

# **Healthy Parents, Healthy Babies**

**A Report by the  
National Council of Welfare**

**Summer 1997**

**Canada**

**HEALTHY PARENTS, HEALTHY BABIES**

**A Report by the  
National Council of Welfare**

**Summer, 1997**

---

Copies of this publication may be obtained from:

National Council of Welfare  
2nd Floor, 1010 Somerset Street West  
Ottawa K1A 0J9  
(613) 957-2963  
FAX: (613) 957-0680

Également disponible en français sous le titre:  
Parents en santé, bébés en santé

© Minister of Public Works and Government Services Canada 1997  
Cat. No. H68-42/1997E  
ISBN 0-662-25790-1

## **TABLE OF CONTENTS**

INTRODUCTION .....	1
I. PRENATAL CARE .....	3
II. THE FIRST YEAR OF LIFE .....	19
CONCLUSION .....	33
FOOTNOTES .....	37

## INTRODUCTION

Experts in the field of child welfare have become more vocal in recent years about getting at the root causes of the host of problems facing families. Rather than waiting to deal with problems after the fact, they argue, we should be trying to prevent them from arising in the first instance.

The Canadian Institute for Advanced Research has published numerous scholarly articles on the factors which contribute to the health and well-being of parents and their children and the factors which put them at risk. Many other researchers have written about the broad social, economic or demographic forces sometimes called the "determinants of health" or have described specific types of "early childhood interventions" that can make a dramatic difference to families.

The National Longitudinal Survey of Children and Youth sponsored by Human Resources Development Canada and Statistics Canada has begun to measure characteristics as diverse as prenatal care for expectant mothers and behavioral problems in young children as part of a larger effort by governments to give children the best possible start in life.

Our sister advisory group, the National Crime Prevention Council, is promoting a strategy of crime prevention through social development that is targeted to the welfare of young children. "We need to begin investing in healthy children and strong communities rather than continuing to rely upon and spend on the criminal justice system," says the Council. "We need to begin addressing the underlying factors that lead children, young people and adults toward criminality."<sup>1</sup>

The same orientation came through in the recently published report of the National Forum on Health. "Spending directed at children and their parents should be viewed as a long-term investment," the report says. "Canada needs to invest in its children and to view children as a natural resource representing the future of the country."<sup>2</sup>

The National Council of Welfare is proud to add its support to all these efforts with the publication of Healthy Parents, Healthy Babies, the first of several reports that will focus on key issues facing children and parents at different stages of life.

This report examines concerns before and during pregnancy and during the first year of life. The first part of the report discusses low birth weight and the many problems associated

with it. The second part deals with issues of healthy child development and related issues affecting parents and children.

The emphasis throughout the report is on "interventions" which have proved to be successful in Canada or other countries in addressing the most serious problems facing families at these stages in their lives. Many, but not all of the programs were developed to assist families facing higher than normal risks of poor health or dysfunctional behaviour.

The National Council of Welfare firmly believes that preventing these kinds of problems from arising would be a major step forward in Canadian social policy. Obviously, prevention would improve the lives of the many thousands of families helped directly by one program or another. Prevention would also mean substantial savings for society as a whole in the form of lower health care costs, fewer school drop-outs, a more productive work force, and less family violence and crime.

At the same time, it is clear to us that prevention must extend well beyond the programs described in this report. So many of our problems as a society are linked to poverty. Specific interventions can limit the damage caused by poverty, but they do not eliminate the need to fight poverty in all its forms.

As one expert put it, "Virtually all the other risk factors that make rotten outcomes more likely are also found disproportionately among poor children: bad health in infancy and childhood, malnutrition, having an isolated or impaired mother, being abused or neglected, not having a decent place to live, and lacking access to the services that would protect against the effects of these conditions."<sup>3</sup>

A 1994 discussion paper endorsed by federal, provincial and territorial Ministers of Health came to a similar conclusion when it described income and social status as "the single most important determinant of health."

"Many studies show that health status improves at each step up the income and social hierarchy," the paper said. "As well, societies which are reasonably prosperous and have an equitable distribution of wealth have the healthiest populations, regardless of the amount they spend on health care."<sup>4</sup>

## **I. PRENATAL CARE**

The single greatest health concern during the prenatal stage of life is the prevention of low birth weight. Low birth weight is a medical condition in the strict sense of the word, but its causes are wide-ranging. Preventing low birth weight requires an equally wide range of programs and strategies. Properly done, interventions that begin well before birth can improve the lives of children and their families for many years into the future.

Low birth weight refers to babies who weigh less than 2,500 grams or 5½ pounds at birth. A research review by the Canadian Institute of Child Health says that babies are born with low birth weight for one of two reasons: preterm birth or because they are small for their gestational age.<sup>5</sup> Approximately 75 percent of infant deaths can be explained by low birth weight. Low birth weight is also a leading underlying cause of illness in infancy and childhood.

The cost of caring for a low birth weight baby has been estimated to be \$500 to \$1,000 a day. And the cost of caring for each low weight baby to the age of two could be \$200,000, according to the Canadian Council on Children and Youth.<sup>6</sup>

Low birth weight can cause long-term disabilities, creating multiple needs for physiotherapy, speech therapy, specialized equipment, teaching specialists and other costly services. Families of disabled children often need additional help in order to cope.

Low birth weight is the result of an array of demographic factors, medical conditions and behavioral problems, many of which interact with each other.<sup>7</sup>

- Demographic characteristics associated with birth weight include the mother's socio-economic status, her level of education, age at conception, marital status and race.
- Premature labour heads the list of medical complications associated with low birth weight. Other conditions include febrile illnesses, high blood pressure induced by pregnancy, and infection.

- Finally, there are a host of behavioral variables affecting birth weight such as smoking, stress, nutrition, alcohol, access to prenatal care and social support.

Poverty. Of all the forces that contribute to low birth weight, poverty is one of the most potent. A study of the babies born in 1986 in Canada's 25 largest cities found significant differences in birth weight and infant mortality between babies born in the richest neighbourhoods and babies born in the poorest neighbourhoods.<sup>8</sup>

The outcomes were much worse for babies born in the poorest neighbourhoods under all of the measures shown in Table 1.

<b>TABLE 1</b> <b><u>UNFAVOURABLE BIRTH OUTCOMES BY NEIGHBOURHOOD INCOME, 1986</u></b>			
	Poorest Neighbourhoods	Richest Neighbourhoods	Ratio of Poorest to Richest
Birth weight under 2,500 grams	6.9%	4.9%	1.41
Birth weight under 1,500 grams	1.16%	0.82%	1.41
Premature births, less than 37 weeks	7.4%	5.7%	1.32
Small for gestational age	12.1%	8.0%	1.52
Deaths in first year of life	9.9%	6.0%	1.66

The rate of low birth weight births was 6.9 percent in the poorest neighbourhoods - 1.41 times higher than the rate of 4.9 percent in the richest neighbourhoods. The same pattern appeared in the results for very low birth weight babies - babies weighing less than 1,500 grams at birth.



The rate of premature births was 7.4 percent in the poorest neighbourhoods and 5.7 percent in the richest. Even more revealing was the difference in the percentage of babies who were small for their gestational age - a measure that takes account of both the term of the pregnancy and birth weight. The rate was 12.1 percent in the poorest neighbourhoods and only eight percent in the richest.

Finally, the percentage of deaths in the first year of life was 9.9 percent in the poorest neighbourhoods or 1.66 times higher than the infant death rate of six percent in the richest neighbourhoods.

"Based on data currently available for Canada, it appears that the health problems of poor children begin before birth and continue to place these children at greater risk of death, disability and other health problems throughout infancy, childhood and adolescence," the study said.<sup>9</sup>

Huge gaps between the infant mortality rates in poor and rich neighbourhoods were also found in companion studies done for 1971 and 1991.

"There is no starker measure of a society's commitment to its children than the infant mortality rate," says the Canadian Council on Social Development. "The persistence of higher infant mortality rates in poor neighbourhoods clearly demonstrates the life-and-death consequences of income inequality in Canada."<sup>10</sup>

Poverty often goes hand in hand with single parenthood. The National Council of Welfare's Poverty Profile 1995 reported an overall poverty rate of 57.2 percent for families headed by single-parent mothers under 65 with children under 18. For single-parent mothers under 25, the poverty rate was an astounding 83 percent.<sup>11</sup>

Poverty combined with poor education adds to the likelihood that a woman will smoke, live in poor housing, belong to a poorly functioning family and be undernourished. Undernourishment is a suspected cause of poor fetal growth during pregnancy, a condition known as intrauterine growth restriction. The condition is not well understood by professionals, but it is most commonly found in underdeveloped countries.

