DEVELOPMENTAL PATHWAYS TOWARDS CRIME PREVENTION: EARLY INTERVENTION MODELS

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Abstract: In examining the role of early intervention in children's social development, the authors discuss the results of five broad-based intervention programs based on the Healthy Families model originated in the State of Hawaii. These programs were directed toward families at moderate levels of risk when dealing with the arrival their first child and were situated in Charlottetown, Prince Edward Island, Whitehorse, Yukon, and at three sites in Edmonton, Alberta. The authors state that their experiences with this project have led them to question a number of traditional assumptions regarding past theory and research in this area as it pertains to crime prevention. More specifically, they discuss how the developmental model helped to identify the various developmental pathways of positive change that were being demonstrated by families in the Healthy Families Program sites. They agree with other researchers that early childhood intervention is viewed most appropriately as an individualized strategy and not as a developmental panacea.

It is most timely that this impressive group of researchers and policy-makers gathered to chronicle our collective efforts in deciding how best to prevent the development of delinquency and criminality. The history of efforts to intervene early to reduce delinquency and criminality has been long and varied. We have tried many different programs and strategies, and our efforts have been increasingly well documented, as has our understanding of the importance of thorough evaluation as a means for knowing what works, what doesn't work, and why. Now is an ideal time to step back and take in the larger picture of our intervention efforts to date and to plan for future research, policy development, interventions, and evaluations.

Elsewhere in this collection of articles, the traditional theory of social development was called into question. We would like to add our voices to those of others in this special issue and the collected wisdom of the National Research Council and Institute of Medicine in the United States (Shonkoff & Phillips, 2000) in this regard. It is clear that the assumption that development is a single linear progression of stages is an oversimplification of many children's realities. We now know that development, particularly in children's early years, progresses as an ongoing interplay of nature and nurture.

We are coming to the end of a three-year longitudinal evaluation of five Healthy Families Program sites across Canada. These Healthy Families sites have been running a broad-based early intervention program primarily directed toward families at moderate levels of risk, coping with the arrival of their first child. Five agencies were involved in the delivery of the program on three sites: Charlottetown, Prince Edward Island; Whitehorse, Yukon; and Edmonton, Alberta. In Edmonton, the program was delivered by three agencies that considered themselves as one program. However, in terms of evaluation definitions, they were actually viewed as three

different programs and were analyzed separately. Our experiences with this project have led us to question a number of traditional assumptions regarding past theory and research in this area.

In our work developing and conducting an evaluation of a sample of Healthy Families early intervention programs, we have benefited from reports of past early intervention efforts. We have also benefited from existing broad models or theories of the contexts and pathways of development from infancy and the early prenatal period, through childhood, and into adolescence and young adulthood. Those interested in crime prevention now have enough information to take a larger scale look at the crime prevention domain from this newly available developmental perspective.

Crime prevention models have included early intervention components for years, but it is only recently that a developmental perspective has been applied to crime prevention models. An advantage of developmental models is that they inform crime prevention models by providing an understanding of the longitudinal causal mechanisms that increase or decrease the risk of a developing child being identified as criminally at risk. Developmental models can inform intervention efforts at all ages and stages and can assist in the development and appropriate targeting of new and existing intervention efforts.

It is no longer enough to simply count risks and protective factors. It is important to understand the multiple contexts (e.g., ecological systems) in which development occurs. This is needed to make sense out of what constitutes risk or resilience factors, or vulnerability or protective factors, within particular age ranges. It is also needed to guide intervention efforts to the places and issues that are of particular developmental importance at a given age or developmental stage. Much of this is done in the course of identifying needs and designing interventions for particular groups (e.g., new parents, preschoolers, etc.). However, unless an explicitly developmental model is adopted, the program runs the risk of missing intervention opportunities as well as experiencing difficulties explaining how their interventions might link up with programs and institutions at the next developmental level, or how they can benefit from information flowing through from previous developmental phases.

We will approach these issues by first describing the trends in the early intervention domain that caused us (and others) to rethink our overall strategy in this area. We will then identify what is meant by the term *developmental prevention* and how it can be used both to inform interventions and to link interventions that are otherwise distinctly focused on different parts of the life cycle. We will discuss how an *ecological model* provides insight into where and how to intervene. An ecological model for developmental prevention highlights the risks and protective factors and provides frameworks for identifying those that are of particular developmental relevance within any targeted developmental period. To illustrate this, we will discuss how the developmental model helped us to identify the various developmental pathways of positive change that were being demonstrated by families in the Healthy Families Program sites we were evaluating. Finally, by way of connecting our work more directly with the school-age focus of this group, we will discuss the developmental linkages between early (age) intervention programs and early school-aged intervention programs.

