the traditional medical model — the financing of health care and professional training still dominate. We need better balance in the system — with prevention playing a greater role — in order to achieve a truly comprehensive approach to addressing child health needs.



### An Inter-sectoral Approach

To address the health of children a broad, collective effort is required that involves multiple stakeholders from all sectors that deal with children. Children's health issues reach into every aspect of a child's life and, considering the vast domain of health determinants, the list of partners is extensive. These include, for example, parents and families, the school system, the judicial system, health and social agencies of provincial, federal and municipal governments, religious, recreational, child-serving and community organizations, and the business community. Many of these partners have not traditionally worked together and will need to overcome the challenges of different philosophies, different priorities and different constituencies.

### Decentralization

A discussion of children's health in the coming decade (or in any decade) must include political decisions. The impact on child health of decentralization of power to the provinces and in turn from the provinces to the municipalities is not clear; however, it is likely to weaken the federal government's ability to influence healthy child development. Also, the introduction of the Canada Health and Social Transfer (CHST) — a block transfer of money to the provinces for health, post-secondary education and social services — has been described as a threat to the health, development and future productivity of Canada's children and youth (Steinhauer, 1995). And while coping with the challenges of controlling deficits and eliminating debts, it will be difficult for agencies and municipalities to respond to social, health and educational demands. As devolution from the federal government continues, forcing provincial and municipal restructuring, the future of community and social services may remain uncertain. However, as deficits come under control and debts are reduced, governments at all levels may be able to strategically reinvest in key services to support the healthy development of children and youth and their families.

### Globalization

The trend towards globalization and free trade is likely to have many positive developments, such as increased educational and economic opportunities for the children of today. However, it will also generate new hazards to the health of children. One example is the increased availability of imported consumer products that have not passed certain standards designed to protect children from unsafe items. Examples include imported miniblinds (containing lead) and vinyl toys (containing phthalates). As our economy becomes more integrated into the global economy, consumer product protection for children and their special vulnerabilities must be provided consistently. Also, in a market-driven economy it will be important to ensure that the rights of children to protection, education and play are adequately respected, and that children in other countries are not exploited for economic reasons (Canadian Heritage, 1991).



## The Information and Communication Age

Advances in information communication offer numerous benefits including rapid communication and information retrieval. Technologies such as the computer and the Internet are transforming the way we live, work, learn and relate to others. Computers have markedly increased capacity to process and analyze data; however the capacity of the human mind to absorb and process this information has not changed.

Given the rapid permeation of computers into children's lives, both in and out of school, the possible impact of technology on children's health is not fully understood. Computers have the capacity to reshape the traditional nature of learning. As these tools become part of a child's life in public institutions, libraries and the home, we will need to develop a better understanding of the risks against which children must be protected. For example, advertising is increasingly targeted at children; the Internet may lead to increased exposure to pornography and sexual exploitation, hate literature and violence. New technologies will radically change the way children spend their leisure time, the way they learn and the way they communicate with others. Increased time in front of the computer may mean fewer hours of physical activity or less social interaction.

Also, these technologies have the potential to create a gap between families that are information poor and those that are information rich because children from poor families are less likely to have access to computers, E-mail and the Internet. However, increased availability and accessibility of computers in the school and the community may be able to compensate somewhat for this trend.

## The Aging Population

Due to increased life expectancy and a declining birth rate, the growing proportion of persons aged 65 or older in the Canadian population will have a profound effect on society and children. By the mid-21st century, it is predicted that seniors will outnumber children and youth, which may increase competition between the two groups for public funds. Societal beliefs view the needs of seniors as a collective responsibility that is shared by family and government, whereas the upbringing of children is seen as a private matter left to the family.

Perhaps concerns for children appear less prominent because seniors, unlike children, are a political force represented by lobbying groups. Unfortunately, concern for children and elders in our society quite often focuses on issues of separation and isolation. An inter-generational response is a good antidote to the tendency to segregate people by age. Bringing the generations together should be based on the values of equity and social justice and not on economic and political lobbying forces (Good, 1995).



**D**ue to increased life expectancy and a declining birth rate, the growing proportion of persons aged 65 or older in the Canadian population will have a profound effect on society and children. By the mid-21st century, it is predicted that seniors will outnumber children and youth.



## Children's Participation

Until recently, asking children what they will need in the future to become healthy adults has not been a priority. Children's views are infrequently sought and they rarely participate in the planning and development of policies and programs that address their needs. This oversight occurred because children traditionally have not been consulted even about matters that concern them and because children are among the most powerless of social groups (Mullen, 1981): they don't sit on influential committees, most of them cannot vote, they lack lobbying clout, and attempts to involve them as active participants are few.

But it is important to realize that children have insight into the behaviour of other children and see the world as other children see it (Mayall, 1997). In addition, they have views on what makes them healthy (Health Canada, 1993), and on what makes their communities, schools and streets safe and better places in which to live (Guerin, 1988).

Having signed (1989) and ratified (1991) the United Nations Convention on the Rights of the Child, a comprehensive international children's rights instrument, Canada agreed to provide children with the right to express their views and have their views considered, to recognize their capacity, motivation and ability and to encourage them to become active participants in our society (Canadian Heritage, 1991). In the coming years, a key goal is to encourage all sectors of society to be responsive to the views of children and youth and increase their meaningful participation in their communities and in the programs targeted at their health and well-being. The report *The Progress of Canada's Children* (CCSD, 1998a, p. 5) shows that more communities are attempting to find a way to involve youth in their communities in a meaningful manner when planning programs and services targeted at children and youth.