Poverty is associated with stress and anxiety due to isolation, lack of social support, poor family planning and the greater likelihood of illness. Poor family support during pregnancy, including family violence and spousal assault, is strongly associated with low birth weight. Also, there is speculation that maternal anxiety may influence birth weight - excessive stress can disrupt the body's delicate internal balance and provoke preterm labour.<sup>12</sup>

Poverty is a barrier to health care. Women may have difficulty finding transportation to health care providers or may be uncomfortable approaching the medical system. They may "fall through the cracks" due to a lack of co-ordination among providers of care, or services may be too widely dispersed.

Poor education is a well-known proxy for poverty and is linked to birth weight. One study showed that poorly educated mothers in Quebec were twice as likely to have a low birth weight baby than mothers with university education. Over a ten-year period, the low birth weight rate increased by nine percent in the poorly educated group and fell by 21 percent among the group with post-secondary education.<sup>13</sup>

Even teenage pregnancies, which often occur in situations of poverty, poor education and single parenthood, are thought to result in low birth weight babies more for psychosocial and economic reasons and less for biological reasons.

Preterm Labour. One of the most effective programs to prevent preterm labour was a national program in France from 1971 to 1983 that reduced the country's rate of low birth weight from 8.2 percent to 5.3 percent. In some groups, the rates were as low as 3.7 percent to 4.4 percent. The program was most successful in preventing very low birth weight babies. Women with low levels of education were the greatest beneficiaries.<sup>14</sup>

The medical component of the program consisted of the following strategies:

- identification of women at risk for preterm labour using a scoring system that weighed biological, social and lifestyle factors;
- a patient education program that taught self-management techniques and sensitized women to identifiable risks and the subtle symptoms of labour;

- the education of professionals about the risks of preterm labour and how to manage these risks;
- early and regular prenatal care starting in the first trimester for at least ten weeks; and
- regular cervical examinations to detect signs of preterm labour.

The social component involved:

- national policies that encouraged maternity leave from the 34th week of pregnancy;
- protecting women from excessive physical strain and exertion from jobs that require continuous standing, more than 90 minutes commuting, more than 40 hours of work a week, and hard physical labour;
- public education through the media; and
- home nursing and social services as needed to promote lifestyle changes.

Smoking. It has been well documented that the effect of smoking on birth weight is independent of other risk factors, and it is accepted that the relationship between smoking and low birth weight is "direct and causal."<sup>15</sup>

A survey of the medical literature in French and English from 1970 to 1984 suggested that cigarette smoking was by far the biggest risk factor for low birth weight in developed countries. Poor nutrition and low pre-pregnancy weight were second and third.<sup>16</sup>

Smoking is more prevalent among low-income Canadians, including low-income women of child-bearing age. One Canadian study estimated that one in three women of child-bearing age living in households with incomes under \$20,000 a year smokes, compared to one in four women living in households with incomes of more than \$40,000.<sup>17</sup>

A 1995 Health Canada publication, The Effects of Tobacco Smoke and Second-Hand Smoke in the Prenatal and Postpartum Periods, graphically describes the risk of smoking to the fetus.<sup>18</sup> Fetal growth can be restricted by exposure to nicotine, which impairs circulation of the blood between the uterus and placenta. Carbon monoxide in tobacco smoke reduces the supply of oxygen to the fetus. "Even passive smoke has been shown to be significantly related to low birth weight through growth restriction of the fetus."<sup>19</sup>

The effects of smoking on birth weight are dose related: the more cigarettes smoked, the greater the growth restriction.<sup>20</sup> Babies born to women who smoke throughout pregnancy are 150 to 200 grams smaller on average than those born to non-smoking mothers. The risk of premature birth for women who smoke is 1.3 to 1.5 times greater than for non-smokers.<sup>21</sup>

Other fetal problems associated with maternal smoking include: spontaneous abortion or miscarriage, diminished lung function, placenta previa (abnormal implantation of the placenta in the lower uterine segment), abruptio placenta (partial or total premature separation of a normally implanted placenta) and premature rupture of membranes.

Smoking also has enormous adverse effects on infants when their parents and other family members continue to smoke. The leading cause of hospitalization of infants is respiratory illness such as bronchitis and pneumonia. Infants up to three months old who are exposed to second-hand smoke are at 3.3 times the risk of illness if their caretakers smoke more than 20 cigarettes a day. Up to the age of 18 months, the risk of illness is 1.4 to four times greater than it is for children who live in smoke-free environments. The risk of hospitalization for respiratory illness is 1.5 to two times greater for children exposed to second-hand smoke.

Asthma is a serious problem among children exposed to second-hand smoke, and there is a causal relationship with the frequency and severity of asthma attacks. Second-hand smoke also increases the risk that children will suffer from cough, phlegm and wheeze; reduced lung function for life; atopy (increased allergies); sudden infant death syndrome; and middle ear effusion (fluid in the middle ear).

The evidence about the damage caused by smoking makes it one of the most obvious behaviours to try to modify. However, intervention programs have limitations: they do not reach enough people and they are of limited effectiveness. Given the powerfully addictive

qualities of nicotine, the most effective interventions are those that can be tailored to meet an individual woman's needs.<sup>22</sup>

A recent Health Canada survey of tobacco reduction programs targeted at women in the prenatal and postpartum period recommended that current strategies be modified.<sup>23</sup> The report recommended addressing the underlying reasons why women smoke. Programs should be flexible enough to provide a variety of options. In large population centres, there should be non-smoking programs that are family-centred and linked with local doctors and anti-smoking groups.

Other recommendations include using outreach methods to attract pregnant women who may not attend prenatal classes, training counsellors to be more sensitive in their roles, conducting research on postpartum relapse, and promoting smoke-free public places such as bingo halls.

It is important to remember that the problem of smoking extends well beyond women. "Studies have shown that women are less likely to succeed in changing their smoking, drinking or drug use if other family members or friends are still engaged in the behaviours."<sup>24</sup>

One review of programs to encourage pregnant women to stop smoking noted that more than half the women who quit on their own during pregnancy started smoking again within three months of giving birth, and up to 70 percent of the women started smoking again within a year. The researchers suggested a need to focus on the short-term, rather than the long-term benefits of quitting. One possibility would be to get young mothers to link the dangers of smoking with dangers to the health of their babies.<sup>25</sup>

Nutrition. Women at risk for nutritional deficiency during pregnancy often are subject to other risk factors. They may weigh too little or too much. They may have low weight gain during pregnancy. They may be heavy smokers or drinkers. They may have had multiple pregnancies. They may be under 20 years old. They may be vegetarians. Or they may live in poverty.<sup>26</sup>

Two well-known and long-running nutritional supplementation programs are the Montreal Diet Dispensary, in operation since 1963, and the Special Supplementary Food Program for

Women, Infants, and Children (commonly known as WIC) in the United States, in operation since 1974.

The Montreal Diet Dispensary targets women at risk of delivering a low birth weight baby because of poverty, family violence, depression, psychiatric history, or health and nutritional problems. Services include one-on-one dietary assessment and nutritional counselling, provision of vitamins and food supplements of milk and eggs, and home visits as required. Women are also referred to other community resources for social support, housing and health care. In 1987, the dispensary reported a low birth weight rate of 5.6 percent - a rate comparable to the surrounding population.<sup>27</sup>

The Montreal Diet Dispensary program has been well evaluated. One study, for example, measured the effects of individual nutrition assessment and rehabilitation on pregnancy outcomes in a group of low-income women who had a child previously but without any prenatal intervention. The overall rate of low birth weight was 50 percent lower than in the previous pregnancy. The average birth weight was highest in the case of mothers who had been classified either as undernourished or under stress. The authors of the study noted the importance of the hands-on role of the dietician.<sup>28</sup>

The cost of the program in 1990 was estimated at \$357 for each pregnant woman served in an urban setting and \$383 for each woman in a rural setting. The figures included the cost of one litre of whole milk every day for 22 weeks, vitamin and mineral tablets every day and six visits with a dietician.<sup>29</sup>

Using these two averages, the study estimated that the cost of providing services to some 17,000 low-income pregnant women in Quebec would have been in the order of \$6.1 million a year in 1990. If the program cut the rate of low birth weight babies by 50 percent - which the evaluation described as a conservative assumption - the savings on caring for the babies during the first year of life would amount to about \$5.2 million. However, the savings on the cost of institutional and non-institutional care after the first year of life would amount to about \$45 million.

