



National Collaborating Centre
for Determinants of Health

Centre de collaboration nationale
des déterminants de la santé

NATIONAL COLLABORATING CENTRE FOR DETERMINANTS OF HEALTH

SCAN OF FAMILY LITERACY AND HEALTH FINAL REPORT

Submitted May, 2007

By

Dr. Linda Shohet

On behalf of the Centre for Literacy of Quebec

The NCCDH commissioned this piece of work and would like to acknowledge the contribution of the author and their affiliated organization(s).

“The following report has been copy edited and formatted according to the CHSRF and John Lavis suggested 1:3:25 rule. A full technical report can be made available by contacting the NCCDH directly”

195 Main Street, St. Francis Xavier University, PO Box 5000
Antigonish, Nova Scotia, Canada, B2G 2W5
Tel: 902-867-5406 Fax: 902-867-6130 E-mail: nccdh@stfx.ca Web: www.nccdh.stfx.ca

Preface.....	4
Key Messages	5
Introduction.....	6
The Scan: Premises and Methodology	7
Limitations	8
Outcomes	9
The State of Research in Canada	10
Defining Family Literacy.....	11
Defining Health.....	12
How Family Literacy May Influence Health	14
Parent Literacy Instruction.....	14
Parenting and Health Education.....	15
Preschool / Early Child Development.....	15
Shared Parent-Child Time.....	15
What Does the Evidence Show?	16
O'Brien, Connell & Griffin (2004).....	16
Anderson et al. (2003).....	18
St. Pierre & Ricciuti (2005)	19
Herman & Mayer (2004)	22
Conclusion	22
References.....	26

PREFACE

This report and an accompanying annotated bibliography were produced following a “scan of resources and literature, in English and French, related to health within the context of family literacy”. They are intended to support a joint project of the National Collaborating Centre for the Determinants of Health (NCCDH) and the Centre for Family Literacy (Edmonton, AB). The goal of that initiative is to develop a Family Literacy and Health Module to augment the Centre’s established and widely implemented *Foundational Training in Family Literacy* program. The new module is being designed for use by family literacy practitioners and partners in interrelated fields, such as public health.

The scan and resultant bibliography and report were overseen by The Centre for Literacy of Quebec.

Primary researcher: Claire Elliott

Supplementary researcher: Paul Beaulieu

Editing: Staff of the Centre for Literacy

Key Messages

- The methodology used for this paper included a brief review of family literacy research in Canada; relevant definitions of “family literacy” and “health”; research-based analysis of how family literacy interventions may influence health; and discussion of how these findings translate to the Canadian context.
- Family literacy is defined as, “the many ways families develop and use literacy skills to accomplish day-to-day tasks and activities” (Thomas, 1998), while family literacy interventions are defined as the, “broad spectrum of initiatives which recognize the influence of the family on the literacy development of family members and try to support families in literacy activity and in accessing literacy resources” (Thomas, 1998).
- The Public Health Agency of Canada (2002) defines health as, “...a capacity or resource rather than a state... [and] recognizes the range of social, economic and physical environmental factors that contribute to health...” This conception of health, as a “capacity or resource” produced by multiple determinants, contends that a change in any one determinant should have a corresponding impact on personal health. This is the foundation of the Population Health Approach which is the basis for current public health policy in Canada.
- There is very limited information available about the direct effectiveness of family literacy interventions on health (i.e. the documentation of improvement in a specific health condition as an effect of participation in an intervention program).
- There is a growing body of research that suggest the potential of family literacy interventions to influence health outcomes through positively impacting one or more determinants of health.
- Current literature suggests that family literacy may have a greater demonstrated potential to influence health than it does to improve child and parent literacy skills and existing public health policies and family literacy practices in Canada could provide a solid foundation for the investigation of health benefits if public health agencies and family literacy practitioners were to adopt a model of partnership, and if health education were to be further integrated into existing parenting programs.
- Limitations in Canadian research and in establishing explicit evaluation procedures are mainly due to the diversity and complexity of family literacy programs, differences in provisioning between provinces and territories, the absence of comparable data and data inaccessibility.
- There is a need for focused longitudinal studies of the precise links and outcomes from these initiatives.