## Conditions and Trends

At the beginning of the 21st century, a logical vision for the future is to ensure that Canadian children and youth see an improvement in their health and well-being. Although this may sound fresh and innovative, valuing all children and youth in Canada and sharing responsibility for their healthy development is not a new concept (Health Canada, 1995; Federal, Provincial and Territorial Advisory Committee on Population Health, 1998). As in the past, a number of overarching issues may create barriers to realizing this vision, despite our best efforts. Collaborative efforts between various sectors remain critical to effecting this vision as we approach the millenium and grapple with a changing and increasingly complex world.

The following section serves to highlight some of the key trends contained within this document and to identify areas where collaborative efforts could be focused.





## Income and Social Status

### *Child and family poverty*

One child in five lives in poverty, and poverty rates among children and families have increased 60% since 1989 (Campaign 2000, 1998). Whether poverty is defined by income, occupation, social class or education, there is a direct link between those factors and youth and child health and development (Hertzman, 1999). The poverty literature is replete with statistics linking poverty to greater risk of health problems, disability and death (CICH, 1994; Vanderpool and Richmond, 1990; Evans and Stoddart, 1990). Children who grow up in poverty are often less likely to be able to learn, are more likely to be rated as performing at a lower level by teachers, and are more likely to drop out of school, have conduct disorders, emotional problems, trouble with the law, and engage in risk-taking behaviour. In fact, poverty is recognized as the single most significant determinant of health status of children (Evans and Stoddart, 1990).

*Conclusion: Child poverty impacts on the present and future health and well-being of children and their families. Children are poor because their parents are poor. Therefore, efforts that support adequate income, employment opportunities, appropriate training and/or post-secondary educational opportunities, and accessible and comprehensive health and social programs will be essential to promoting the healthy development of children. Addressing child poverty will be a key challenge in the 21st century.*

### *Income distribution*

In a similar way, the health and well-being of a population is determined by the way society distributes its wealth. The way in which income and wealth are distributed in Canada is far from equitable. There has been a trend of growing inequalities between high- and low-income earners in Canada (Statistics Canada, 1997). The population health literature shows that the populations of countries in which the gap between the rich and the poor is smaller have longer life expectancies (Evans, Barer and Marmor, 1994). Conversely, countries with wider social inequalities have a less healthy population. Studies in industrialized countries show that mortality rates for children are related not only to poverty but also to widening social inequalities in wealth (Krieger, Williams and Moss, 1997).

*Conclusion: In order to promote the optimal healthy development of Canadian children and their families, initiatives will be needed to redress the income inequalities between high- and low-income families.*



### *Housing and food security*

Although most Canadian families live in housing that is suitable, safe and affordable, and have access to a secure food supply, there remain issues of concern. Housing and food security are particularly fragile for Aboriginal populations, particularly for those living on reserve. In general, low-income families continue to spend a significantly higher percentage of their total expenditures on both food and housing than high-income families. Almost 1 in 10 households is unable to find housing that meets or exceeds national standards (CMHC, 1993). In 1995, approximately 900,000 children received foods from one of approximately 460 food banks across the country (Canadian Dietetic Association, 1996).

*Conclusion: The availability and accessibility of adequate, safe, secure and affordable housing, in addition to a safe and nutritious food supply for all Canadian families are essential elements to fostering healthy child development.*

## Employment and Work Environment

### *Parents' labour force participation*

Paid employment is central to our society. Increasingly, though, people with children are likely to find themselves engaged in part-time employment, typically characterized by low wages, few benefits and high insecurity. Unemployment rates are likely to stay relatively high as the Canadian economy continues to experience tough competition for low-skilled jobs in the world market. Continued economic uncertainty will likely be detrimental to the health of children and their family members and may contribute to poorer physical and mental health as well as increased drinking, aggression, divorce and child abuse (Dooley, Fielding and Levi, 1996).

*Conclusion: Availability of stable, adequately paid employment with adequate benefits for Canadian families and availability and accessibility to appropriate education and training opportunities for future employment will be a major challenge for the next century. Providing accessible supports to those outside of the labour market will be important in supporting families in the task of raising healthy, socially engaged children.*

### *Working and parenting*

An important change in Canadian family life relates to the amount of time parents spend in the workplace. Today, families frequently need two incomes to survive, which has led to an increase in women's participation in the work force. According to the most recent statistics, more than two thirds of women with preschool children were working outside the home, as were more than three quarters of the mothers of school-age children (Gunderson, 1998). Over the last decade, these figures have not levelled off and will likely continue to increase. Families in which both parents work are facing stresses, fatigue and the double burden of balancing job and family responsibilities. These difficulties are disproportionately experienced by women.



The response to date of government, business and communities to the need for child-care services has been slow (Paris, 1989). While the federal government has considered expansion of child-care spaces, pending agreement from the provinces, there is no national child-care program. If the lack of support from the governmental, private and public sectors continues, fewer children will receive the appropriate support, nurturing and stimulation they require during the earliest and most critical years of their development and will lack the foundation for later school and work success.

*Conclusion: Since it is likely that the majority of Canadian families will continue to have both parents working in the 21st century, parents, and particularly women, will need a supportive environment in order to have healthy, well developed families. Efforts will need to be directed to overcoming the parental “time-crunch” by promoting more flexible and balanced, family friendly work places and by developing a variety of quality child-care services and family resource programs accessible to all.*

### **Youth employment**

The unemployment rate is much higher among the youth population than the general population. Unemployment is most noticeable among young people who do not complete secondary school, and is particularly problematic for young female high school drop-outs (Human Resources Development Canada and Statistics Canada, 1996). A clear link has been established between higher education and employment. Individuals who attain post-secondary education are more likely to obtain higher paying and secure jobs, which may also improve their chances of more positive health outcomes.