The success of the Montreal Diet Dispensary and other initiatives scattered across the country in assisting high-risk mothers was recognized by the federal government with the

creation of the Canada Prenatal Nutrition Program in July 1994. The program provides resources for community-based projects that are delivered through Brighter Futures programs for families with children.

The 1997 federal budget speech announced an additional \$100 million in funding over three years for the Canada Prenatal Nutrition Program and a related initiative called the Community Action Program for Children.

Help may take the form of food supplements, nutritional counselling or social supports. It also might include activities with other women such as collective kitchens, community gardens, food-buying clubs or toy exchanges. Target groups for the program include women living in poverty, pregnant teens, pregnant women who use drugs or alcohol, off-reserve Aboriginal and Inuit women, and refugees.

The program as a whole has not yet been evaluated by outside researchers, but it appears to be building on the successes of earlier nutrition programs. In fact, the Montreal Diet Dispensary is one of the groups being assisted by the Canada Prenatal Nutrition Program.

The WIC program in the United States provides food supplements (dairy products, juice, eggs, cereal and baby formula) through food vouchers or home delivery, individual nutritional counselling and referral to health services. The program is funded by the federal government, administered by the states and delivered locally. Some states also provide funds to supplement funds from Washington.<sup>30</sup>

Over the years, WIC grew from a handful of locally run programs to a national network of 9,000 clinics serving more than six million people. Another three million women and children are eligible for benefits under the program's guidelines, but do not receive any because of limited funding.

Five leading business executives in the United States were so impressed with the program and its impact that they made a special pitch to the House of Representatives Committee on the Budget in 1991 for an increase in federal financial support.<sup>31</sup> They told lawmakers that evaluations conducted for the U.S. Department of Agriculture and studies by the Centers for Disease Control and National Bureau of Economic Research showed the following results:

- Participants in the program had a reduced risk of low birth weight and infant mortality.
- Children in the program in early childhood had better vocabulary and digit memory scores than comparable children outside the program.
- The program has been linked to a major drop in childhood anemia, which affects the attention span and ability to learn.
- Women in the program are much more likely to seek adequate prenatal care and to ensure that their children are immunized against disease.

The executives also noted that every dollar invested in prenatal care under WIC saves up to \$3 in medical or hospital costs. They added: "WIC is the health-care equivalent of a triple-A rated investment; it is one of the most reliable ways the government can invest its resources."<sup>32</sup>

A 1992 study by the U.S. General Accounting Office entitled Early Intervention: Federal Investments Like WIC Can Produce Savings reviewed 17 other studies and concluded that benefits to pregnant women through WIC reduced the rate of low birth weight babies by 25 percent and the rate of very low birth weight babies by 44 percent. The cost of the program was \$296 million in 1990, the agency estimated, but that money saved \$853 million in health-related expenditures for the babies helped during their first year of life alone.<sup>33</sup>

The future of the WIC program was uncertain during the early stages of welfare reform in the U.S., but it managed to survive the final round of reform in 1996 more or less intact.

Alcohol. It is not known if there is a safe level of alcohol consumption during pregnancy. However, alcohol consumed in large amounts during pregnancy can have devastating effects on the fetus. Alcohol reaches the fetus in the same concentration as in the mother and cannot be efficiently eliminated from the system. Fetal alcohol syndrome, the leading cause of mental retardation in Canada, is one possible outcome.<sup>34</sup>



Full-fledged fetal alcohol syndrome (FAS) is one extreme on a continuum of symptoms. Symptoms include severely retarded growth, central nervous system abnormalities, and facial anomalies.<sup>35</sup>

Foetal alcohol syndrome children may suffer from a wide array of physical and behavioral effects ... One-fifth of FAS children have difficulty sleeping and are hyperactive. Many have severe learning disabilities and are often dyslexic. Congenital heart problems are more common than in normal babies, and genital-urinary problems often occur. An increased incidence of spina bifida, hip dislocation and delayed skeletal maturation occurs among FAS children.

Among the host of other health problems found in children with fetal alcohol syndrome are speech impediments, dental problems, vision problems, hearing difficulties and erratic behaviour.

Fetal alcohol effects (FAE) are less severe than fetal alcohol syndrome and are difficult to diagnose correctly. The damage tends to be neurological and is expressed as "hyperactivity, behavioral problems, learning disabilities, and a general inability to function normally in a social milieu." Incorrect diagnosis of fetal alcohol effects can result in a child being misclassified as socially disruptive.

There is no national data on fetal alcohol syndrome or fetal alcohol effects. The federal government estimates the incidence of fetal alcohol syndrome at between one and two for every thousand births. However, the incidence in certain communities is much higher. Very high rates have been reported for some Aboriginal and Inner City communities.<sup>36</sup>

Health care, Aboriginal and other groups agree that the first line of defence is prevention. In a joint statement issued in October 1996, they said preventive programs should be directed at women before and during their child-bearing years and also at their partners and the community. All these efforts should be "family-centred and culturally sensitive" and should recognize that women at risk often have complex social, economic and emotional needs.<sup>37</sup>

Access to Prenatal Care. A wide array of prenatal programs for pregnant women exist in Canada. In 1994, Health Canada surveyed 242 prenatal health promotion programs. All programs catered to the needs of high-risk clients: adolescents, singles, low-income women,

welfare recipients and women with low literacy skills. Many addressed the needs of multicultural populations. Programs operated out of public health units, hospitals, private homes, community centres, churches, schools and friendship centres.<sup>38</sup>

The programs were holistic and innovative. The objectives included:

- providing skill development and support;
- providing information on labour and delivery;
- maximizing positive birth outcomes;
- improving the mother's health and quality of life; and
- helping women cope with the physical, emotional and family changes that occur during pregnancy.

Some programs provided nutritional supplementation, child care and funds to cover travel costs. Programs were linked to other agencies that provided postnatal programs, social and community services, healthy child programs and family support programs. While the large majority of services were provided by health care professionals, most were required to take training specific to their programs. Evaluation practices varied widely.

Vancouver's Healthiest Babies Possible program is an example of a community-based, multicultural prenatal outreach program for women at risk of having a low birth weight baby, or a baby affected by alcohol or drug misuse. The program began in 1976 and served 384 women during 1992.<sup>39</sup>

Staff consists of a program co-ordinator (a dietician), two dieticians, four lay counsellors, three interpreters and a clerk. Counsellors visit pregnant women at home to provide nutrition and lifestyle counselling. Breastfeeding is discussed and promoted by the program.

Part of the success of the program is due to the lay counsellors, who come from the same cultural backgrounds as the women in the program. About one quarter of the women in the program are off-reserve Aboriginal women, and many of the rest come from Asian or Latin American backgrounds. About 40 percent do not speak English.

About 85 percent of the women overall are poor. Many are not married or are in unstable family situations. Many have less than a high school education.<sup>40</sup>

Program components include:

- one-on-one nutritional and lifestyle counselling every two weeks, with one postpartum follow-up;
- milk and orange juice supplements, and prenatal vitamins if approved by a doctor;
- free dental care;
- referrals to other agencies for needs such as housing, clothing, immigration difficulties, substance abuse or nursing support; and
- group meetings for support and skills training.

The program reported a low birth weight rate of 5.5 percent, comparable to the low birth weight rate of 5.7 percent for the City of Vancouver as a whole.

Positive behavioral changes were recorded. There was better nutrition among participants. Of the one-third of clients who smoked, 48 percent quit smoking altogether and 45.5 percent cut down.

Prior to becoming pregnant, 121 of the women had used alcohol and 65 had used illegal drugs. At first assessment, 18 women were current users of alcohol, 14 were drug users and six used both alcohol and drugs. Of the 18 using alcohol, 11 drank small amounts and were consuming none at term. The other seven had binge drinking problems: five quit and two experienced problems to term.

Drug users were hardest to track, because it was difficult to maintain contact and difficult to know if self-reported information on drug use was accurate.

In the United States, one study evaluated the effect on birth weight of providing comprehensive medical and psycho-social prenatal care. Low-income women in the study were divided into two groups: an experimental group and a control group. The women in the experimental group received the services of nurse-midwives, social workers, a nutritionist, paraprofessional home visitors and a psychologist in addition to the standard medical care provided by obstetrical residents. The control group received only the standard medical care. The experimental group had significantly higher birth weight babies than the control group, but only for first-time mothers.<sup>41</sup>

Running through this and other research is the suggestion that medical care alone is not sufficient to prevent low birth weight. A study of some 12,000 pregnant women in Winnipeg in 1987 and 1988 found only subtle differences in outcomes between mothers who received less than ideal prenatal medical care and those who received adequate care.<sup>42</sup>

Once again, poverty emerged as a major risk factor. After other factors such as smoking during pregnancy, complications during pregnancy and the degree of prenatal care were factored out, the babies of the poorest women in the study were 89 grams lighter on average than the babies of the richest women in the study.