Trends in the Early Intervention Domain

The most significant influence on work in this area has been the renewed focus upon the early years and, in particular, the crucial role that early experience and relationships seem to play in the continued formation and optimal development of the structures of children's brains. The details of this important interaction between infants' basic natures and their environmental circumstances are spelled out in the *Early Years Report* (McCain & Mustard, 1999), and in the previously mentioned report by the American National Research Council and Institute of Medicine entitled, *From Neurons to Neighborhoods* (Shonkoff & Phillips, 2000). The *Early Years Report* makes a number of key points regarding the importance of the aspects of brain growth and development that occur after children are born and in the context of their relationships with their parents and other caregivers:

> How the brain develops hinges on a complex interplay between the genes you are born with and the experiences you have.
>
> …Early experiences have a decisive impact on the architecture of the brain, and on the nature and extent of adult capacities.
>
> …Early interventions don't just create the context, they directly affect the way the brain is wired.
>
> …Brain development is non-linear: there are prime times for acquiring different kinds of knowledge and skills. (McCain & Mustard, 1999, p. 28)

The importance of the early years for development of many of the foundational aspects of the brain and brain functioning is becoming clear. For example, the visual system does not fully develop until after the infant has been exposed to a broad range of complex visual stimuli in the first years of life. The neural networks that form the foundation of later cognitive development are being continuously formed and elaborated throughout the preschool years. As well, the development of the frontal lobe areas of the brain, which are essential for reflection and response inhibition, continue to develop and be open to influence throughout the elementary school years (McCain & Mustard, 1999).

Those writing in this area are very careful to remind us that early development is best viewed as an inextricable interaction of nature and nurture (i.e., of genes, brain cells, and early relationships and experiences). As well, the idea that parents and other caregivers are doing nothing less than *growing their infants' brains* is a very powerful message likely partly selected for its prescriptive force. The only drawback to this forceful message is the public's general tendency to view issues of the brain as genetic and therefore as more biological than social. This runs the risk, *in the minds of the parent consumers of this message*, of actually de-emphasizing the other, equally if not more important, side of this argument – that what parents must do, or be helped to do, is to build and maintain complex, consistent social connections and ongoing relationships with their infants. This means that our interventions with infants and preschoolers are child-parent system directed (and mainly parent focused early on). It also means we can do much at the level of the neighbourhood and community that will support the effective

development of positive nurturing relationships between parents and infants. These points lead directly to a consideration of just what is meant by a developmental approach to intervention and to what sorts of models might best guide us in planning, implementing, and evaluating our efforts in this important area.

Developmental Prevention

Developmental prevention "refers to interventions designed to inhibit the development of criminal potential in individuals" (Farrington, 1996). Aside from assisting programs in deciding where, when, and how to best focus their intervention efforts, a developmental approach to prevention by both programs and policy-makers provides access to a rich source of concepts and studies that could help to identify a new range of questions at all points in the prevention planning and evaluation process (Tremblay & Craig, 1995).

Developmental prevention also includes the idea that development is not a continuous or uniform process. Rather, development proceeds in jumps, steps, and stages and it is important to seriously consider the regular points of developmental transition (e.g., the shift from infancy to the preschool years and the "terrible twos", school entry, movement to Junior High School, etc.). These transitions provide opportunities for interventions aimed at moving children (either directly or through their family, peers, or community) in the direction of positive developmental pathways. What goes on between the transition points within developmental levels can be mapped out using a version of an ecological developmental model.

Ecological Development Models

The saying that "it takes a village to raise a child" does more than simply suggest that it is a task requiring a lot of work. What it points to is the essential importance of considering both the direct contacts that children have as they develop and the multiple contexts in which those contacts occur if you are to properly see what facilitates or hampers optimal development. Ecological developmental models such as Bronfenbrenner's (1979) Ecological Systems Theory, Sameroff's Transactional Model (Sameroff, 1987; Sameroff & Chandler, 1975; Sameroff & Fiese, 1990), Zigler's Ecological Developmental Approach (Emens, Hall, Ross, & Zigler, 1996; Zigler & Berman, 1983; Zigler, Taussig, & Black, 1992), or Ramey and Ramey's Biosocial Developmental Contextualism (C. T. Ramey & S. L. Ramey, 1994) are attempts to sketch out this sort of broader perspective on development.

From this perspective, risk, opportunity, and development must be considered in the contexts that consist of the child and his or her immediate family, friends, neighbourhood, spiritual community, and school. Other influential contexts include aspects of social and physical geography such as weather, local and national laws, social conventions, and cultural and sub-cultural values and ideals. How all of these contextual forces interact with the child's physical makeup determine the actual developmental trajectory or course taken by that individual child. It privileges neither the biological nor the social – neither nature nor nurture. It "…encourages us to look beyond the individual to the environment for questions and explanations about individual behaviour and development" (Garbarino, 1990, p. 78).

Interventions: Reducing Risks and Bolstering Protective Factors

An ecological perspective suggests that we view a child's actual developmental trajectory or the potential developmental pathways open to him or her as a matter of "fit," that is, as a contextual question of how children exist within or move between the various contexts in which they are found. In this model, risks can be seen both as direct threats to the developing child or as a lack of access to normal, expectable developmental opportunities. Bad prenatal experiences or physical disabilities can represent developmental risks, but so can poor family relationships and the possible attendant loss of support and role models. In bad times or bad developmental circumstances, interventions may not be able to mitigate all risks, but it may be possible for the intervention to assist the at-risk children in finding alternative routes to adaptive development, maturity, and citizenship.