INTRODUCTION

In the last 25 years the concept and practice of family literacy have developed deep roots in Canada and around the world. Though the practice was first observed in Israel in the late 1960s, the field gained its name in 1983, when Denny Taylor introduced the term “family literacy” in a study of the home and family environment’s influence on child literacy development (Thomas, 1998). Since then, the field has grown and garnered widespread support, and been the subject of much research and debate. However, despite all this attention, there is still much that is not known about the impacts of family literacy on children, parents and families. The following pages examine what is known about family literacy and its relationship to health.

Since the objectives of this report were fairly open-ended out the outset, the researcher focused on one key question: *Does family literacy have a measurable impact on health?* and identified research studies that examined the impacts of family literacy on health.

Although the findings were limited, a review of the literature confirmed that “health” is a difficult concept to define or measure and that improved health is a frequently named but rarely measured outcome of family literacy programming. The assumption that family literacy programming results in improved outcomes rests on two well-established premises:

1. Families, and parents in particular, play a crucial role in children’s literacy development (Desjardins, 1996; Gaudet, 1994; Literacy New Brunswick, 2000; Thomas, 1998; et al); and
2. Literacy is a direct and pervasive determinant of health (Perrin, 1989, 1998; Committee on Health Literacy, 2004; PHAC, 2002).

The validity of these premises and the strength of their correlation do not, however, constitute evidence that family literacy intervention produces impacts on health. This paper will suggest that we may bridge the gap left by this lack of evidence if we interpret family literacy outcomes through the lens of a population health approach.

This review offers two main conclusions. First, current literature suggests that family literacy may have a greater demonstrated potential to influence health than it does to improve child and parent literacy skills. Second, existing public health policies and family literacy practices in Canada could provide a solid foundation for the investigation of health benefits if public health agencies and family literacy practitioners were to adopt a model of partnership, and if health education were to be further integrated into existing parenting programs.

This report includes a description of the methodology used to conduct the scan; a brief review of family literacy research in Canada; relevant definitions of “family literacy” and “health”; a research-based analysis of how family literacy interventions may influence health; and, finally, a discussion of how these findings translate to the Canadian context.

THE SCAN: PREMISES AND METHODOLOGY

The central purpose of the scan was to identify resources and literature that could inform the development of a training module on family literacy and health. Most of these resources have been included in an annotated bibliography intended to serve as a reference and resource to support the module’s use by practitioners in family literacy and related fields.

The following Canadian sources were consulted:

- the National Adult Literacy Database (NALD);
- the Education Resources Information Centre (ERIC);
- the Canadian Language & Literacy Research Network;
- the Directory of Canadian Adult Literacy Research in English;
- the database of Adult Literacy Research in Ontario;
- the French language database R CRAF (R pertoire canadien de la recherche sur l’alphab tisation des adultes en fran ais);
- the web sites of provincial literacy coalitions and family literacy groups; and
- the online catalogues of provincial resource centres, such as AlphaPlus, The Centre for Literacy of Quebec, and the Centre de documentation en  ducation des adultes et la condition f minine (CDEACF).

The following U.S. sources were also consulted: the National Institute for Literacy (NIFL); the National Center for the Study of Adult Learning and Literacy (NCSALL); and the U.S. Administration of Children & Families' Annotated Bibliography of Head Start Research.

The focus on health led to a further, though less detailed, search of the PubMed database, and thorough reviews of the Health Canada, Canadian Public Health Association, and Public Health Agency of Canada web sites.

The individual terms 'famil*', 'literac*', and 'health' were used for the searches because it was initially assumed that a resource had to directly address both primary concepts, namely "family literacy" and "health". The extension of the assumption was that if a resource did not clearly employ the terms "health" and "family" and "literacy", it was likely not relevant. As the discussion will make clear, this assumption may not have been entirely valid with regard to the search term "health".

Limitations

The limited time available to conduct the scan, develop the annotated bibliography and produce this review did not allow for a comprehensive review of all available research on the benefits of family literacy intervention for health. For example, the scan does not incorporate research on the United Kingdom's national "Sure Start" program, nor does it include the Centre for Research on the Wider Benefits of Learning's studies on the benefits of learning on health. There was also not enough time to read all the materials beyond summaries which further limits the conclusions that can be drawn. A recent literature review (Hauser and Edwards), prepared for the Canadian Public Health Association Expert Panel on Health Literacy and to be published in 2007 summarizes the current state of knowledge related to the literacy and health literacy levels of Canadians as well as relationships between literacy, health literacy and health outcomes. It includes the effectiveness of existing interventions to improve health literacy; and implications of the evidence for policies and programs to improve health literacy. It will add important knowledge to the field. On another front, Reach Out and Read (ROR) is a US national