The researchers speculated that the unexplained difference in average birth weights was due to factors related to poverty.

"Compared to middle-income or wealthy women, poor women may experience greater nutritional deficits in pregnancy, may be more likely to be employed in physically demanding occupations, may be exposed more frequently to vaginal infection and may in general have fewer resources available with which to respond to the demands of pregnancy."<sup>43</sup>

Social Support. Social support refers to stable, relevant and meaningful relationships. One study of social support and teenage pregnancy in Canada found a statistically significant relationship between family support and birth weight outcome.<sup>44</sup> Many intervention programs with successful birth weight outcomes have a social support component, and the extra contact and support received by the mother may have influenced the results.<sup>45</sup>

One example of this is an intervention that sought to improve birth outcomes for poor women through a comprehensive program of prenatal and postpartum home visits by nurses. The setting was a semi-rural region of New York State that was regarded at the time as "the worst Standard Metropolitan Statistical Area in the United States in terms of its economic conditions."<sup>46</sup> It also had the state's highest reported and confirmed cases of child abuse and neglect.

In the intervention, women were divided into four groups. The control group received no special services during pregnancy, but their babies were screened for sensory and developmental problems at ages one and two. The second group received free transportation for regular prenatal care, and their infants were also tested. The third group received an average of nine home visits during pregnancy in addition to the services received by the second group. The fourth group, in addition to the above, received home visits until their children were two years old.

The nurses' three main activities were to educate parents, help mothers augment their informal support systems, and link parents to community services. Women who took part in the program were either adolescents, unmarried or disadvantaged. The focus was first-time mothers under 19 who were single and poor.

The babies of the mothers being helped were 395 grams heavier on average than the babies in the control group. The chief beneficiaries of the program were women under 17 years of age and smokers. Smokers showed a 75 percent reduction in preterm births due to a reduction in the number of cigarettes smoked.

Numerous other advantages flowed from the program. The women became more aware of community services and were more likely to attend childbirth classes. They made more use of the Women, Infants, and Children (WIC) program and reported greater improvements in their diets. They had fewer kidney infections. And they were more open in talking about themselves and their pregnancies. Men became more interested in their partners' pregnancies.

The positive results continued after the birth of a child. Mothers who had received the home visits until their children were two were least likely to abuse and neglect their children. Their children had fewer emergency room visits. In the first year of life, children had fewer

visits to the emergency room for upper respiratory tract infections. In the second year, there were fewer cases of accidents or poisonings.

The authors concluded that a major portion of the cost of home visits would be offset by fewer foster care placements, hospitalizations, emergency room visits, and intervention by child protection workers. They added: "The long-range financial savings to the community are in all likelihood substantially greater, as is the reduction in human suffering."<sup>47</sup>

A different study of socially disadvantaged women that involved four research midwives who made home visits and were on call 24 hours a day resulted in both mothers and babies being significantly healthier in the weeks following birth. The level of neonatal illness between the children of mothers getting special support and a control group was the same. However, the care required by the supported babies was less intensive. Overall, 80 per cent of the women helped said that the most important quality of the intervention was "being listened to."<sup>48</sup>

Social support can enhance the experience of pregnancy and childbirth, according to a review of a number of different studies. Women who received enhanced social and psychological support during pregnancy were less likely to feel unhappy, nervous and worried and less likely to have negative feelings about giving birth. They were also more likely to have a companion with them during labour, to be satisfied with their care and to report that they had a worry-free labour.<sup>49</sup>

## **II. THE FIRST YEAR OF LIFE**

Stability without undue stress is vital to healthy child development during infancy. In addition to the fundamental needs of food, clothing and shelter, infants require secure attachments, extensive and stimulating social interaction and the opportunity to safely explore the world around them. Babies who have these needs met are better learners.<sup>50</sup>

New parents may need special help as well, so that they know what to expect after their babies are born and how to get help if it is not readily available from family or friends.

This chapter focuses on interventions on behalf of very young children and their parents and covers a host of specific issues in the general areas of child development and parenting. Some of the programs are directed at overcoming problems resulting from low birth weight, while others are suitable for a broader group of parents and infants. The end of the chapter touches on issues such as adjustment to parenthood, the special problems facing teenage mothers, and ways of promoting better health in families.

Canada has already taken the first steps to establish a national framework for the kinds of early childhood interventions described in this chapter with the start of the Community Action Program for Children several years ago. An increase in funding for the program was announced in the 1997 budget speech.

The program is jointly managed by the federal, provincial and territorial governments, but the actual services to address the developmental needs of children at risk are delivered by community groups.<sup>51</sup>

The National Forum on Health singled out community-based programs that include home visits as one of its priorities. "Programs should be directed to pregnant women, and children from birth to 18 months, who are at risk," it said. "Particular attention should be given to the needs of Aboriginal women and children."<sup>52</sup>

Many of the issues raised in the first chapter reappear in this chapter. Risk factors such as poverty, poor nutrition, and stress do not disappear automatically once a new baby arrives,

and the need for social supports is probably even greater for parents of very young children than it is in the prenatal period.

Special mention should be made of the impact of poverty on families. Poverty is known to be a determinant of the quality of the home environment, which is strongly linked to child development.

A 1991 Quebec report entitled Un Québec fou de ses enfants described efforts to reduce poverty as "an absolute necessity" in any broad campaign to improve the well-being of children.

"Parents of poor families live through more negative and stressful events, are sick more often, and worry constantly about their financial difficulties," the report says. "They are more isolated, have less social clout, see themselves at the mercy of arbitrary decisions and are more vulnerable to frustration. They experience depression more frequently and are more suspicious of society and social services. This despondency and this isolation threaten their relationships with their children: they become more distant, less attentive, less available and less affectionate, more strict in their judgement and more authoritarian in their behaviour."<sup>53</sup>

Some of the most important research has come from the U.S. National Longitudinal Study of Youth. An analysis of the relative contribution of maternal, household, child and poverty characteristics to the quality of the home environment found that the variables on poverty (depth of poverty, duration of poverty and whether a child was born into poverty) had a significant impact.<sup>54</sup> The children who benefitted most from improvements in family income were those who were born poor or whose families were chronically poor.

The results of the study also suggest that parents have a child-centred pattern of spending and tend to use any additional incomes to improve life for their children.

Brain Development. New information on the early development of the brain confirms that both genetics and environmental influences are crucial elements in human growth. The Carnegie Corporation of New York in Starting Points: Meeting the Needs of Our Youngest Children recommends promoting parental knowledge about child development and also investing in children as a means of preventing damage. Poor nutrition in infancy, for example, can



seriously interfere with brain development and lead to learning disabilities and mental retardation.<sup>55</sup>

Recent research about the development of the brain is providing new insights into the way children develop. Connections in the brain appear to develop normally only with proper external stimulation. Babies who spend most of the first year of life lying in their cribs often suffer retarded development. Fewer than 15 percent of the babies in one study could walk by the age of three.

"It is now recognized that children must be stimulated through visual, tactile and auditory and other stimuli to develop fully. Thus, factors in our social environment that impair these crucial stimuli for children during the sensitive periods of neural development could lead to cognitive and behavioral handicaps in later life."<sup>56</sup>

Having the right balance of inputs to the brain is key during the infancy stage of life. Too much stimulation, such as exposure to severe stress, a risk for many poor children, may cause a child to live on "high alert," and it may also cause cognitive, behavioral and emotional problems for the remainder of the child's life.<sup>57</sup>

**TABLE 2**  
**WINDOWS OF OPPORTUNITY FOR LEARNING**

Motor Development	Prenatal to 5+ years
Emotional Control	Birth to 2+ years
Vision	Birth to 2+ years
Social Attachment	Birth to 2+ years
Vocabulary	Birth to 3 years
Second Language	6 months to 10 years
Math/Logic	1 year to 4+ years
Music	3 years to 10 years

The brain is primed to receive certain kinds of information at different stages of infancy and childhood as outlined in Table 2 on the previous page. The development of language is an important example of the infant's capacity to learn. Circuits in the brain representing the sounds that form words are "wired" in the first year of life, and the months that follow are a time of rapid language development. The more words children hear by age two, the more their vocabulary will grow.<sup>58</sup>

Parent-Infant Stimulation Programs. Many of the special programs for infants and parents are known as "stimulation" programs. These programs build on our knowledge of child development and attempt to make sure that infants get the stimulation they need to develop properly.<sup>59</sup>

Some of the children are from poor home environments, and others are at risk because they were premature or low birth weight babies. Well-designed programs work with both groups. They improve the cognitive and social-emotional development of the children in their preschool years and help prepare them for success once they start school.