The ecological perspective can also help us to see relationships, influences, or intervention opportunities that we might have otherwise missed with a more singular focus. We may find that a proposed intervention strategy may actually *add to* rather than reduce levels of risk. Workable intervention strategies that are suggested by an ecological perspective may actually seem counterintuitive if viewed in isolation. Finally, an ecological model could point out collaborative opportunities between programs and existing social groups and institutions whose efforts are directed either at the same aged children or at consecutive points along children's developmental pathways.

The Importance of Early Relationships

The initial love and nurturing children receive from their families, and other early caregivers, are central to their cognitive, emotional, and physical development. If infants live in such environments they learn to trust their caregivers; this makes infants feel secure. Security is vitally important for children's sense of well-being. When infants feel safe they explore the environment, using the caregiver as a secure base (Ainsworth, 1968). This pattern is part of the normal development of infants and very young children and is essential for healthy growth and development. As children get older their social needs change, but security continues to be important to them.

Most children are nurtured by their parents and live in secure, loving, trusting environments and these children are said to be securely-attached. However, not all infants and children feel safe. Large numbers of infants and children experience maltreatment at the hands of those who they depend upon. These children are said to be insecurely-attached. Documented cases of child abuse and neglect indicate that infants without adequate social interaction with other human beings are unable to develop fully human characteristics. In order to develop such characteristics, an infant or young child requires an ongoing relationship with at least one adult that provides unconditional love and support.

Child maltreatment includes physical abuse, emotional abuse, sexual abuse, and neglect. Research on the community, family, and individual causes of violence in the lives of children and youth emphasize the importance of the family as an agent of socialization. Deprivation from caregivers during infancy predicts anti-social behaviour in children. Deprivation can occur

through events such as extended separation from the mother or other primary caregiver, neglect, maternal depression, etc. (Holland, Moretti, Verlaan, & Peterson, 1993). Furthermore, poor parenting practices and dysfunctional family interaction are associated with the development of anti-social and delinquent behaviour (Snyder & Patterson, 1987).

Not everyone from an abusive, dysfunctional, or violent home will experience these outcomes. The relationship between family violence and substance abuse and/or criminal behaviour is not absolute so these consequences are not inevitable. In an attempt to determine just who *is* at risk, researchers assess the presence or absence of two types of variables: risk factors and protective factors (also called resilience).

In infants' and children's lives, risk factors in their family, school, and/or community include variables such as discrimination, family violence and dysfunction, poverty, lack of supervision, violent neighbourhoods, and multiple moves. The presence of any of these risk factors significantly increases children's later risk for negative outcomes such as depression, mental illness, conduct problems, suicide, delinquency and criminality, substance abuse, and aggressive and/or violent behaviour. The greatest risk factor for the development of nearly all forms of behavioural problems is poverty. Child poverty continues to increase in most industrialized nations, including Canada (Canadian Council on Social Development, 1997). The National Longitudinal Survey of Children and Youth (1994, as cited in Canadian Council on Social Development, 1997) reports that poverty has a negative impact on family functioning and school performance. Family dysfunction and parental depression are significantly higher in families below the poverty line. Moreover, poor children have lower scholastic and verbal skills on school entry than do their more advantaged counterparts.

The presence of four or more risk factors increases the risk of negative outcomes tenfold (Smith, Lizotte, Thornberry, & Krohn, 1995; Sameroff, 1987). The prevalence of serious delinquency and substance abuse is strongly associated with increased numbers of risk factors. Many risk factors are interrelated. For example, family breakdown is related to high levels of juvenile delinquency. However, family breakdown is also related to high conflict, lowered income, and parental absence, each of which in turn is related to juvenile delinquency (Gabarino, Dubrow, Kostelny, & Pardo, 1992). Thus the factors involved in criminal offending are complex and cumulative, and can be explained both through individual and social history.

An excellent example of the interrelationship between individual and socio-cultural influences is the relatively recent research documenting the destructive consequences of children's exposure to community violence (Sheidow, Gorman-Smith, Tolan, & Henry, 2001; Bell & Jenkins, 1993; Osofsky, Wewers, Hann, & Fick, 1993). There is substantial discrepancy in the degree and extent of exposure to violence among children and youth living in inner-city communities. Nevertheless, the Canadian Council on Social Development (1997) reports that one in four Canadian children live in an area that is considered unsafe after dark. Characteristics of the neighbourhood (such as the percentages of families working or living below the poverty level, the stability of the neighbourhood, etc.) and family functioning are important influences in how children develop within their local community environments. How important is the family as an agent of socialization in violent communities? Unfortunately, the importance of family functioning is not independent of neighbourhood characteristics. Sheidow et al. (2001) report

that in inner-city communities without positive social processes, the risk of exposure to violence cannot be assuaged by family functioning. That is, for many children exposed to violence within their communities, it does not matter how their family is functioning; these children are at risk simply by living within their community. Children in functional families are at risk; children in dysfunctional families are *more* at risk. These observations underscore the importance of understanding the social ecology of development for identifying how risk factors relate to outcomes (Gorman-Smith, Tolan, & Henry, 1999; National Crime Prevention Council of Canada, 1995) and serve as an important reminder that the family is not the *only* agent of socialization affecting children.