Youth participation in the work force is at its lowest point in 25 years; youth employment rates are affected by business cycles and structural changes in the economy. Given the economy of the 1990s, young people express discouragement about employment opportunities and are acutely aware of the importance of education and adequate skill development in preparing for future success. While students who work more than 15 to 20 hours per week are at increased risk of poor school performance and unhealthy lifestyles, those who work a moderate number of hours per week or who work only summer jobs seem to flourish (CCSD, 1998b). There is concern that, increasingly, teens have fewer opportunities to acquire job skills, to earn their own spending money, or to earn funds for their post-secondary studies. On the positive side, volunteer rates among teens and young adults have increased dramatically over the last 10 years, providing many with job-like experience (CCSD, 1998b).

*Conclusion: Since youth employment develops employability skills and experience for future employment, the availability and accessibility of entry level jobs on a part-time and short-term basis will continue to be critical for their future employment prospects. Creating supportive links among the education communities, workplaces and community organizations may help give youth greater opportunities to gain both work experience and contribute to their community. In addition, opportunities for young people to return to the formal education system in order to complete, upgrade or change the direction of their education will continue to be important for improving future prospects for their health and well-being and that of their families.*



## Education

Education provides one of the best paths to increase a person's chances of achieving full participation in society and increased economic security, and of gaining meaningful and adequate employment.

The trend toward a knowledge-based economy will have a decisive influence on the need for higher education. Without this higher education, the future success of the young will be compromised and some groups will be left behind. Aboriginal people and people raised in a low-income family are at increased risk of lagging behind. Although Aboriginal children have experienced substantial gains in their education, they still experience inequalities compared with non-Aboriginal students (Statistics Canada, 1993).

### *School readiness*

The first years of life are vital. Early childhood is a critical time to acquire the basic language, intellectual, interpersonal, and social skills that will determine the well-being of a child and determine adult competence. While most children who enter school are ready to learn, some children, such as those living in poverty, are less well equipped. Likewise, while most children arrive at school ready to learn every day, those who are hungry, tired, afraid, or stressed over family, personal, school or financial problems will often have difficulty concentrating and learning.

Early and preschool learning opportunities should be encouraged and effective programs extended to equip children with basic learning skills, self-esteem, and social abilities before school entry. Investing in preventive and remedial measures for children in early life is more effective than measures introduced in adulthood.

*Conclusion: Since school readiness is an indicator of future school achievement, employment status and subsequent socioeconomic level, measures will be needed to ensure that all children have the opportunity to participate in stimulating early and pre-school learning activities. Early identification, intervention and remediation initiatives are required for children and youth with school and learning-related problems to address challenges and ensure healthy development.*

### *Staying in school*

Staying in school is a good passport for life and more and more children are choosing to do so. Early school leaving has declined over the past few decades suggesting that today's youth will be more employable and better able to meet both their needs and those of the global market (Normand, 1995). Unfortunately, given the steady increase in tuition fees of higher learning institutions, many of these young people may not be able to continue their post-secondary studies. In addition, the reduction in student grants in favour of loans means that those who decide to pursue higher education will also accumulate a substantial debt after the completion of their degree.



*Conclusion: Since educational attainment, employment and socioeconomic status are such closely interrelated determinants of health, availability of and equitable access to educational institutions will continue to be critical for the future health and well-being of Canada's children and their families. Children from some population groups, such as Aboriginal children, those from low-income groups or immigrant groups, may need extra support to be able to stay in school.*

## Social Environment

Family health and well-being are at the heart of healthy child development. The love and affection parents give their children in the early years will often have a great impact on a child's developmental outcome. Similarly, early intellectual stimulation such as being spoken to and read to will influence a child's learning abilities and language skills. Children who have someone to play with are less likely to have difficulty adjusting socially. Whatever parenting approach is employed, children need love and consistent attention from their parents. Children whose parents participate in their development (attend school performances, help with homework, attend sports events) tend to have higher scholastic achievement, higher aspirations, and more positive relationships with teachers (CCSD, 1997).

### *Family environment*

Remarkable social and demographic changes have transformed the family. While the dominant family structure still consists of a married couple with children, and most children live in families with married parents, an increasing number of children live with one parent and more families are breaking up or being reconstituted. Over the last three decades, Canada's divorce rate has increased more than fivefold. These rates will continue to increase if the patterns observed in other countries occur in Canada (Richardson, 1996). For instance, approximately 30% of Canadian marriages end in divorce, compared with about 44% of American marriages (Dumas, 1997).

Child development literature is replete with evidence that the family environment is a key influence on a child's health and well-being and that parental love and attention, stability and consistency in the home are tremendously important in determining what happens to a child. Parental break-ups impact on the family — how members relate to each other, and how parents cope with the developmental, educational and recreational needs of their children. Although most children of divorced parents show normal patterns of growth and development, for some children, the experience will undermine their development. It seems that, as a group, children of divorced parents have more problems with respect to mental health, self-esteem, school performance and confidence in their future performance compared with children who come from intact homes



**C**hildren whose parents participate in their development (attend school performances, help with homework, attend sports events) tend to have higher scholastic achievement, higher aspirations, and more positive relationships with teachers.



or live with a widowed parent (McClosky, 1997). Divorced fathers can lose contact with their children; research in this field shows that when fathers are absent, their children can experience a considerable range of effects such as dropping out of school, becoming a teen mother, or experiencing long-lasting feelings of betrayal, rejection, rage, guilt, and pain that can lead to depression and suicide (Hewlett and West, 1998). Rising divorce rates and family breakdowns may lead to instability among those children at risk of poor adjustment.

*Conclusion: Strengthening and supporting various family formations in their child-raising roles will continue to be a key challenge. School and community-based programs that offer information on parenting, child development and support services available, as well as early intervention programs, will remain essential. Moreover, initiatives that affirm that parenting is not the sole responsibility of families, but also a societal responsibility, will become more important.*

### **Family violence**

Child abuse and neglect, emotional abuse and sexual abuse are manifestations of violence against children. While national data are not currently available, measures are under way to establish a better estimate of incidence (Phaneuf and Tonmyr, 1998). A recent study suggests that current statistics probably underestimate the true level of sexual abuse suffered by children in Canada (Holmes and Slap, 1998). It is estimated that violent behaviour against children is high and the rates are likely to increase if children grow up in situations that involve poverty, inadequate housing, dysfunctional families, substance abuse, and pervasive violence in the schools and on television.