Stimulation programs typically have the following features:

- Activities take place at home, whether or not the children also go to an outside learning centre.
- There is the voluntary involvement of at least one parent.
- The role of the parent in the process of child development is actively reinforced.
- Positive role models from the community are promoted.
- Contact with program staff is frequent - at least twice monthly.
- Programs consciously focus on both cognitive and social and emotional factors.<sup>60</sup>

Programs Aimed at Low Birth Weight Babies. Despite technological advances in health care, low birth weight babies are at risk for developmental delay at later ages.<sup>61</sup> The problems

are compounded for low birth weight infants living in poverty.<sup>62</sup> In fact, the socially disadvantaged low birth weight infant does not develop as well as similar low birth weight infants born into less stressful environments.<sup>63</sup>

Low birth weight babies pose problems for caregivers - they may have fewer social skills, they are more fretful, they smile less and they have more difficulty coping with distress.<sup>64</sup>

The Infant Health and Development Program attempted to assess the effects of pediatric follow-up supplemented by home visits and visits to a child development centre. The program involved 985 low birth weight infants at eight sites in geographically diverse locations with different population characteristics. The program began when the infants were discharged from the neonatal nursery and ran until they were 36 months old.<sup>65</sup>

There was family support in the form of health and developmental information. Programs of games and activities were designed for parents to use with their infants - the goals were to emphasize cognitive, linguistic and social development. Emotional development was an important part of the program as well. Parents got help in managing self-identified problems.

At 12 months of age, the infants attended a child development centre with teacher-child ratios of one teacher to every three children aged one to two, or one teacher to every four children aged two to three. This was complemented by group meetings for parents that provided social support and information on child-rearing and health and safety concerns.

Infants in the program were found to have significantly higher IQ scores than children in a control group who received only pediatric follow-up. A significantly lower average number of behavioral problems were reported. There was a small increase in reported minor illnesses for infants who weighed less than 2,000 grams, but there were no differences in serious health conditions.<sup>66</sup>

Mothers who took part in a related study were found to have higher ratings than control-group mothers on the quality of the assistance they demonstrated with their infants. Their children scored well on persistence and enthusiasm. They were also more competent and more involved in their activities.<sup>67</sup>

Impressive results occurred in another intervention with very low birth weight babies that tried to overcome the cold environment associated with nursery care where premature babies are often disturbed only when necessary. The intervention targeted socially disadvantaged infants and was designed to improve their sensory and motor development by providing visual, tactile and kinesthetic stimulation.<sup>68</sup>

The infants had mobiles of brightly coloured birds located about ten inches from their cribs while they were in the hospital nursery. Nurses were instructed to talk to the babies, to pick them up often and to rock them and play with them during feedings. Feedings were done in a rocking chair, and the babies were held upright for burping. All of these activities were intended to promote visual orientation.

Instructors in the hospital were astonished to see three-pound infants gazing at brightly coloured birds and at the nurses' faces during feedings. They also responded to handling and voices when distressed. Weight gain during the nursery period was significantly better for the babies getting special treatment than the babies who received only standard pediatric care.

After the babies were released from hospital, social workers made weekly home visits to the mothers and provided instruction and demonstration of stimulating child care. Mothers were helped to assess what behavioral "next steps" their infants were ready to take and given games to play to promote hand-eye coordination, reaching, grasping, vocalizing, sitting up and feeding themselves.

The babies in the intervention group were at near-normal development levels at 12 months, and their IQ scores were almost ten points better than the babies in the control group.

Other interventions for low birth weight babies focus on the mother. One reason for this is that mothers of lower educational backgrounds are more likely to report "dissatisfaction in mothering, less satisfactory child-rearing attitudes and more psychological symptoms."<sup>69</sup>

In one intervention for low birth weight babies beginning while the infants were hospitalized in neonatal intensive care and extending into the home over a three-month period, mothers were taught to appreciate their infants' unique behavioral characteristics. They were

sensitized to the infants' cues, particularly those that signalled stimulus overload, distress or readiness for interaction. And they were taught to respond appropriately to cues.<sup>70</sup>

The program involved 25 low birth weight babies, 29 low birth weight babies in a control group and 28 normal birth weight babies. Mothers in the first group reported significantly more self-confidence and satisfaction with mothering and more favourable perceptions of their babies' temperaments. There was also a growing difference between low birth weight experimental babies and low birth weight control babies on cognitive scores that resulted in significant group differences at 36 and 48 months, when the low birth weight babies caught up to the normal birth weight babies.

Programs for Normal Birth Weight Babies. Mother-child attachment or caregiver attachment is vital to healthy child development. Insecure attachment can lead to aggression or social withdrawal at later ages. Secure infants use their caregiver as "a base from which to explore the world and as a source of comfort when distressed."<sup>71</sup> High quality attachment has been linked to long-term cognitive and linguistic competence.

A skilled caregiver knows and understands the developmental level of an infant and can "provide stimulation that is just above the child's level of understanding ... she must be able to guide the baby's exploration and play without being intrusive."<sup>72</sup>

A good example of a holistic intervention with broad family support services is the program of Parent-Child Development Centres started in the United States in the 1970s. The age of the babies when they entered the program, the length of the program and the type of program varied with the city, as shown in Table 3 on the next page. All the children "graduated" at 36 months.<sup>73</sup>

Mothers received instruction on the social, emotional, intellectual and physical development of children through the program's nursery, laboratory programs with their children, or group discussions. They were encouraged to develop as individuals by learning about home management, nutrition and health, community resources, government and continuing education opportunities.

**TABLE 3**  
**PARENT-CHILD DEVELOPMENT CENTRES**

Location	Age of Entry	Program Length	Program Type
Birmingham	3-5 months	31-33 months	centre-based
Houston	12 months	24 months	home and centre-based
New Orleans	2 months	34 months	centre-based

The family supports provided included transportation, some meals, family health and social services, a program for siblings and a small daily stipend. Staff members came from varied educational backgrounds and often from the same ethnic and cultural backgrounds as the mothers.

A number of different variables and scoring systems were used to measure maternal and child outcomes. However, at all three sites at 36 months, program mothers attained significantly higher scores on measures of behaviour such as:

- level of active participation with the child;
- teaching behaviour (the degree to which a mother labelled, gave information, demonstrated activities, or focused on a task);
- stimulation;
- facilitation (the degree to which a mother provided help or materials or gave permission); and
- affection (holding, kissing, comforting and praising).

At graduation at all three sites, all the children had superior intelligence test scores. However, only the Birmingham and New Orleans children showed significant developmental gains and maintained them in tests given a year later. This suggests that early entry into these programs may be important.

Another study was a nursing intervention that was targeted to 95 mothers with low levels of education, low support, multiple problems or high life stress. The intervention began at mid-pregnancy and lasted until the child's first birthday. Forty-four percent of subjects took part in an "information and resource model," where information was provided to the mother in a straight-forward way. The other women were part of a "mental health model," where a nurse demonstrated ways of handling family relationships.<sup>74</sup>

Mothers were assessed with respect to stress, social support, depression, social skills and intelligence. The security of the child's attachment to the mother was measured at 13 and 30 months - well after the intervention ended.

Mothers with the most problems fared better in the mental health group, where they were more likely to have more secure relationships with their babies. The conclusions were based on videotaped assessments of child behaviour and competence in the presence of the mother. This included observing the child's behaviour when separated and then reunited with the mother.

Higher IQ mothers were more likely to have securely attached infants if they were in the information and resource group.

The authors of the study questioned whether uniform programs would be effective for all families. They felt the program was only partially successful because only a low percentage of children were ranked as securely attached.

A longitudinal home visitor program in Florida involving 258 mothers and their babies found that early or consistent intervention during the first three years of life had a long-term positive effect on the intellectual abilities of low income children - "the earlier the better, the longer the better, the more consistent the better."<sup>75</sup>

Parents from within the community were selected to teach other parents how to stimulate their infants. The objectives of the program were to:

- provide a wide range of experience, especially opportunities for infants to explore materials within a verbal interaction context;
- enhance child language by providing an environment in which the child would be surrounded by and introduced into the discussions and language of the home; and
- raise the self-esteem of the parents and improve their sense of internal control.