Complete coverage of all pertinent research on violence and criminality is clearly beyond the scope of this chapter. Nonetheless, evidence does indicate a primary role for families and parents. Child abuse and neglect are particularly significant risk factors predicting later involvement in juvenile crime and chronic criminal behaviour. Children exposed to chronic violence are more likely to be violent. The impact of violence on children differs with the type of violence, the pattern of violence, the presence of supportive adult caretakers and other support systems, and the age of the child (Perry, 1995). Children at risk at an early age are in greater jeopardy for multiple negative outcomes later in life. This is due in part to the fact that the younger child has fewer defensive capabilities (Perry, 1995). For example, a random sample of 3,300 Ontario children indicated that between the ages of 4 and 11, family problems such as poor parenting or family dysfunction or violence were the most significant risk factors for developing later psychiatric disorders. However, for children between the ages of 12 and 16, later psychiatric assessments were more closely tied to more conspicuous parental problems such as criminality and mental illness (Grizenko & Fisher, 1992).

Early Risk and Resilience

Children at risk for later negative outcomes can be identified through particular sets of risk factors. Are researchers equally adept at identifying those factors that will protect children from inferior environments? The answer is, in part, yes. Factors such as high intelligence, secure attachment, average to above average family income, educated parents, etc. can serve as protection for children in destitute environments causing them to be more resilient. In fact, most studies of protective factors (see, for example, Losel & Bliesener, 1990) suggest that under adverse circumstances, 80% of children will “bounce back” from developmental challenges. This assumption is proving to be overly optimistic (Garbarino, 2001; Perry, 1994). For instance, resilience is drastically diminished under conditions of extreme risk accumulation or if children receive inadequate care in the first two years. Garbarino suggests that these observations could be interpreted to mean that the children and youth best able to survive functionally are those who have the least to lose morally and psychologically. The data yielded from his conversations with youth incarcerated for murder and other acts of violent crime confirm his theory. He reports that the crimes were unaffected by moral compunction or emotional responsibility for others. These young people did not experience shame, guilt, remorse, regret, or contrition for their criminal acts (Garbarino, 2001).

The work of Perry and his colleagues (1994, 1995) has documented the impact of early neglect and abuse on the development of the brain. This research contends that the brains of

infants and children are more plastic (i.e., receptive to inputs from the environment) than more mature brains. This means that the infant or child is most vulnerable to disadvantaged environments during the first three or four years. These developmental experiences determine how the brain will be organized and therefore how it will function. Early trauma can produce inadequate development of the brain's cortex (the part of the brain that controls higher abilities such as abstract reasoning and impulse control) by stimulating a stress-related hormone – cortisol – that impedes brain growth.

These findings have implications for research, intervention, and prevention. For example, the earlier an intervention occurs, the more effective and preventive it is likely to be (Blair, Ramey, & Hardin, 1995; Kiser, Heston, & Millsap, 1991; McFarlane, 1987) and thus the more enduring its impact. Furthermore, insightful socio-cultural and public policy implications should arise from understanding the critical role of early experience in socializing infants and children as they mature and acculturate or identify as traumatized and maladapted, thereby affecting our society for ill or good. Perry forcefully argues that we must stop accepting the "myth" that children are resilient, that evidence contradicts such assertions, and children are irrevocably affected by maltreatment. "Persistence of the pervasive [political acceptance of] maltreatment of children in the face of devastating global and national resources will lead inevitably, to socio-cultural devolution" (Perry, 1994).

In Canada, where children and youth comprise 23% of the population, nearly one-quarter of assaults reported to police are visited upon children and youth (Statistics Canada, 2002). While this statistic is disturbing enough, of greater concern however is the belief of officials that many incidents of maltreatment are not documented because they are neither observed nor reported, leading to an underestimate of the extent of the problem. Some types of maltreatment, for instance emotional maltreatment, are difficult to document. Also, factors such as the secrecy surrounding the issue, the dependency of the victim on the abuser, as well as a lack of knowledge about potential sources for help, contribute to under-reporting.

We can conclude that the ramifications of maltreatment of children involve tremendous personal and socio-cultural costs. The financial costs are also staggering. The National Crime Prevention Council, in its report *Preventing Crimes by Investing in Families* (as cited in Ontario Association of Children's Aid Societies, 1998), conservatively estimates that the annual cost of crime in Canada is in the range of 46 *billion* dollars. Family violence escalates social and economic costs to the health care system, impacts the civil and criminal justice systems, and creates immeasurable human suffering. The prevention of crime translates into meaningful reductions in human anguish, community victimization, and money spent on services for young offenders and their families. Society must rethink its priorities with respect to dedicating adequate time, energy, and resources to every aspect of prevention. Programs that support families and parents of very young children can significantly reduce child abuse.

The importance of secure attachments has recently been used to ascertain levels of vulnerability for those at risk of serious criminal behaviour. Many young offenders have been abused or have witnessed abuse in their homes. As already discussed, family violence is a problem that can create lasting physical, psychological, and/or economic repercussions for children and for the larger society. Sexual assault, physical assault, emotional abuse, and neglect

can lead to physical and/or mental health problems, problems with relationships, or social functioning. The impacts of child abuse are experienced throughout the individual's lifetime. For example, 50% of those who were abused as children reported also being abused as adults (McCauley et al., 1997).