*Conclusion: Reducing violence against children through community awareness and prevention programs will remain a key challenge in the new millennium. Some positive steps in addressing violence for those in greatest need could be community-based parenting programs and home visiting programs that focus on positive parenting skills and socialization in early childhood. In addition, conflict resolution, violence prevention and social skills development programs, along with community supports, could help children and families at risk of violence develop in a healthier manner.*

## Natural and Built Environments

### **Exposure to chemical and biological hazards**

The effect of environmental contaminants on children's health is attracting more and more attention. Environmental issues are increasingly gaining public attention, scrutiny and active participation (International Joint Commission, 1997; Slovic et al., 1993). While there is recognition that children are at special risk compared with adults, testing for the effects of chemicals upon children is still in the early stages (Committee on Pesticides, 1993).



Environmental health threats to children include contaminants in the ambient and indoor air, food, water and soil. The following are examples of these contaminants: second-hand smoke, biological contaminants such as moulds and house dust mites, heavy metals such as lead, and chemicals such as pesticides and PCBs. Children exposed to such contaminants may be at greater risk of health problems including respiratory diseases and asthma, behavioural and learning problems, and delayed development (Committee on Health, Safety and Food, 1997).

*Conclusion: Governmental standards to control and monitor pollutants in air, water, food and the built environment need to be developed and set with the enhanced vulnerability of children in mind.*

*Information programs for parents which stress the importance of a healthy indoor environment and the need to reduce exposure in the home to second-hand smoke, chemicals and biological allergens from dust, pets, pests or moulds need to be available and accessible to all Canadian parents, including those with low literacy skills and disabilities. Regulations, standards and policies in place for other public spaces such as schools, recreation facilities, transportation facilities, parks and playgrounds will need to be enhanced, monitored and enforced.*

### **Unintentional injuries**

The built environment, which includes the home, schools, parks, playgrounds and playing fields, carries a significant risk of occurrence of injuries for children. Definite improvements have been made regarding injury death and hospitalization rates compared with prior years. Nevertheless, injuries, including those resulting from falls, drownings and traffic accidents are the leading cause of death among children above the age of 1 (CICH, 1994). Injury deaths should be thought of as the tip of the “injury iceberg”; although they represent only a small portion of total injury-related outcomes, they are the most obvious and perhaps most dramatic consequence of injury; the majority of the iceberg, however, is the less obvious, submerged portion — the non-fatal injuries, which result in higher health-care and personal costs (Angus et al., 1998).

An important risk factor that contributes to childhood injuries is poverty. Children who are poor are at higher risk of injury because they typically are exposed to a more hazardous environment (e.g. living in firetrap houses, playing in the streets) (Rivara, 1994). There are dangers that widening income gaps and deepening child poverty in Canada may be associated with increasing rates of injury.

Most injuries can be prevented and success in injury prevention has been noted (Health Canada, 1997). However, there is an unfinished agenda and the problem remains of epidemic proportion.

*Conclusion: Since more unintentional injuries occur at home than anywhere else, particularly for very young children, increased governmental regulation to enhance the safety of products and toys found in households and increased parental awareness of safety at home are needed. Outside the home, promoting safety standards in schools, parks, playgrounds, in traffic areas and other spaces where children live and play is equally important. Educating children and youth about traffic safety, from an early age, may further decrease traffic-related injuries.*



## Personal Health Practices

Positive, health-promoting behaviours are a major determinant of child and youth health and are also important for the future health of our children as adults. Many disabilities and chronic health problems of adults can be traced to negative health behaviours entrenched during childhood and adolescence (Committee on Health, Safety and Food, 1997). Adolescence is the period most likely associated with the onset of smoking, alcohol and drug consumption, early and/or unprotected sexual intercourse, and a more sedentary lifestyle.

### *Smoking in childhood and adolescence*

The total number of Canadians who smoke has decreased since 1981 (Statistics Canada, 1995). While the prevalence of smoking has been declining in the adult population, it has been increasing in the teenage population (Statistics Canada, 1995). In recent years, the incidence of smoking among women aged 15–19 increased, from 18% in 1990 to 21% in 1998 (King, Boyce and King, 1999).

Unfortunately, despite many efforts to restrict youth access to tobacco, peer disapproval of cigarette smoking and the proportion of students who see smoking as dangerous have both declined (Forster and Wolfson, 1998). The tobacco industry continues to advertise in magazines and to glamorize tobacco use through the popular culture, sports and films. We may expect to see a continued increase in smoking rates among youth as long as government initiatives lack effective enforcement. As a result, over the long term, lives lost to heart disease, low birthweight babies, and asthma rates will likely continue to increase or remain steady.

*Conclusion: Efforts to prevent smoking among pregnant women, and children and youth — in particular teenage girls — will require a comprehensive approach involving all levels of government from all relevant sectors, including families, schools, the business community, community organizations and youth themselves. While government initiatives such as setting and enforcing age limits for purchasing tobacco products, preventing young people from being exposed to all forms of tobacco advertising, and increasing the price of tobacco to discourage young people from smoking are of key importance, these initiatives need to include not only policies and legislation, but the whole continuum of policies and programs from health promotion and primary prevention programs to cessation and the enforcement of current regulations.*

### *Early and unprotected sex*

Major changes in the sexual behaviours of adolescents have occurred over the past several decades. Sexual activity is occurring at younger ages. The average age of the initiation of sexual activity is now below age 13. It is estimated that 12% of young women have engaged in sexual intercourse at least once before the age of 15. The figure increases to 83% of young women (those aged 15 to 19) who report having had one sexual partner in the past year (CICH, 1994). It is estimated that more than half of young people use a condom the first time they have sex (Otis 1995, as cited in Godin and Michaud, 1998). But it is somewhat alarming that the majority of young women do not use a condom





(Galambos and Tilton-Weaver, 1998); moreover, one in four women between 12 and 14 years of age who are sexually active use no form of birth control, increasing the risk of pregnancy (CICH, 1994).