Parental involvement - for example, knowing why an activity was useful and being able to judge whether an infant was responding appropriately - was a guiding principle. Parental teaching techniques were also important. Staff roles were fairly well structured. Parent educators became friends of the family. Paraprofessional and professional staff (the latter drawn from the fields of education, child psychology and nursing) trained each other in how best to teach mothers to engage their infants in healthy activity.

Children who had been in the program either all three years, any two consecutive years, or the first year only achieved the best results on intelligence tests. All results were superior to children in a control group. The differences were confirmed at age five.

Further testing of the children when they were in primary school found that they had higher IQ scores, higher levels of achievement in math and reading and were less likely to be placed in special education classes. An intervention such as this appears to raise the likelihood of success among disadvantaged children, which in turn could mean cost savings to society by lessening the need for remedial education.<sup>76</sup>

Early interventions also appear to benefit parents and children who are not considered to be "at risk." An eight-month Canadian parent education and infant stimulation program divided healthy full-term infants aged two to 15 months from middle-class backgrounds into three groups and tested them for mental and psychological development.<sup>77</sup>



The first group received 22 structured sessions of hands-on interactive training with their children from an interdisciplinary staff. This was augmented by formal classroom training and homework on child development issues. Mothers experiencing difficulty with their children received individual consultations, and parent evenings were held.

The second group had 22 unstructured sessions. Members chose their own lecture topics and had no homework assignments or workshops. The third group had 11 structured sessions with no workshops and only three parent evenings. A control group received testing only.

It was the children in structured settings - the first and third groups - who performed best on tests measuring developmental growth.

The data suggest that mothers became more effective change agents and competent teachers for their young children as a result of this intervention. Children became more active explorers, imitators and manipulators. The clinical data further suggest that these children seek more social interactions with other children and adults and appeared to exhibit less separation anxiety. Clinical interviews from parents' self-report data indicate increased knowledge of developmental processes, better understanding of parent-child interactions, enhanced enjoyment and lessened anxiety over childrearing.<sup>78</sup>

Other Types of Programs for Infants and Parents. The transition to parenthood represents a major challenge for most families, and new parents often need outside help in coping with the changes that come from having a baby.

One example of the many programs operating in this area is the ACCESS Parenting Program in Vancouver, which offers a wide range of support services to young parents both before and after the birth of their children. The post-natal programs include on-site parenting, lifeskills and support groups, community outings and cooking classes, outreach programs of family education and support, and a weekly drop-in parenting group. Earlier this year, organizers started an outreach program to help younger fathers learn more about parenting.

One Quebec study said having a baby is certain to make new parents aware of all the things they have yet to learn about parenting, and it said fathers in particular have a lot to learn

about getting close to their children as soon as possible. The study recommended a national program that would promote the role of fathers and their attachment to their children.<sup>79</sup>

A preventive intervention program attempted to help 96 couples make the adjustment to parenthood. Trained mental health professionals worked with the couples from pregnancy to three months postpartum to provide support, enhance parental self-confidence, promote parental involvement, help couples cope with change, and help them assess their relationship.<sup>80</sup>

The study had a number of interesting findings. Both intervention and non-intervention couples initially experienced heightened tensions and conflicts. The intervention couples expressed more concern over the division of household labour and time spent together as couples. Over time, intervention mothers reported more satisfaction with their new roles and the division of household labour. At six months, intervention fathers were less satisfied with their involvement in the care of the baby - they thought they could be doing more. At 18 months, they were more satisfied, while fathers in the control group reported being less satisfied.

Intervention couples shared care of their babies more than non-intervention couples and also reported fewer negative changes in their sexual relationships. There may have been improvements in marital stability for intervention couples: there were no separations or divorces.

A study of normal infants born to teenage mothers of low socio-economic status in the United States compared the relative merits of day care and home visits during the first year of life. One group received day care and parent training, another received home visits, and a control group received testing only.<sup>81</sup>

The infants who attended day care for the full day also took part in an infant stimulation program. There was a nutrition component through the WIC program, access to free dairy products, and pediatric consultations. The mothers were employed at minimum wage in the day care centre as part-time teacher aide trainees before and after school hours. As part of their involvement in the program, they were able to see the parenting skills of teachers and mothers from middle-class backgrounds whose infants attended the nursery.<sup>82</sup>

At 12 months, the babies in the day care and home visit groups were bigger and scored higher in mental and motor skills tests than the babies in the control group. Babies in the day

care centre scored significantly better than babies in the home visit group in mental and motor skills. Mothers of day care babies were least likely to have an early repeat pregnancy and were most likely to return to school or work.

The Kansas Healthy Start - Home Visitor program was an effective outreach and education strategy designed to promote healthy behaviours.<sup>83</sup> Home visitors, asked to be the equivalent of "good grandmothers," visited the newborn babies of 1,930 families, all the families with newborns in the region. The program raised parental awareness of healthy behaviours. That in turn increased the demand for services and resulted in improvements in immunization, much more interest in family planning, increased enrolment in nutrition support programs and a substantial decline in the number of suspected and confirmed cases of child abuse and neglect.

Finally, the Child Survival/Fair Start initiatives in the United States were a series of structured, community-based interventions designed to improve pregnancy outcomes and infant health and development among young low-income families. The design of each initiative varied with the community served.<sup>84</sup>

Home visitors were drawn from the target community and were trained to work with families and parent groups to:

- promote simple health care practices (good maternal and infant nutrition, hygiene, and home safety);
- encourage appropriate utilization of medical care;
- augment knowledge and skills in childrearing and to strengthen the parent-infant relationship;
- help strengthen parental skills in coping with other aspects of family life that impinge on childrearing - managing budgets, mobilizing informal supports, and dealing with crises; and
- help participating families gain access to services and formal institutional supports.

The families were highly receptive to the interventions. Organizers found "untapped resources" in the community. They were able to "activate and nurture people to be mentors, educators, advocates and social supports." The results of the programs included better family environments, better neighbourhood conditions and the promotion of healthy child development.

## CONCLUSION

The prenatal and infancy stages of life are arguably the most critical periods in the life cycle. They are times when a modest investment in the health and well-being of mothers and babies can last a lifetime. They are also times when indifference, neglect and failure to act can lead to lifelong problems.

The studies reviewed in this report prove that carefully considered and timely interventions have many positive benefits for families: improved birth outcomes, better health, stronger parenting skills, reduced stress levels, more self-confident parents, and a greater understanding of healthy child development.

There is also evidence that interventions can lower the incidence of child abuse and neglect and minimize the need for foster care placements, hospitalization and emergency room care, and child protection services.

All governments in Canada would undoubtedly agree that giving children the best possible start in life is good public policy. A person might therefore assume there would be broad political support for the types of special interventions described in this report or for the larger goal of fighting poverty. It remains to be seen, however, whether governments are prepared to take up the task of translating their rhetoric about children into reality.

The National Council of Welfare believes that it will be difficult to deal adequately with the host of problems facing families until there are major changes in the orientation of governments and an infusion of cash to finance new initiatives.

Among the most important changes that are needed are an end to arbitrary cuts in social programs, an end to governments "downloading" social problems on others, thorough and timely scrutiny of government programs by outside experts, and a commitment by governments to the continuity of successful social programs.

An end to arbitrary cuts in social programs. The well-being of children and their parents ultimately depends on the willingness of governments to support people who are unable to fend

for themselves. This includes support for broad-based social programs such as welfare, employment insurance and public pension programs as well as the special interventions described in this report.

The reality of recent years is that cuts in social programs have been widespread and severe. The most extreme example is the cut in welfare rates of 21.6 percent imposed by the Ontario government in October 1995. Welfare rates for families with young children were among the rates that were cut. The decision was totally arbitrary and was taken without any serious assessment of whether the new welfare rates would allow adequate food, clothing or shelter for children on the welfare rolls. Just as sobering was the continuing popularity of the government which put such a mindless policy into effect.

An end to "downloading" social problems. Successive federal governments have spent much of the past decade trying to put their financial houses in order by downloading the cost of social programs to lower levels of government. Many provincial and local governments tried similar tactics. The result was a sharp decline in support for social programs, a growing burden on voluntary, non-profit and charitable organizations, and ultimately an increase in human misery.

The withdrawal of the federal government from direct involvement in programs such as medicare, welfare and housing accompanied cuts in federal funding for these programs. For the first time in decades, the federal government was a disinterested observer rather than an active player in some of the country's most important social programs. National standards all but disappeared in every area of social policy except for the standards regarding medicare that are set out in the Canada Health Act.