Research regarding the developmental impact of early maltreatment is particularly sobering when considering juveniles who commit violent crimes. In a study completed in the United Kingdom, one-third of sexual offenders had experienced sexual and/or physical abuse as a child (Dolan, Holloway, Bailey, & Kroll, 1996). The abused offenders, when compared to the non-abused offenders, had experienced more dysfunctional upbringing and demonstrated higher levels of personal disturbance. For example, 58% of firesetters had a history of physical or sexual abuse. The majority of firesetters demonstrated high levels of personal and family disturbance with poor interpersonal relationships with parents/caregivers. Of 20 adolescent perpetrators of homicide, one-quarter had experienced either physical or sexual abuse. Overall, the group convicted for homicide demonstrated high levels of disturbance, high levels of interpersonal conflict with parent/caregivers, and neglect or separation from caregivers. Garbarino (1999) reported that extreme aggression in boys was related to dysfunctional parenting (abusive experiences and/or abandonment by parents) that began in early childhood. This emphasis on the critical importance of early childhood has led researchers to study children and youth who perpetuate violent crimes from a developmental model relating to psychosocial risk and vulnerability (Kazdin & Weisz, 1998; Dolan et al., 1996; Bailey, 1992).

Developmental Pathways Within Early Intervention Models

Specific programs aimed to reduce stress, enhance family functioning, and promote child development were the logical first step in implementing theoretical developmental models. The Healthy Start Program in Hawaii was designed to improve family coping skills as well as family functioning and aimed to promote positive parenting. Its stated purpose was to reduce child abuse and neglect. The program identified high-risk families for abuse and/or neglect by screening newborns and their families in the hospital, and then followed up with community-based home visits from family support services. Families were linked to family physicians or to nursing clinics and connected to a number of community services. Families were followed until the child was 5 years of age. Evaluation of the program revealed that the high-risk families that participated in the program had half the state average for child maltreatment and abuse, whereas the rate of abuse for high-risk families that did not participate in the program was twice the state average.

From its inception in 1992, Healthy Families America Inc. modelled its programs on the groundbreaking Hawaii initiative and implemented nearly 200 programs throughout the United States. However, due to escalating health costs in a country without socialized medicine, the Healthy Families America Inc. program interventions became increasingly focused on helping low income, at-risk families to access state-funded health services. The Health Insurance Association of America estimated that by the year 2007, 53.5 million people in the United States were uninsured with over one-third of these people being children (DeNavas-Walt, Proctor, & Smith, 2007). Coupled with the fact that at both the state and federal levels child and family services (i.e., Child Welfare) are less broadly organized in the American system, this indicated

that modifications to the Healthy Families initiative would be necessary were it to come to Canada. Canada has a system of socialized medicine that guarantees universal health care and is strongly supported through efficient community public health support. In fact, Canadian children at all income levels make the same average number of visits to doctors, whereas insured American children are eight times more likely to visit a doctor than are uninsured children (Canadian Council on Social Development, 1997). Moreover, Canada boasts more formally organized child and family ministries. These differences enabled Canadian researchers to redefine program objectives and allowed them to focus more intensely and more broadly on the other issues involved in assessing risk.

The Department of Justice Canada, through the National Crime Prevention Centre (NCPC), financed a Healthy Families demonstration project through the Crime Prevention Investment Fund. The main goal of the Investment Fund is to establish effective programs for reducing delinquency and crime. Three sites were chosen to pilot the project: "Best Start" in Charlottetown, Prince Edward Island; "Healthy Families" in Whitehorse, Yukon; and "Success by Six Healthy Families" in Edmonton, Alberta. Each of these three programs and the people they serve were chosen because they represent very different types of communities. The Prince Edward Island program is in a small urban centre with a large rural population and was later expanded province-wide, the Yukon program serves an Aboriginal community, and the Edmonton program is in a large urban community. In 1999, the Canadian Research Institute for Law and the Family (CRILF), located in Alberta, began a three-year project to complete process and outcome evaluations of these Healthy Families pilot programs.

The Healthy Families Program utilizes trained paraprofessional visitors to provide home visitation services to families identified by the public health system as requiring assistance. Healthy Families Programs administer initial and follow-up screenings and establish schedules for home visits. The model requires that the entire child-raising system be assessed. Evaluators from CRILF utilized existing measures and developed measures to assess the risk and protective factors present for each child that could potentially influence a less than optimal developmental trajectory, potentially influencing the child's vulnerability to delinquent and criminal behaviour. Caseworkers help parents access information and make referrals to health and social programs. They help parents develop practical parenting skills, and help them to develop or strengthen existing networks of support. Parents are also encouraged to participate in a career planning program.