*Conclusion: Efforts to address the impact of early onset of sexual activity and unprotected sex include adequate, age appropriate sex and reproductive health education that is both biologically and skills based. It is important to provide accessible information about methods of contraception that is adapted to promote healthy adolescent development. It is equally important to focus on the various social and emotional aspects of a sexual relationship such as communications and mutual respect and understanding.*

### Teenage pregnancy

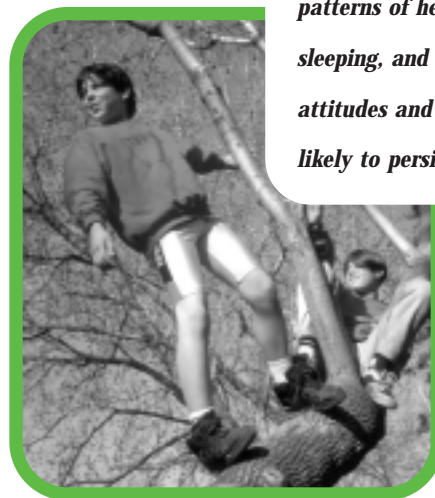
Although the teenage pregnancy rate in Canada is lower than it was 20 years ago, the rate has remained relatively stable since the 1980s (CICH, 1994). Of concern, however, is that the rate in Canada continues to be higher than that of many other industrialized countries (CICH, 1994). This is cause for concern given its association with adverse social, economic and health outcomes. For example, a teenage mother is less likely to seek prenatal care (the absence of which may lead to adverse birth outcomes) and is more likely to drop out of high school and live in poverty.

In addition, the reproductive health needs of adolescents as a group have been largely ignored. For example, young women may be reluctant to seek birth control due to the stigma of promiscuity associated with contraceptive preparedness. Moreover, accessibility to birth control is sometimes restricted if the physician must obtain consent from the young woman's parent or guardian to prescribe contraceptives.

*Conclusion: Young people need to be educated about healthy sexuality and the biological, physiological, social, emotional and economic risks associated with pregnancy during adolescence. In addition, it is essential to provide a range of education and support services to teenage mothers before, during and after the child is born to assure optimal child development.*

### Physical activity in childhood and adolescence

The relationship between regular physical activity and positive health outcomes is well established (Simons-Morton et al., 1988). Regular exercise protects against a number of chronic diseases. In addition, physical activity during childhood regulates weight, increases self-esteem, knowledge, influences patterns of healthy eating and sleeping, and helps establish positive attitudes and behaviours that are likely to persist into adulthood (Simons-Morton et al., 1988).



**P**hysical activity during childhood regulates weight, increases self-esteem, knowledge, influences patterns of healthy eating and sleeping, and helps establish positive attitudes and behaviours that are likely to persist into adulthood.



It is generally accepted that physical education programs within the school curriculum help children learn, value and develop an interest in physical activity. Unfortunately, current cuts in physical education and increases in user fees for community programs will likely impact negatively on the risk of chronic illnesses such as cardiovascular diseases, and affect the risk of short-term outcomes such as obesity and poor self-esteem.

*Conclusion: Efforts need to be directed toward the development and implementation of strategies that encourage children at a very young age and their adult role models to adopt a physically active lifestyle and maintain that lifestyle throughout their development. Families need to have affordable activities available and accessible within their communities in order to encourage participation in regular physical activity. In addition, relevant and interesting physical activities need to be available and accessible to young people throughout their development, even through the adolescent years. At minimum, quality daily physical education at primary and secondary schools needs to be maintained.*

## Individual Capacity and Coping Skills

### *Mental well-being*

Health threats to children have changed dramatically over the past 50 years. We have traded the biological concerns such as infectious diseases for “quiet conditions” that do not rush children to the emergency departments. Once dismissed as a parental responsibility, mental well-being problems include behaviour problems, learning disabilities, and depression/suicide (Vanderpool and Richmond, 1990). Mental disorders are inextricably linked to a range of disruptive determinants such as family distress and dysfunction, lack of social supports, economic insecurity, and poor parenting.

Most Canadian children are free of psychiatric disorders. However, an estimate of the magnitude of mental health problems suggests that about one in every five children has an emotional or behavioural problem as well as feelings of depression and sadness, and it seems the problems are getting worse (Offord et al., 1992). These health concerns are likely to need greater attention through the next decade. Moreover, once identified, these problems are poorly treated in the current health-care system; it is not designed to serve children’s complex health needs and rarely includes developmentally appropriate and comprehensive interventions that emphasize community-based prevention strategies (Halfon, Inkelas and Wood, 1995).

*Conclusion: Addressing children’s mental health will be a major challenge in the next decade. Rates of mental health problems seem to be increasing significantly; therefore there is a need for efforts to be directed toward the development and implementation of community-based mental health promotion and primary prevention strategies and programs that address family functioning, child socialization, parenting skills, effective life skills and support to high-risk families who experience multiple environmental stresses. In addition, it is essential that there are sufficient resources to provide the needed services to prevent, detect and treat mental health problems in the school and in the social and health-care systems.*



## Suicide

Many youth and children manage to navigate adolescence with relative success. For others, adolescence is a time characterized by low self-esteem, lack of confidence, loneliness and, for some, depression. *The Health of Canada's Children: A CICH Profile* (CICH, 1994) reported that depression or the percentage of those reporting that they felt depressed once a week or more was widespread and varied considerably by gender and age. Many children have mental health problems that have been identified clinically. They report feelings of stress, low self-esteem, unhappiness with their body, and loneliness. Deaths from suicide are increasing and the rate of attempted suicide is estimated to be 10 to 100 times higher than for completed suicides (Federal/Provincial/Territorial Committee on Population Health, 1996; Dyck, Mishara and White, 1998). Of particular concern are persistently high rates of suicide among young men and Aboriginal youth — they are nearly five times higher than the national average (Health Canada, 1997). These rates are a clear indicator of distress experienced by youth today.