non-profit organization of pediatricians that promotes early literacy by giving new books to children and advice to parents. It makes early literacy a standard part of pediatric primary care. Following the ROR model, physicians and nurses advise parents that reading aloud is the most important thing they can do to help their children love books and to start school ready to learn. It has produced a body of research that suggests potentially strong health outcomes and is designing a focused research program. The Canadian Paediatric Society has picked up this strand and is starting to promote literacy and reading to parents. Their work is not included here, but they are powerful allies and offer great hope. Finally, the researcher notes that the search term “health” is unlikely to have returned all relevant material on the subject when used as a keyword in database searches. Despite these limitations, the review uncovered some important questions and findings that suggest potentially positive practices and future research direction.

Outcomes

The search strategy produced a small number of evaluation studies, focused on U.S. program models; a potentially limitless array of web- and print-based parenting resources; and an established body of health literacy research and practice materials. These findings did not, at first glance, appear to satisfy the objectives of the scan, as few of the materials contained any explicit comments on the *relationship* between family literacy and health. As noted in the introduction, the relationship is largely assumed in the literature.

Beyond the identification of resources, the scan provided some general insight into the state of family literacy practice in Canada. Specifically, it showed that the traditional principles and practices of family literacy are expanding beyond their traditional home in the adult literacy sector, and becoming more mainstream. For example, a recent report by the Early Childhood Centre of the University of New Brunswick (Nason & Whitty, 2004) documented the outcomes of a national survey that described a rich variety of family literacy practices and supports being delivered by programs managed under Health Canada’s Community Action Program for Children (CAPC) and Canadian Nutrition Program for Children (CPNP). Similarly, the Weaving Literacy Project – an initiative to promote the integration of literacy services into existing family support programs - has

been a central project of the Canadian Association of Family Resource Programs for several years (Smythe & Weinstein, 2000).

Nevertheless, the evident strength of family literacy practice in Canada is not reflected by its research.

THE STATE OF RESEARCH IN CANADA

Research on family literacy in Canada has yet to attain the level of that routinely conducted in the United States. Some root causes for this disparity were suggested by Thomas in her 1998 review of the field when she observed that:

The field of family literacy is complex, based on diversity of families served and the settings of different...projects. It has been difficult for programs to establish explicit evaluation procedures, based on this complexity and on the fact that programs seldom build evaluation into program design... [thus], the level of program evaluation in family literacy often amounts to little more than testimonials. (p. 20)

Since that time, program evaluation has become more routine. However, the same degree of program complexity and diversity still exists, and differences in provision between provinces and territories continue to pose challenges to research, particularly in the definition and measurement of comparable outcomes.

This absence of comparable data is demonstrated by searches of Canada's few literacy research collections. First, it is rare to find more than one published study on any given initiative (the PRINTS program – Parents' Roles Interacting with Teacher Support - is one exception). Second, the number of published studies – or at least those included in collections - is extremely limited. One source returned over a hundred results for "family literacy", but on review only a small number proved to be actual research studies. Across all the collections searched, the researcher estimates there were fewer than 60 Canadian research studies on family literacy. Finally, there is considerable variation in the scope and design of different studies (e.g., some report on single initiatives while others are province-wide; and designs could be ethnographic, descriptive or evaluative).

The number of French language studies is even more limited. The scan identified one research study in progress (Letouzé, 2006), which is measuring the impacts of family literacy programs in French language minority communities in Ontario (this is a five-year, multiple cohort study that involves seven different centres, offering five different programs). Beyond this, the most recent studies identified were descriptive or analytical in nature (Duguay, 2004; Pierre, 2003), and could legitimately be compared to the work done by Thomas & Skage in 1998. This limited number of studies may perhaps not be surprising given the minority status of francophones throughout most of the country, yet literature reviews published in the mid-90's show that at that time (Desjardins, 1996; Gaudet, 1994; Roy, 1995) the French sector drew on the same concepts and principles of family literacy and the same research base as the English sector.

The scan results suggest that, ten years after Thomas, there is still “no coherent strategy in place for developing a Canadian research base in family literacy,” (p. 21). This situation stands in contrast to the United States, where the widespread implementation and public support of models like Even Start and Head Start have facilitated the cross-comparison and evaluation of programs and results, despite variations in local programs.