Thorough, timely and independent evaluations of social programs. One of the basic rights of citizens in a democracy is to have reliable information about the programs supported by tax dollars and whether those programs are fulfilling their intended purposes. That is difficult in a parliamentary democracy, unless programs are evaluated by outside experts and the results are published without interference by governments. Relatively few social programs in Canada are properly evaluated, and the few evaluations that have been done are often published too late to have any impact on public policy.

Almost all the programs described in this report have been evaluated by outside experts, and they are the exceptions rather than the rule. However, they give us confidence that well-crafted interventions are worthwhile, and they make it easier for successful programs to be replicated in other parts of Canada.

A commitment to the continuity of successful social programs. Once a program has been properly evaluated and shown to be effective, it should be immune from senseless changes by governments. This will be difficult, because governments in Canada have traditionally interpreted a clear victory at the polls as a mandate to change almost anything in sight.

Social progress is the victim every time that a new government reshapes programs for purely political or ideological reasons. Any changes that were motivated by politics or ideology in the first instance are almost certain to be undone once there is another change in government.

This report, like many other reports by other researchers, has shown that carefully designed programs to help families do indeed work and do add to our well-being as a nation. We have the means to mount special interventions for families which need special help. We also have the means to make major inroads against poverty and the social problems that go with poverty. What we lack is the will to get on with the work at hand.

The National Forum on Health summed up the challenge this way:<sup>85</sup>

The problems of inequality and child poverty are not new to our society, yet the fact that they still exist suggests that we have resisted taking collective responsibility for the health of Canadian children. While we firmly believe that the primary responsibility for children lies with parents, it is in our collective interest to ensure the well-being of all children. Child poverty in Canada is a persistent problem, which requires immediate attention and action. Whatever the rhetoric that surrounds the causes and the actual level of poverty, it is clear that we as a Canadian society are not doing enough to provide healthy environments for child development for all of Canada's children. Something must be done. It is not simply a question of money. What is needed is a broad strategy that provides additional money as well as supportive programs that have been proven to work for families with children.

The Canadian Council on Social Development offered a similar, but blunter assessment in a recent publication entitled Child Poverty: What Are the Consequences?"

"Canada's future, our security and quality of life depend upon the well-being of our children," the report concluded. "It is simply not possible to develop a healthy society on the backs of poor and unhealthy children."<sup>86</sup>



### FOOTNOTES

1. National Crime Prevention Council, Money Well Spent: Investing in Preventing Crime (Ottawa: September, 1996), p. 29.
2. National Forum on Health, Canada Health Action: Building on the Legacy, Volume II: Synthesis Reports and Issues Papers (Ottawa: 1997), p. 43.
3. Lisbeth B. Schorr, Within Our Reach: Breaking the Cycle of Disadvantage (Toronto: Anchor Books, 1989), pp. xxii-xxiii.
4. Strategies for Population Health: Investing in the Health of Canadians (Ottawa: Health Canada, 1994), p. 2.
5. Prevention of Low Birth Weight in Canada, p. 6. This work is the primary source for the rest of this section.
6. Canada's Children: Investing in our Future, Report of the Sub-Committee on Poverty of the Commons Standing Committee on Health and Welfare, Social Affairs, Seniors and the Status of Women (Ottawa: 1991), p. 16.
7. The Prevention of Low Birth Weight in Canada, p. 16; also F. Joseph McLaughlin, William A. Altemeier, Myra J. Christensen, Kathryn B. Sherrof, Mary S. Dietrich and David T. Stern, "Randomized trial of comprehensive pre-natal care for low-income women: effect on infant birth weight," Pediatrics 1992;89(1), p. 128.
8. Russell Wilkins, Gregory J. Sherman and P.A.F. Best, "Birth Outcomes and Infant Mortality by Income in Urban Canada, 1986," Health Reports 1991;3(1), p. 15.
9. Ibid., p. 8.
10. Canadian Council on Social Development, Child Poverty: What Are the Consequences? (Ottawa: 1996), p. 9
11. National Council of Welfare, Poverty Profile 1995.
12. Prevention of Low Birth Weight in Canada; Premier's Council on Health, Well-Being and Social Justice, Yours, Mine and Ours (Toronto: 1994), p. 36.
13. The Prevention of Low Birth Weight in Canada, p. 21.
14. Ibid., p. 28.
15. Ibid., p. 19.

16. M.S. Kramer, "Determinants of low birth weight: methodological assessment and meta-analysis," Bulletin of the World Health Organization 1987;65(5), pp. 663, 721.
17. Stephen B. Hotz, Nancy Edwards, Nicki Simms-Jones and Julie Allston, Smoking and High Risk Pregnant Women (Ottawa: Health Canada, 1996) p. 16.
18. Health Canada, The Effects of Tobacco Smoke and Second-Hand Smoke in the Prenatal and Postpartum Periods: A Summary of the Literature (Ottawa: 1995).
19. The Prevention of Low Birth Weight in Canada, p. 19.
20. Ibid.
21. The Effects of Tobacco Smoke and Second-Hand Smoke in the Prenatal and Postpartum Periods, p. 5. This report is also the source for the next three paragraphs.
22. Health Canada, Smoking Interventions in the Prenatal and Postpartum Periods (Ottawa: 1995), p. 3.
23. Health Canada, Tobacco Reduction in Prenatal and Postpartum Programs for High Priority Families: Results of Cross-Canada Survey (Ottawa: 1995).
24. Louise Hanvey, "Working Paper on Health Status," in Working Papers on the Determinants of Healthy Child and Youth Development (Toronto: Premier's Council on Health, Well-Being and Social Justice, 1993), p. 22.
25. Smoking and High Risk Pregnant Women, pp. 20, 22 (see footnote 17).
26. The Prevention of Low Birthweight in Canada, p. 20.
27. Agnes C. Higgins, John E. Moxley, Paul B. Pencharz, Denise Mikolainis and Sheila Dubois, "Impact of the Higgins Nutrition Intervention Program on birth weight: a within-mother analysis," Journal of the American Dietetic Association 1989;89(8), pp. 1097, 1101.
28. Ibid.
29. Marie-Paule Duquette, Janine Desrosiers Choquette and Sheila Dubois, Programme d'aide aux femmes enceintes de milieux défavorisés (Montreal: Montreal Diet Dispensary, 1991).
30. "The WIC Project of the Center on Budget and Policy Priorities" (Washington: April, 1994).
31. "Corporate Support For The WIC Program," Testimony presented to the House Committee on the Budget, March 6, 1991.

32. Ibid.
33. "The WIC Project of the Center on Budget and Policy Priorities."
34. Foetal Alcohol Syndrome: A Preventable Tragedy, Report of the Commons Standing Committee on Health and Welfare, Social Affairs, Seniors and the Status of Women (Ottawa: 1992), p. 3; also The Prevention of Low Birth Weight in Canada, p. 20.
35. Foetal Alcohol Syndrome, pp. 2-3. The quotation and the following two paragraphs also come from this source.
36. Ibid., pp. 4-5.
37. Canadian Paediatric Society et al., "Prevention of Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE) in Canada," Joint Statement (October 1996).
38. Canada, Prenatal Health Promotion Report (Ottawa: Supply and Services Canada, 1994).
39. Vancouver Health Department, Healthiest Babies Possible Program, 1992.
40. Prenatal Health Promotion Report, pp. 26-31.
41. McLaughlin et al, p. 128 (see footnote 7).
42. Cam Mustard, The Utilization of Prenatal Care and Relationship to Birthweight Outcome in Winnipeg, 1987-88 (Winnipeg: Manitoba Centre for Health Policy and Education, 1993), pp. iii-v.
43. Ibid., p. 45.
44. R. Turner, C. Grindstaff and N. Phillips, "Social support and outcome in teenage pregnancy," Journal of Health and Social Behaviour 1990;31, p. 50.
45. The Prevention of Low Birth Weight in Canada, p. 31.
46. D. Olds, C. Henderson, R. Tatelbaum and R. Chamberlin, "Improving the delivery of prenatal care and outcomes of pregnancy: a randomized trial of nurse home visitation," Pediatrics 1986;77(1), pp. 17-18. This section is all from this source.
47. Ibid.
48. A. Oakley, L. Rajan and A. Grant, "Social support and pregnancy outcome," British Journal of Obstetrics and Gynaecology 1990;97, pp. 160, 157.
49. D. Elbourne, A. Oakley and I. Chalmers, "Social and psychological support during