The number of reported suicides likely represent the tip of the iceberg; suicide deaths are currently under-reported due to a tendency to group them under accidental deaths or deaths due to unknown causes. To prevent increases in suicide, depression or other manifestation of adolescent turmoil, appropriate measures must be taken. One example of stress experienced by youth is the increasing uncertainty that their education will someday lead to employment. Youth need to be given the opportunity to be included in the real world beyond the school. Some of them can vote, they can drive, yet there are few opportunities to actively participate in community activities with adults (Ontario Premier's Council on Health, 1997).

*Conclusion: Measures need to be developed that would train professionals and individuals who work with children and youth in both the identification of young people with mental and emotional health problems and their referral to appropriate programs and services. Concomitantly, efforts will need to be made to provide accessible and relevant interventions that can reduce mental health problems and suicide among youth, particularly in groups at high risk such as young men and Aboriginal peoples. Youth need to be involved in planning and developing these services, interventions and supports in the settings where they live, learn, work and play.*

## Biology and Genetic Factors

Biological and genetic factors continue to increase in importance partly because of vast improvements in medical sciences and partly because of the remarkable progress in molecular biology, both of which have revolutionized our knowledge about genetics. Improved knowledge and technology has meant that more children survive with chronic disabilities such as cystic fibrosis, muscular dystrophy and cerebral palsy. The number and level of services required to address the needs of these children and their families will likely increase as they seek to live normal lives. Consequently, there may be an increased demand for society to create an environment that is as integrated and stimulating as possible to help families support the optimal development of their children.



In addition, improved knowledge of early fetal and infant development is likely to lead us toward identifying more and more genetic and biological links with developmental disabilities. Accordingly, we need to set safeguards against the potential dangers of genetic screening and genetic therapy. Possible concerns include freedom of choice of the individual and privacy. The ethical and legal aspects of confidentiality should be addressed because genetic information is not only an individual matter — it is also a family concern.

*Conclusion: There will be a need to consult on and develop safeguards against the potential dangers of genetic screening and genetic therapy which are accepted within society and address possible concerns, such as freedom of choice and privacy as well as the ethical and legal aspects of confidentiality. In addition, the demand for services required to address the needs of these children and their families will likely increase as they seek to live normal lives and participate in society.*

### Health Services and Social Services

In Canada, the management and delivery of health and social services is the responsibility of each province or territory. The federal government's role in these sectors involves the setting and administration of national standards for the health system (e.g. the *Canada Health Act*), assisting in the financing of provincial and territorial health and social services through fiscal transfers (e.g. the Canada Health and Social Transfer), fulfilling other functions for which it is constitutionally responsible, and participating in other health-related functions such as health protection, health promotion and disease prevention.

Canada's health and social service systems provide a wide range of services that are designed to promote and maintain health. However, both systems will continue to experience a wide range of challenges, including economic restrictions and changing federal/provincial/territorial demands, as the trend towards a coordinated, multi-sectoral approach in addressing children's health and well-being is adopted. As services are increasingly centralized, children and youth and their families will hopefully be treated more as a complete family unit or as a complete person, rather than compartmentalizing them according to a specific desired service. In doing so, these sectors will need to agree on definitions of shared problems, define the process of working together, and develop multi-skilled service providers. More importantly, as systems of service delivery become more integrated during the restructuring process, mechanisms through which to monitor the efficiency and effectiveness of these newly configured systems will need to be established and the results reported to the public.

*Conclusion: Ultimately, our health and social service systems must make a difference at the front line of service delivery and support the healthy development of all children and youth in Canada and their families. Measures need to be promoted that encourage and ensure collaboration among the many sectors addressing the needs of children and their families in an integrated, holistic manner.*



## Culture

Culture is an important, though often ignored, determinant of health. Influences ranging from barriers to needed services and loss or devaluation of language and culture to racism and discrimination have direct impacts on health outcomes; these have been outlined in Chapter 11. What is apparent upon review of this chapter is the lack of available information regarding cultural impacts on health outcomes. Given Canada's increasingly diverse population, cultural influences on health will remain an important consideration for practitioners, researchers and policy makers within many sectors.

*Conclusion: Canada's challenge in the future will be to ensure that culture, as a determinant of health, receives equal consideration beside other determining influences. An important first step requires that adequate data and information be collected and made available. This will allow us to broaden our understanding of cultural influences on health outcomes and take appropriate actions toward maintaining and improving health outcomes for all children and youth in Canada. All those working with children, young people and their families need to be aware of their own cultural values and beliefs, and be conscious of and open to learning about, understanding and accepting those of the families with whom they work.*

## Gender

Developing a gender identity is a very complex process, which begins in the womb and evolves throughout childhood. Although a person's sex is biologically determined and hormonally regulated, his or her concept of gender and gender roles is influenced through the interaction of peers, parents, media and other socio-cultural factors.

### *Behaviour*

It may be that the gender roles we communicate to young people are in themselves a source of stress. For example, social expectations about "male" behaviour include aggression and risk taking, both of which are evidenced in drinking and driving; deviant behaviour is seen as "manly."