Furthermore, what Canadian research exists, especially from a community context, is often not easily accessible. Limited access to academic research tools and collections diminishes access to a great deal of published material. It is not uncommon to encounter references to studies and evaluations that have not been published (e.g., evaluation reports submitted to government funders). Because of these gaps in data and access, Canadian research findings do not figure significantly in the discussion or conclusions of this report.

DEFINING FAMILY LITERACY

Many reviewers note that defining family literacy is the first and biggest challenge of any investigation of the topic. This challenge is rooted in the multiple definitions of family literacy, each with different conceptions of its methods and objectives (Desjardins, 1996; Gaudet, 1994; Literacy New Brunswick, 2000; Thomas, 1998). However, it has been

noted that “attempts in theory and practice seem to have the following commonalities: recognition of the importance of the family in literacy development and the objective to break the cycle of illiteracy,” (Literacy New Brunswick, p. 5). Thomas (1998) made distinctions:

Family literacy refers to the many ways families develop and use literacy skills to accomplish day-to-day tasks and activities... [and that]

Family literacy intervention refers to a broad spectrum of initiatives which recognize the influence of the family on the literacy development of family members and try to support families in literacy activity and in accessing literacy resources... (p. 6).

These statements together suggest that family literacy interventions support the development and use of literacy skills within families in order to break a recognized cycle of low literacy, whose origins and solutions are located in the family itself. The breaking of this cycle is held to be essential to the general well-being of the family members, since literacy is essential to academic achievement, improves a person’s employment options and influences income levels, factors that, along with literacy itself, will determine access to the resources required to ensure health.

Family literacy intervention uses a number of different methods to achieve its goals. However, the most complete model of family literacy (and the one most frequently cited) consists of four key components: 1) literacy instruction/adult basic education for parents; 2) parenting and health education; 3) preschool/early child development programming; and 4) time for parents and children together (Jay, 2000; Literacy New Brunswick, 2000; Thomas, 1998). Noted variations in practice are attributable to the fact that different providers deliver these components in different combinations, in different settings, at differing levels of intensity. This generic model highlights that most literacy programs place as much, if not more, emphasis on the parent’s development as on the child’s.

DEFINING HEALTH

The concept of “health” is another complex notion that is not easy to define or measure, as illustrated in the definitions of the World Health Organization (WHO) and the Public Health Agency of Canada (PHAC). The first defines health as “a state of complete

physical, mental and social well-being, and not merely the absence of disease or infirmity,” (WHO, 2005, p. 1). Its division of the concept into the categories of physical, mental and social wellbeing demonstrates how difficult it is to conceptualize or discuss “health” as a unitary object.

The tendency to break the concept down is even more pronounced in the PHAC definition, which describes health as “...a capacity or resource rather than a state... [and] recognizes the range of social, economic and physical environmental factors that contribute to health...” (PHAC, 2002). These contributing factors, otherwise known as “determinants of health”, include: Income and Social Status; Education and Literacy; Social Support Networks; Personal Health Practices and Coping Skills; Healthy Child Development; Social Environments; and Physical Environments (2003). This conception of health, as a “capacity or resource” produced by multiple determinants, contends that a change in any one determinant should have a corresponding impact on personal health. This is the foundation of the Population Health Approach which is the basis for current public health policy in Canada.

This notion carries implications for research to the extent that any measured outcome that influences the status/condition of a health determinant, could, arguably, be reported as a “health outcome”.

From the perspective of family literacy research, this suggests that any measured improvement in children’s literacy skills, or evidence of stronger parent-child bonds could, by attachment to corresponding determinants (e.g., “Education and Literacy” and “Social Support Networks” – or the composite outcome of “Healthy Child Development”), be considered a valid health outcome of family literacy. By this standard, a high proportion of family literacy programs could legitimately claim to produce health outcomes. Using the conceptual framework of the Determinants of Health demonstrates how other outcomes of family literacy, might translate into health outcomes.

HOW FAMILY LITERACY MAY INFLUENCE HEALTH

The notion of literacy's direct and indirect effects introduces a new dimension to the discussion of how family literacy impacts health, and is briefly explained here.