The overall mandate of all Healthy Families Programs is to optimize the development of young at-risk children and their families to increase the children's opportunities for later success by early screening, assessment, and intervention. The Canadian focus has been on the transition to parenting, enabling parents to become more effective caregivers in a number of ways. First, the program empowers parents and enables them to access a broad range of community programs and resources (e.g., community kitchens, library reading programs, parenting support groups, etc.). Second, the program has an intense focus on the interaction between the parent and the child, with an eye to identifying issues and facilitating positive parent/child interaction and healthy growth and development for both. Program personnel are trained to identify and address maladaptive parenting attitudes and behaviours.

As already stated, a child's vulnerability to victimization and criminal behaviour involves a number of risk factors including: young single parents; inadequate family income and support; unstable housing; undereducated parents; parental history of substance abuse or psychiatric care; marital problems; and maltreatment (Caledon Institute of Social Policy, 2001). A key issue underlying the Healthy Families project in Canada (and the United States) is whether early experience and intervention make a difference to later occurrence of delinquency or crime. The answer in a recent comprehensive longitudinal review of developmental and early intervention approaches conducted in Australia is unequivocally "yes" (National Crime Prevention, 1999).

Recent Canadian Evaluations of the Healthy Families Program

For Canada, the results of the initial three-year evaluation of the Healthy Families Program piloted in Prince Edward Island, Alberta, and the Yukon were published in the report entitled *Evaluation of Healthy Families Programs in Selected Sites Across Canada* (Elnitsky et al., 2003). Overall, the findings regarding the effectiveness of the Healthy Families Programs presented in this report lead to the conclusion that the programs were successful at achieving some but not necessarily all of their stated objectives. The detail and quality of the data from Child Welfare services especially provided significant support for the effectiveness of the Edmonton Success by Six and the P.E.I. Best Start programs. Further, the report states:

> …our experiences in evaluating these programs left us with the impression that the programs had provided the skills and support necessary for their clients to cope with the crises of everyday life and had, as well, helped the clients achieve goals that we were not able to clearly document. In part this was due to the heterogeneous nature of the clients and their unique needs. However, it may also be due in part to the fact that the complexity of what these programs do is not easily evaluated. Interestingly, as we expanded the evaluation design, we were able to further document outcomes achieved by the programs. (Elnitsky et al., 2003, p. 171)

In the fall of 2002, CRILF, funded by NCPC, began the evaluation of the Prince Edward Island province-wide expanded Best Start program. This evaluation of the expanded program built on the three-year pilot project also funded by NCPC that began in 1999 and was completed March, 2002. As a condition of the agreement with NCPC, CRILF contributed the services of the data analysts, and the Best Start program contributed the resources of the home visitors for collecting and inputting data for the standardized instruments into a computerized Management Information System (MIS).

In March of 2006, CRILF published a report (Hornick, Bradford, Bertrand, & Boyes, 2006) presenting results from the comprehensive evaluation of the P.E.I. Best Start Healthy Families Program for an additional three years. The report had two major objectives as follows:

1. To present a process analysis, which documents the implementation of the program, including program inputs, activities, and outputs.
2. To present an outcome analysis of the program to determine effectiveness based on the following:

- short-term outcome data from a set of standardized instruments (child 0 to 3 years old);
- long-term outcome data from a set of standardized instruments (child 3 to 6 years old);
- a survey of Best Start clients' experiences and views of the home visitation program;
- involvement with Child Welfare services; and
- utilization of health care services.

To accomplish these objectives, both a process analysis and an outcome evaluation based on a program logic model study were conducted. During the previous three-year pilot study of the Best Start program and programs at other sites across Canada, it was very difficult to demonstrate the effectiveness of the early intervention programs for at least four reasons: (a) the nature of the clients themselves; (b) the difficulty in accurately identifying what services were received; (c) the difficulty in identifying and tracking relevant outcomes and benefits; and (d) the effects of history (e.g., changing societal events) on the clients over time.

The previous evaluation (Elnitsky et al., 2003) indicated that client families who received the Healthy Families Programs were a very heterogeneous group. Even though these client families were all assessed as "families at risk", the specific strengths and weaknesses of the individual families were unique and only a few characteristics were commonly shared, i.e., most clients were young, single, poorly educated, and had children with difficult temperaments. This made these families both difficult to serve and difficult to evaluate. Further, because of the unique needs of these families, the specific program goals and activities differed significantly from family to family.

Standardized measures were first administered to clients early in the program (most within the first three months) to provide a detailed picture of the clients' needs. This picture indicated that few clients shared the same pattern of needs. Thus, since all instruments were standardized and "normed" on large samples from the general population, it was possible to determine cut-off scores or predetermined boundaries for each instrument which distinguished between those clients who "needed to improve" on any specific scale from those who were in the normal range and had no need to improve.

Given that the sample of Best Start clients was relatively large, we were able to dichotomize the sample for each instrument by those clients who needed to improve, to compare them with those who did not need to improve, and to identify what change occurred over time. This approach was employed for analyzing the standardized outcome instruments when possible.

Conclusions: Process Analysis

Despite an initial delay in the implementation of the province-wide Best Start in Prince Edward Island due to an extension of negotiations concerning funding, and the subsequent freeze in funding that necessitated limiting the program to families with children under 18 months old, the program had made considerable progress and was successfully implemented. All components of the original Healthy Families model were being used and there was considerable consistency

between the Charlottetown, Prince Edward Island, program and the other Best Start sites both in terms of the services offered and the demographic profiles and risk levels of the clients being served. Finally, the projected number of clients to be served had been reached.