- pregnancy," in Effective Care in Pregnancy and Childbirth (Toronto: Oxford University Press, 1989), p. 222.
50. Daniel P. Keating, "Developmental determinants of health and well-being in children and youth," in Working Papers on the Determinants of Healthy Child and Youth Development (Toronto: Premier's Council on Health, Well-Being and Social Justice, 1993); also Carnegie Corporation of New York, Starting Points: Meeting the Needs of Our Youngest Children (New York: Carnegie Corporation of New York, 1994), pp. 6-7.
  51. Background information on the Community Action Program for Children was supplied by Health Canada.
  52. National Forum on Health, Volume I: The Final Report of the National Forum on Health, p. 24.
  53. Un Québec fou de ses enfants, Report of the Task Force on Children (Quebec: Ministry of Health and Social Services, 1991), p. 67.
  54. P. Garrett, N. Ng'andu and J. Ferron, "Poverty experiences of young children and the quality of their home environments," Child Development April 1994;65(2), pp. 331-45.
  55. Starting Points: Meeting the Needs of Our Youngest Children.
  56. Daniel Keating and J. Fraser Mustard, Social Economic Factors and Human Development, (Toronto: Canadian Institute for Advanced Research, 1993).
  57. Starting Points, p. 9.
  58. Sharon Begley, "Your child's brain," Newsweek (February 19, 1996), p. 57; C.T. Ramey and R. Haskins, "The modification of intelligence through early experience," Intelligence 1981;5, p. 5.
  59. Clyde Hertzman, Child Development and Long-Term Outcomes: A Population Health Perspective and Summary of Successful Interventions (Toronto: Canadian Institute for Advanced Research, 1995), pp. 14-16.
  60. Clyde Hertzman and Michele Wiens. Child Development and Long-Term Outcomes: A Population Health Perspective and Summary of Successful Interventions (Toronto: Canadian Institute for Advanced Research, 1994).
  61. Infant Health and Development Program, "Enhancing the outcome of low birthweight, premature infants: a multisite randomized trial," Journal of the American Medical Association 1990;263(22), p. 3035; also V.A. Rauh, T.M. Achenbach, B. Nurcombe and C.T. Howell, "Minimizing adverse effects of low birthweight: four-year results of an early intervention program," Child Development 1988;59(3), p. 544.

62. B. Nurcombe, D.C. Howell, V.A. Rauh, D.M. Teti, P. Ruoff and J. Brennan, "An intervention program for mothers of low birthweight infants: preliminary results," Journal of the American Academy of Child Psychiatry 1984;23, p. 319.
63. Canadian Institute of Child Health, Low Birth Weight and Prematurity Prevention: Developing the Action Plan, Coalition Workshop Meeting, April 11-12, 1994, p. 2.
64. D. Spiker, J. Ferguson and J. Brooks-Gunn, "Enhancing maternal interactive behaviour and child social competence in low birth weight premature infants," Child Development June 1993;64(3), p. 755.
65. Ramey et al., "The Infant Health and Development Program for low birth weight, premature infants: program elements, family participation, and child intelligence," Pediatrics 1992;89, p. 455.
66. M.C. McCormick, C. McCarton, J. Tonascia and J. Brooks-Gunn, "Early educational intervention for very low birth weight infants: results from the Infant Health and Development Program," Journal of Pediatrics October 1993;123(4), pp. 527-533.
67. Spiker et al., 1993, pp. 754, 758 (see footnote 64).
68. S. Scarr-Salapatek and M.L. Williams, "The effects of early stimulation on low birthweight infants," Child Development 1973;44, pp. 97-98.
69. Nurcombe et al., p. 324 (see footnote 62).
70. Rauh et al., p. 546 (see footnote 61).
71. C.L. Booth, S.J. Spieker, K.E. Barnard and C.E. Morisset, "The role of preventive intervention in deflecting a maladaptive developmental trajectory," in Preventing Antisocial Behaviour: Interventions from Birth through Adolescence (New York: Guilford Press, 1992), pp. 27-29; also I.J. Gordon and R.E. Jester, "The Florida Parent Education Infant and Toddler Programs," in The Preschool in Action (Boston: Allyn & Bacon, 1977), p. 99; also C. Booth, K. Barnard, S. Mitchell and S. Spieker, "Successful intervention with multi-problem mothers: effects on the mother-infant relationship," Mental Health Journal Fall, 1987;8(3), p. 289.
72. Booth et al., 1992, p. 26.
73. S.E. Andrews, J.B. Blumenthal, D.L. Johnson, A.J. Kuhn, C.J. Ferguson, T.M. Lasater, P.E. Malone and D.B. Wallace, "The skills of mothering: a study of Parent Child Development Centres," Monographs of the Society for Research in Child Development 1982;47(6), Serial No. 198.
74. Booth et al., 1987, p. 293.

75. Gordon and Jester, pp. 113-116 (see footnote 71).
76. R. Jester and Barry J. Guinagh, "The Gordon Parent Education Infant and Toddler Program," Consortium for Longitudinal Studies, As the twig is bent... (New Jersey: Lawrence Erlbaum Associates, 1983), p. 129.
77. J. L. Derevensky and E. Wasser-Kastner, "The effects of an interdisciplinary infant stimulation-parent education intervention program upon infant development," Infant Mental Health Journal Spring 1984;5(1), p. 5.
78. Ibid., p. 13.
79. Un Québec fou de ses enfants, pp. 77, 89-90.
80. C. Cowan and P. Cowan, "Preventive intervention for couples becoming parents," in Research on Support for Parents and Infants in the Postnatal Period (New Jersey: Ablex Publishing Co., 1987), pp. 225, 233.
81. Clyde Hertzman and Michele Wiens, A Source Document of Longitudinal Research and Specific Intervention Programs Outside of Canada (Toronto: Canadian Institute for Advanced Research, 1994), p. 10.
82. T.M. Field, "Infants born at risk: Early Compensatory Experiences," in Facilitating Infant and Early Childhood Development (Burlington: University of Vermont Press, 1982), p. 337.
83. K. Barquest and H. Martin, "Use of lay home visitors: a primary prevention strategy for families with a newborn," The Personnel and Guidance Journal 1984;62(9), p. 560.
84. R. Halpern and M. Lerner, "Lay family support during pregnancy and infancy: the Child Survival/Fair Start initiative," Infant Mental Health Journal Summer 1987;8(2), p. 132.
85. National Forum on Health, Volume II, p. 10.
86. Child Poverty: What Are the Consequences? p. 27.

## MEMBERS OF THE NATIONAL COUNCIL OF WELFARE

Mr. Bruce Hardy (Acting Chairperson)	Surrey, British Columbia
Mr. Armand Brun (Vice-Chairperson)	Shediac, New Brunswick
Ms. Helen Margaret Finucane	Regina, Saskatchewan
Mr. Charles H. Forsyth	Hamilton, Ontario
Ms. Dana Howe	Windsor, Ontario
Mr. Jonathan Murphy	Edmonton, Alberta
Mr. David S. Northcott	Winnipeg, Manitoba
Ms. Lorraine Tordiff	Fort Smith, Northwest Territories
Ms. Claudette Toupin	St-Bruno, Quebec
Mr. Calvin A. White	Flat Bay, Newfoundland

\*\*\*\*\*

Director: Steve Kerstetter

Consultant: Brenda F. Beauchamp

Researcher: Gilles Séguin

Liaison Officer: Carole Lanthier Bayram

Publications Officer: Anna Kyle

## **NATIONAL COUNCIL OF WELFARE**

The National Council of Welfare was established by the Government Organization Act, 1969, as a citizens' advisory body to the federal government. It advises the Minister of Human Resources Development on matters of concern to low-income Canadians.

The Council consists of members drawn from across Canada and appointed by the Governor-in-Council. All are private citizens and serve in their personal capacities rather than as representatives of organizations or agencies. The membership of the Council has included past and present welfare recipients, public housing tenants and other low-income people, as well as educators, social workers and people involved in voluntary or charitable organizations.

Reports by the National Council of Welfare deal with a wide range of issues on poverty and social policy in Canada, including: income security programs, welfare reform, medicare, poverty lines and poverty statistics, the retirement income system, taxation, labour market issues, social services and legal aid.

On peut se procurer des exemplaires en français de toutes les publications du Conseil national du bien-être social, en s'adressant au Conseil national du bien-être social, 2<sup>e</sup> étage, 1010 rue Somerset ouest, Ottawa K1A 0J9.