These effects are described by Perrin in a profile paper delivered to Health Canada in 1998. This paper explained that poor literacy skills can have a direct effect on health when individuals are unable to access or understand information that is critical to health protection and maintenance. This inability can, and frequently does, result in the "Incorrect use of medications... Failure to comply with medical directions... Errors in administration of infant formula... [and/or] Safety risks in the workplace, the community and at home..." (pp. 12-13). The outcomes of such errors can range from mild upset to critical injury. The example of infant formula demonstrates how a parent's low literacy poses as many risks to their children's health as to their own.

The indirect effects of literacy on health are harder to quantify, but can be understood (as in the above example) in terms of the powerful compound influence that literacy exerts over other determinants of health. Perrin's discussion includes further examples of literacy's influence over the health determinants of living and working conditions, personal health practices and coping skills, and access to health information and services:

The preceding definition of health and the description of literacy's direct and indirect effects lay the foundation for a conceptual analysis of how the different components of family literacy practice may influence health. (In the following section, determinants of health are specified by bold letters).

Parent Literacy Instruction

Increasing a parent's literacy skills can raise their ability to read and understand critical health and safety information, reducing the risk of errors in the administration of medications, infant formulas, or compliance. This mitigates the direct effects of low literacy on health. It also represents an improvement in **Personal Health Practices** and **Coping Skills**.

Furthermore, an increase in literacy may raise a parent's level of **Employment**, resulting in better **Working Conditions**, a higher **Income and Social Status**, and, potentially, better **Physical Environments** (e.g., home living conditions). This mitigates the indirect effects of low literacy on both the parent's health and the child's through an increased capacity to access the necessities of life.

Parenting and Health Education

Targeted instruction in parenting and health concepts provides parents with concrete information and strategies to support and improve their child's cognitive (e.g., **Literacy**), social and physical development (i.e., **Healthy Child Development**). This type of instruction can reduce the immediate risks of low literacy to child and parent health, by improving parents' **Personal Health Practices** and **Coping Skills**, and their ability to access **Health Services** and information. Participation in learning activities also provides the opportunity for parents to use and further develop their literacy skills.

Preschool / Early Child Development

Preschool and early child development programs support the development of early cognitive and social skills (i.e., **Healthy Child Development, Social Support Networks, Social Environments**), increasing school readiness, and, by extension, the potential for continued academic achievement and economic stability. This reduces the likelihood of negative health outcomes emerging as an indirect effect of low literacy.

Shared Parent-Child Time

This element of the family literacy model engages parents and children in shared reading and play activities. Activities are typically structured to promote maximum cognitive gains, and the positive interaction between parents and children promotes strong familial bonds and healthy social development (i.e., **Social Support Networks, Social Environments**), promoting overall **Healthy Child Development**.

This analysis represents a series of hypotheses as to how family literacy intervention may influence health. The following section examines the extent to which any of these hypotheses is supported by current research.

WHAT DOES THE EVIDENCE SHOW?

This section considers the findings of four studies identified by the scan, and assesses the extent to which they may be considered health outcomes, based on the population health approach. It also highlights any findings that point to promising practices that might, on the strength of reported evidence and their correlation with health determinants, hold greater potential to impact child and family health.

Two of the following articles were selected because they displayed a clear and distinct focus on the concept of health. The other two were chosen because of their focus on key models of delivery, the strength of their research designs, and the subsequent breadth and generalizability of their findings.

The first article reviews the findings of four studies of Head Start's health services (O'Brien, Connell & Griffin, 2004). The second and third describe outcomes of large-scale evaluations of early childhood development programs, e.g., Head Start (Anderson et al., 2003) and the Even Start family literacy program (St. Pierre & Riccuiti, 2005). The last (Herman & Mayer, 2004) presents the results of a unique initiative to provide self-care training to parents of Head Start children.

O'Brien, Connell & Griffin (2004)

O'Brien, Connell & Griffin (2004) review the findings of a nationwide descriptive study of Head Start's health services conducted in 1996; and summarize the outcomes of three prior evaluations. It is one of the two identified articles that clearly focus on health.

Under the Head Start framework, all programs are required to provide a range of health services. The purpose of these services is to ensure that

“...enrolled children receive health screenings and examinations... required immunizations...and proper treatment...for any detected health problems... [and] to educate and empower parents...in negotiating the health care system themselves,” (p. 163).