Successful implementation was due to a number of circumstances including the following:

- The Best Start Program adopted a well-developed model for home visitation, i.e., Healthy Families, and tailored the program for families at risk in P.E.I.
- The Public Health Nurses in P.E.I. have been highly committed to the Best Start Program and helped to achieve universal screening and consistent assessments of families.
- All of the Children and Family Resource Centres recognized the importance of this primary prevention program and have entered into partnership with Best Start in implementing the program province-wide.
- The Best Start program had attracted support not only from the host agencies but also from both government and community agencies.
- Capacity building in the community occurred on many levels, e.g., the Public Health Nurses who do the risk screening and assessments; the Best Start supervisors and workers; and the families who benefit from the support and resources of the Best Start Program.
- The development and implementation of an on-line MIS, as well as the development of the Best Start Core Content, provided the supervisors and Best Start workers with new skills and an understanding of how useful these skills are.

Conclusions: Outcomes

Short-term outcome analysis measured the improvement of the clients located in Charlottetown, in comparison with a low risk non-participant Comparison Group during their first year of involvement with the program using a number of standardized instruments. The Comparison Group was located in Summerside, P.E.I.

Improvements for the Best Start clients were noted in two of the four areas, i.e., knowledge of child development on the Child Development Inventory (Hornick et al., 2006) and the accurate perception by the parents of the child's temperament according to the Carey Temperament Scale (Hornick et al., 2006). In the other two areas, i.e., family functioning and social support, there was no difference at post-test.

It is important to note we were limited to just two test periods at a 12-month interval since this was the maximum time for follow-up with the non-participant Comparison Group. It is possible, particularly with family functioning, that it takes longer than 12 months to achieve significant positive change. Previous research (Gomes, Hornick, Wagner, Boyes, & Billings, 2005) suggests that family functioning measured by the Family Assessment Device (Hornick et al., 2006) increased the most in the second year of the Edmonton Home Visitation Program. Interestingly, knowledge of child development in the Edmonton study increased the most in the first year.

Long-term outcome analysis measured how Best Start clients who completed the program at 36 months compared to the Summerside Comparison Group. Further, both of these groups were also tested 12 months later to identify whether completed clients declined after leaving the program.

Generally, the findings regarding long-term outcomes were positive although not statistically significant, most likely due to the small number of cases in the two groups analyzed. Parents' adjustment (PSOC) at Time 1 was higher for the Completed Program Group as predicted and over time it increased slightly overall. Social contact (SNI) was also higher for the Completed Program Group at Time 1. Both groups, however, decreased slightly over time. In terms of use of community resources (CCRT), at Time 1 the Completed Program Group reported higher involvement with health, education, and spiritual/cultural resources whereas the Summerside Comparison Group reported higher contact regarding basic needs, child care, family/parent support, and recreation. Over time the Completed Program Group increased the use of resources, especially child care, while the comparison groups tended to decrease contact with the exception of education.

Stress in the family was high for both groups, especially in the areas of financial, career, and home issues. Further, these did not decrease significantly over time. Finally, the behaviour profiles of the children from the two groups were both "normal" although the Summerside Comparison Group had slightly higher scores on the "withdrawn" and "somatic problems" scales at Time 1.

The satisfaction of clients was measured by the parent survey, which was administered to a sample of clients active in the program more than 12 months. Overall, the respondents were very positive about the program indicating that it helped them "very much", particularly in dealing with the baby's difficult temperament. Most clients (approximately 90%) felt that the program helped "somewhat" or "very much" with their ability to deal with stress and problem solving. Further, they highly valued the relationship with the home visitors.

Since the beginning of the first pilot study (Elnitsky et al., 2003), the overall involvement of Best Start clients with Child Welfare increased significantly from 5% at November, 2001 to 20% at December, 2004. This increase is most likely due to the following two factors: (a) the larger number of older children in the current study; and (b) because the program focus had evolved and the program was working much more closely with Child Welfare, it was less likely than before that families would be excluded from the program because of Child Welfare involvement. The increased involvement in comparison with the earlier study was both an expected and positive finding since it indicated that the program workers were working closely with Child Welfare in accurately identifying children in need of protection and monitoring these cases over time even though a formal policy and protocol had not been adopted. Interestingly, the percentage of Best Start clients involved with Child Welfare was comparable to the Edmonton programs, which reported 31% involvement for a similar time period (Gomes et al., 2005).

Further, in terms of overall involvement with Child Welfare, it should be noted that of the initial 190 investigations, only 66 cases were founded – in need of protection, and those resulted

in only 14 placements, 3 of which were the result of an apprehension. Domestic violence was the primary reason for investigations and it appeared that the Best Start workers' training regarding domestic violence was helping them to identify risk situations.