### *Body image*

A similar case could be argued for the pressure to be feminine and "beautifully thin"; hence the prevalence of anorexia and depression (Tipper, 1997). Society's obsession with weight and appearance and the value society places on female thinness — a value which is confirmed by the appearance of ultra-thin models and actresses on television, the fashion industry, and a barrage of diet commercials — is very powerful. Eating disorders have become a common problem in some industrialized countries. In Canada, it is unclear exactly what percentage of young women suffer from these disorders. It is known, however, that 41% of 13-year-old girls and 44% of 15-year-old girls felt that they needed to lose weight or were dieting to lose weight (King, Boyce and King, 1999). Once considered rare, eating disorders such as overeating,



bulimia and anorexia nervosa are likely to continue to increase as long as the media continue to promote thinness as a desired state and society accepts the message.

*Conclusion: Measures need to be adopted at all ages and stages of development and by all those working with children and young people to encourage them to develop a positive, healthy sense of self and healthy attitudes about their bodies. Young people need to be encouraged to critically examine the gender roles and stereotypes of their culture groups, society in general and the settings in which they function daily such as family, school, media, work and recreation.*

### Looking Ahead

It is important to recognize that children determine neither the circumstances of their birth nor the environments in which they grow up. With this in mind, it is important to realize that the determinants of health described in this report shape children's health, health beliefs and their behaviour. One of the most effective ways to promote healthy child development is through the support of entire communities.

The challenges were introduced with a number of overarching issues that raise important policy and research issues as we address child health in the next century. Other future challenges can be seen by examining the trends noted across the entire range of determinants. Health, according to the determinants of health framework, is determined by the complex interaction of individual characteristics, social and economic factors and the physical environment. Strategies to improve the health of children must therefore address all the determinants of health. There is increasing recognition that improving health is a collective responsibility that requires a broad, coordinated approach to children's policy issues.



### References

- Angus, D.A., et al. (1998). *The Economic Burden of Unintentional Injury in Canada*. Toronto: Smart Risk.
- Campaign 2000 (1998). *Child Poverty in Canada: National Report Card 1998*. Toronto: Family Service Association.
- Canada Mortgage and Housing Corporation (1993). *Research and Development Highlights*, Issue 12.
- Canadian Council on Social Development (1997). *The Progress of Canada's Children — 1997*. Ottawa: Canadian Council on Social Development.
- Canadian Council on Social Development (1998a). *The Progress of Canada's Children — 1998*. Ottawa: Canadian Council on Social Development.
- Canadian Council on Social Development (1998b). *Youth at Work in Canada: A Research Report*. Ottawa: Canadian Council on Social Development.
- Canadian Dietetic Association, Joint Steering Committee Responsible for Development of a National Nutrition Plan for Canada (1996). *Nutrition for Health: An Agenda for Action*. Toronto: Canadian Dietetic Association.



- Canadian Heritage (1991). *Convention on the Rights of the Child*. Catalogue No. S2-210/1991E. Ottawa: Canadian Heritage.
- Canadian Institute of Child Health (1994). *The Health of Canada's Children: A CICH Profile*, 2nd edition. Ottawa: Canadian Institute of Child Health.
- Committee on Health, Safety and Food (1997). *Investing in Our Future. A National Research Initiative for America's Children for the 21st Century*. Washington, DC: Science Division, Office of Science and Technology Policy.
- Committee on Pesticides (1993). *Pesticides in the Diet of Infants and Children*. Washington, DC: National Academic Press.
- Dooley, D., J. Fielding and L. Levi (1996). "Health and Unemployment." *Annual Review of Public Health*, Vol. 17: 449–465.
- Dumas, J. (1997). "Marriage and Divorce in Canada: What the Statistics Can and Cannot Tell Us." *Transition*, Vol. 27: 9–11.
- Dyck, R.J., B.L. Mishara and J. White (1998). "Suicide in Children, Adolescents and Seniors: Key Findings and Policy Implications." In *Canada Health Action: Building on the Legacy — Vol. 3, Settings and Issues*. Ottawa: National Forum on Health, Health Canada, pp. 331–368.
- Evans, R.G., M.L. Barer and T.R. Marmor (eds.) (1994). *Why are Some People Healthy and Others Not? The Determinants of Health of Populations*. Hawthorne, NY: Aldine de Gruyter.
- Evans, R.G., and G. Stoddart (1990). "Producing Health: Consuming Health Care." *Social Science and Medicine*, Vol. 31: 1347–1363.
- Federal, Provincial and Territorial Advisory Committee on Population Health (1998). *Building a National Strategy for Healthy Child Development*. Ottawa: Health Canada.
- Federal/Provincial/Territorial Advisory Committee on Population Health (1996). *Report on the Health of Canadians: Technical Appendix*. Catalogue No. H39-385/1-1996E. Ottawa: Health Canada.
- Forster, J.L., and M. Wolfson (1998). "Youth Access to Tobacco: Policies and Politics." *Annual Review of Public Health*, Vol. 19: 203–235.
- Galambos, N.L., and L.C. Tilton-Weaver (1998). "Multiple Risk Behaviour in Adolescents and Young Adults." *Health Reports*, Vol. 10(2): 9–20. Catalogue No. 82-003-XPB. Ottawa: Statistics Canada.
- Good, G. (1995). *Intergenerational Programming in Canada: A Situational Review*. Prepared for the Canadian Institute of Child Health by the Children's Bureau, Health Canada. Ottawa: Canadian Institute of Child Health.
- Guerin, D. (1988). "La santé en tenue de ville." *Santé et Société*, Vol. 10: 18–20.
- Gunderson, M. (1998). *Women and the Canadian Labour Market: Transitions Toward the Future*. Catalogue No. 96-321-MPE, No. 2. Ottawa: Statistics Canada.
- Guy, K.A. (ed.) (1997). *Our Promise to Children*. Ottawa: Canadian Institute of Child Health.
- Halfon, N., M. Inkelas and D. Wood (1995). "Nonfinancial Barriers to Care for Children and Youth." *Annual Review of Public Health*, Vol. 16: 447–472.
- Health Canada (1993). *Kids Talk and Videotape*. Ottawa: Family and Child Health Unit, Health Canada.
- Health Canada (1995). *Turning Points: Canadians from Coast to Coast Set a New Course for Healthy Child and Youth Development*. Catalogue No. H21-125/1995E. Ottawa: Health Canada.
- Health Canada (1997). *For the Safety of Children and Youth: From Injury Data to Preventive Measures*. Catalogue No. H39-412/1997E. Ottawa: Health Canada.
- Hertzman, C. (1994). "The Lifelong Impact of Childhood Experiences: A Population Health Experience." *Daedalus*, Vol. 123: 167–180.