Medical services are coordinated by Head Start staff, and provided to participants through available, local services. These services were the subject of three evaluation studies summarized by the authors. In each study, reviews of children’s medical records demonstrated that Head Start children were more likely than non-program children to receive age-appropriate medical examinations, immunizations and other preventive health services. O’Brien et al. cite: Fosburg’s (1984) ratio of “86% to 68%” for the reception of medical examinations; Hale, Seitz and Zigler’s (1990) discovery that “Head Start children exceeded [a control group of] middle-class children in receiving TB tests, blood pressure measurements, and hearing and vision screenings”; and Brush, Gaidurgis and Best’s (1993) finding that “across all reporting programs, medical treatment was provided to a mean of 97% of the children needing such services,” (p. 164). While evidence that health services were provided does not constitute evidence that health was improved, yet, by providing these services, Head Start directly influences a determinant of health (“Health Services”), and could thus be credited with producing potential health outcomes for children.

The 1996 descriptive study was based on a review of Head Start children’s health records, as well as interviews with program staff and more than 1,000 families served by Head Start at 40 program sites nationwide. Like the earlier evaluations, it established that children received required physical examinations, dental checkups, immunizations and other preventive health screenings (p. 174).

The study also recorded the following outcomes of participation in Head Start’s health education services: ...[A]lmost all of the interviewed parents stated that they discussed health topics at home with their children [and] [i]mprovements in either child or adult health behaviors after entering Head Start were noted by two thirds of the parents. (p. 174)

While this evidence of behaviour change does not constitute a direct measure of health, such changes in behaviour and awareness represent a clear improvement in parents' and children's Personal Health Practices and Coping Skills, and could therefore be considered a health outcome of intervention. This outcome is particularly significant when one considers that Head Start staff identified "...poor parenting skills...[and]...poor nutrition..." (p. 166) as two of the health risk factors they encountered most frequently. As such, it offers some evidence of the benefits of delivering health education to parents and children.

The four studies reviewed in this article offer evidence of Head Start's impacts on health, by virtue of the fact that the program facilitates access to Health Services, and is seen to improve families' Personal Health Practices and Coping Skills.

Anderson et al. (2003)

The second article by Anderson et al. (2003) offers a systematic review of evaluation research conducted on centre-based early childhood development programs in the U.S. This review measured four categories of outcomes – cognitive, social, child health screening, and family - and its conclusions were based on the findings of 16 studies (in 23 reports), selected from a list of more than 2000 articles identified by a literature search. To be accepted, studies had to

- document an evaluation of an early childhood development program...
- be published in English between 1965 and 2000,
- compare outcomes among groups of people exposed to the intervention with outcomes among groups of people not exposed or less exposed to the intervention...
- measure outcomes defined by the analytic framework for the intervention. (p. 35)

The authors' final conclusions were that "[e]arly childhood development programs are recommended on the basis of strong evidence of their effectiveness in preventing delay of cognitive development and increasing readiness to learn, as shown by reductions in retention in grade and placement in special education." (p. 40)

As noted in an earlier section, measures of cognitive development constitute literal measures of one aspect of child health, so it is unnecessary to interpret this finding from a population health perspective to determine the presence of a health outcome. This outcome (i.e., Healthy Child Development) is established.

What is notable is the absence of any scientific evidence of social outcomes in children, as an effect of participation in early childhood development programs. On this subject, the authors postulate that a "...lack of standardized measures and the challenges of implementing longitudinal follow-up may have contributed to the paucity of evidence in this domain," (p. 38). Whatever the reason, this is a surprising finding, and raises questions about the effectiveness of such programs. In the final analysis, this study can only claim one health outcome of participation in early childhood development programs in the U.S.

St. Pierre & Ricciuti (2005)

St. Pierre & Ricciuti (2005) report the outcomes of an evaluation of Even Start family literacy programs, based on assessments of 18 representative projects serving 309 families. The study measured 25 different outcomes, the majority of which assessed child and parent literacy levels. These measures were taken at three points over a two-year period (a pretest administered on enrollment, a post-test at the end of the Even Start year, and a follow-up one year after the program's end). A control group of 154 families was assessed according to the same measures over the same periods. These families were not enrolled in Even Start, though they met the eligibility criteria. Furthermore, for ethical reasons, they were not prohibited from accessing comparable services (e.g. Head Start) during the research period.