In order to facilitate measurement of whether the Best Start Programs were effective at reducing the probability of clients' involvement with Child Welfare, two comparative analyses were conducted. First, a comparative analysis was conducted using a sub-sample of Best Start clients whose children were born during the same time period as the non-participant Comparison Group. The non-participant Comparison Group, however, was a significantly lower risk group at pre-program than the Best Start clients making comparison between the groups difficult to interpret.

The best test of the effectiveness of the Best Start Program in reducing Child Welfare involvement was achieved by comparing the Completed Program Group with the Summerside Comparison Group. These groups had children between four and six years of age and both had high-risk profiles at the pre-program stage, with the Completed Program Group being somewhat higher risk than the Summerside Comparison Group. Overall, the differences between the two groups at December 2004 were very significant. The Summerside Comparison Group involvement with Child Welfare was almost double the Completed Program Group's involvement (58% compared to 31%). Rates of founded – in need of protection were comparable (31% and 33%); however, in terms of action, the Completed Program Group had no actions taken (only one informal placement) compared to six actions for the Summerside Comparison Group.

At the time of the birth of the child, the Best Start Program Group mothers were clearly at higher risk than the General Population. The mothers were younger, had more previous pregnancies, tended to smoke and drink during the pregnancy, over 10% used street drugs, and they gave birth to smaller babies. Despite the fact that these mothers and infants were at higher risk at birth, their utilization of health care, including emergency room visits, hospitalizations, visits to family physicians for health promotion, and average number of specialist visits were very similar to the General Population – more so than any of the other study comparison groups.

Since there was no direct measure of appropriate utilization of health care research, we assumed the General Population utilization was "average". That being the case, the non-participant Comparison Group appeared to underutilize services. In contrast, the Completed Program Group and the Summerside Comparison Group appeared to have much higher health care utilization.

The best test of the effectiveness of the Best Start Program in achieving appropriate utilization of health care resources was the comparison between the Completed Program Group and the Summerside Comparison Group – both "high" users as noted above. First, it is interesting to note that the Summerside Comparison Group generally used more health services than the Completed Program Group, with the exception of hospitalization where a referring physician would make the decision about utilization. The biggest difference was the use of emergency room service, which may indicate an inappropriate use of services.

Overall Conclusions

Overall, the above findings and conclusions are very encouraging. While some of the differences between those who received the program and those who did not were not statistically significant, the pattern of findings over the various measures of outcomes were consistent particularly with respect to Child Welfare and health care utilization. Those who received the program performed better than those who did not.

The magnitude of these findings should be viewed within the context of the calls in prior research that we "should maintain modest realistic expectation for home visiting services" (Gomby, 1999, p. 23). Compared to other evaluations, the Best Start Program has performed well. Further, it should be noted that the findings of this evaluation are quite consistent with the previous research. Gomby (2003), in a review of meta-analyses focusing on the effectiveness of home visitation, concluded:

> Effects are most consistent for outcomes related to parenting, including the prevention of child abuse and neglect (depending upon how child maltreatment is measured). Home visiting programs do not generate consistent benefits in child development or in improving the course of mothers' lives. Families in which children have obvious risk factors (e.g., they are biologically at-risk, developmentally delayed, or they already have behavior problems) appear to benefit most. Some studies also suggest that the highest-risk mothers (e.g., low income teen mothers; mothers with poor coping skills, low IQs, and mental health problems) may benefit most, but probably only if the program offers services tailored to address the needs of the mothers. (p. 31)

Linkages Between Different Programs and Developmental Levels or Transition Points

Transition points are markers where children move from one developmental level to another and/or from one developmental context to another. These transition points are opportunities for families and children to confidently move on independent of the supports provided by interventions in previous developmental levels. There are also opportunities for earlier intervention programs to assist their families and child clients in making these transitions through the provision of information and support. For example, Head Start or kindergarten programs can benefit from information about the vulnerabilities and protective factors that characterize their incoming students. As well, the parents of these children, as a result of their experiences with a home visitation intervention, may be more active and effective in their child's transition to the new school setting.

It is becoming increasingly clear that the best way to view the purposes and efforts of early intervention programs is to adopt a population health model where the general parameters or variables that contribute to outcomes are known and understood (vulnerabilities and resiliencies), but where it is also recognized that there is no single normative pattern in which these factors come together in the developmental stories of individual children and their families. This means that it does not make sense to look for a particular pattern in the interplay of vulnerability and resilience factors along children's developmental pathways. Rather it makes sense to monitor the

ways in which families of children at risk address and cope with the array of risks, challenges, and crises they encounter as their children develop. It is in those processes of coping and in the relationships and programs (i.e., connections to home visitors and other early parenting support programs, for example) that support them in these efforts that we will begin to more clearly see how these programs bolster the adaptive processes and outcomes of the children and families with whom they are involved. This also means that family profiles of vulnerabilities may not change over the course of their involvement with a home visitation or other early intervention program. Rather, it may be that their program experiences and the connections or relationships they build with their home visitor act by strengthening their abilities to cope and to adapt more effectively to their roles as parents and as facilitators of their children's development.

> In the final analysis, early childhood intervention is viewed most appropriately as an individualized strategy designed to increase the probability of a desired outcome, and not as a developmental panacea for all children under all circumstances. (Shonkoff & Phillips, 2000, p. 32)

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