- Hertzman, C. (1999). "Population Health and Human Development." In *Developmental Health: The Wealth of Nations in the Information Age*. Edited by D. Keating and C. Hertzman. New York: Guilford Press.
- Hewlett, S.A., and C. West (1998). *The War Against Parents*. New York: Houghton Mifflin Company.
- Holmes, W.C., and G.B. Slap (1998). "Sexual Abuse of Boys: Definition, Prevalence, Correlates, Sequelae, and Management." *Journal of American Medical Association*, Vol. 280: 1855–1862.
- Human Resources Development Canada and Statistics Canada (1996). *After High School: The First Years — The First Report of the School Leavers Follow-up Survey, 1995*. Catalogue No. MP78-4/12-1996. Ottawa: Human Resources Development Canada and Statistics Canada.
- International Joint Commission (1997). *The International Joint Committee and the 21st Century*. Ottawa: International Joint Commission, pp. 1–48.
- Keating, D.P., and C. Hertzman (eds.) (1999). *Developmental Health and the Wealth of Nations: Social, Biological and Educational Dynamics*. New York: Guilford Press.
- King, A., et al. (1996). *The Health of Youth: A Cross-National Survey*. Copenhagen: WHO Regional Publications.
- King, A.J.C., W. Boyce and M. King (1999). *Trends in the Health of Canadian Youth*. Catalogue No. H39-498/1999E. Ottawa: Health Canada.
- Krieger, N., D.R. Williams and N.E. Moss (1997). "Measuring Social Class in US Public Health Research: Concepts, Methodologies, and Guidelines." *Annual Review of Public Health*, Vol. 18: 341–378.
- Mayall, B. (1997). *Children, Health and the Social Order*. Buckingham: Open University Press.
- McClosky, D. (1997). "As Long as We Both Shall Love." *Transition*, Vol. 27: 4–7.
- Miller, C.A. (1984). "The Health of Children, A Crisis of Ethics." *Pediatrics*, Vol. 73: 550–557.
- Mullen, P.D. (1981). "Children as A National Priority: Closing the Gap Between Knowledge and Policy." *Health Education Quarterly*, Vol. 8: 15–24.
- Normand, J. (1995). "Education of Women in Canada." *Canadian Social Trends*, Vol. 39 (Winter 1995): 17–21. Catalogue No. 11-008E. Ottawa: Statistics Canada.
- Offord, D.R., et al. (1992). "Outcome, Prognosis and Risk in a Longitudinal Follow-up Study." *Journal of the American Academy of Child and Adolescent Psychiatry*, Vol. 31(5): 916–923.
- Ontario Premier's Council on Health (1997). *Yours, Mine and Ours: Ontario's Children and Youth, Phase I*. Toronto: Queen's Printer for Ontario.
- Otis, J. (1995). Cited in G. Godin and F. Michaud (1998). "STD and AIDS Prevention among Young People." In *Canada Health Action: Building on the Legacy — Vol. 1, Children and Youth*. Ottawa: National Forum on Health, Health Canada, pp. 357–400.
- Paris, H. (1989). "The Corporate Response to Workers with Family Responsibilities." *Compensation Research Centre Report*: 43–89. Ottawa: The Conference Board of Canada.
- Phaneuf, G., and L. Tonmyr (1998). "New Research Initiatives from the Child Maltreatment Division." *Chronic Diseases in Canada*, Vol. 19: 71–72.
- Richardson, C.J. (1996). "Divorce and Remarriage." In *Families: Changing Trends in Canada*. Edited by M. Baker. Toronto: McGraw-Hill Ryerson Limited, pp. 215–246.
- Rivara, F.P. (1994). "Unintentional Injuries." In *The Epidemiology of Childhood Disorders*. Edited by I.B. Pless. New York: Oxford University Press, pp. 369–391.
- Simons-Morton, B.G., et al. (1988). "Health-Related Physical Fitness in Childhood: Status and Recommendations." *Annual Review of Public Health*, Vol. 9: 403–425.
- Slovic, P., et al. (1993). *Health-Risk Perception in Canada*. Catalogue No. H46-2/93-170E. Ottawa: Health Canada.





- Statistics Canada (1993). *Schooling, Work and Related Activities, Income, Expenses and Mobility: 1991 Aboriginal Peoples Survey*. Catalogue No. 89-534. Ottawa: Statistics Canada.
- Statistics Canada (1995). *Women in Canada: A Statistical Report*. Catalogue No. 89-503E. Ottawa: Statistics Canada.
- Statistics Canada (1997). *Income After Tax, Distribution by Size in Canada*. Catalogue No. 13-210. Ottawa: Household Surveys Division, Statistics Canada.
- Steinhauer, P.D. (1995). *The Canada Health and Social Transfers: A Threat to the Health, Development and Future Productivity of Canada's Children and Youth*. Toronto: Voices for Children.
- Tipper, J. (1997). *The Canadian Girl-Child: Determinants of Health and Well-being of Girls and Young Women*. Ottawa: Canadian Institute of Child Health.
- Vanderpool, N.A., and J.B. Richmond (1990). "Child Health in the United States: Prospects for the 1990s." *Annual Review of Public Health*, Vol. 11: 185–205.