Other Even Start outcome measures assessed: the levels of parent and child participation in services relative to those available; children's social skills as assessed by classroom teachers; the quality of classroom environments; and the quality of instruction provided to children.

On parent and child literacy measures at post-test, the authors report that “[d]ata collected from Even Start families show that children and parents made pretest-post-test gains on many measures different measures of literacy” (p. 960). This finding signals an improvement in child’s cognitive development, which we have previously identified as evidence of Healthy Child Development, and considered a health outcome. In a similar way, evidence of parental gains signals an improvement in Education and Literacy as a determinant of health, and thus also demonstrates a health outcome.

On ratings of children’s social skills, “In elementary school (but not in preschool), Even Start children were rated...by their teachers as exhibiting significantly fewer problem behaviors than control group children,” (p. 962). This finding demonstrates healthy social development, which, combined with positive measures of cognitive development, demonstrates strong evidence of Healthy Child Development resulting from Even Start participation.

The above gains can be considered positive outcomes of participation in Even Start programs. Yet, the single most surprising and relevant finding of this evaluation was that, at each point,

...data collected from families that were...assigned to a control group show that children and parents in the control group made the same kinds of gains on literacy assessments, on parent reports of child literacy, parent-child reading, on literacy resources at home...and so on that were seen for Even Start families... (p. 961)

This finding seems to negate evidence of Even Start’s role in producing the gains identified above.

This led the authors to examine whether the evidence could demonstrate any relationship between levels of child and parent participation in available services and recorded literacy gains. This was one of three “non-experimental” analyses of the data. This analysis found that

- there is a positive relationship between the number of hours that children spend in early childhood education and their scores on three WJ-R subtests...

- there is *positive relationship between the number of hours that parents spend in parenting education and their children’s scores* on the PPVI-III, on three WJ-R subtests..., and on the WJ-R Early Development Skills cluster;
- there is a negative relationship between the number of hours that parents spend in adult education and their children’s scores on two WJ-R subtests; and
- there is no relationship between the number of hours that parents spend in adult education or in parenting education and their scores on any of the parent assessments. (p. 965)

At other points in the article the authors note that “...reviews of research in [the] area have concluded that parenting education, by itself, is not able to affect child outcomes,” (p. 954). Yet, the above finding suggests that increased participation in parenting has the potential to improve children’s test scores on some measures.

Later the authors also claim that “the very low literacy level of Even Start parents is likely to interfere with their ability to be successful teachers of their children...” (p. 966). This claim would be flatly contradicted by many key contributors to the foundational research base on which family literacy practice is built, including Elsa Auerbach (1989), the originator of the now widely validated “social-contextual approach in which community concerns and cultural practices inform curriculum development..” (p. 1). It is enough, however, that another of the study’s own findings undermines this claim.

In the study’s assessment of quality of instruction delivered to children, the authors report that “...many Even Start early childhood education staff rarely expanded on ideas or information presented by children” (p. 959), and go on to explain that

...recent research has pointed out the particular relevance of language and reasoning skills as precursors and tools, both for reading and for general problem solving, especially for children from low-income families... Thus, children are not getting what research says they need...to achieve the outcomes envisioned... (p. 960)

From this assessment, the authors seem to suggest that what children *particularly* need, and what they are missing in the Even Start program, is a responsive and stimulating conversationalist. If this is an accurate interpretation, there appears to be little grounds for

refuting a parent's ability to teach their child on the basis of their own limited literacy skills.

Herman & Mayer (2004)

The final study by Herman & Mayer (2004) documents the outcomes of a unique pilot project that assessed the influence of self-care training provided in conjunction with an easy-to-read self-help book, on Head Start parents' use of emergency health services. The study was conducted at 4 volunteer project sites with 406 parents, who were divided more or less equally into control and intervention groups at each of the four sites. Parents in the intervention group received the book (*What To Do You're your Child Gets Sick*) plus self-care training, while control group parents received only the book. All participants completed a pre-intervention survey, though only 224 completed one post-intervention.

On pre-intervention surveys, just under half of all parents (49%) said they would visit the clinic or make a doctor's appointment at the appearance of simple cold symptoms. Only 1% said they would consult a book for information (p. 3). Six months after the intervention, "The effects of the training were evident in parents' responses to the question "When your child is sick, where you first go for help?" (p. 4) In response to this question, 69% of control group parents said they would call their doctor, while 58% of intervention group parents said they would "look in a book".

CONCLUSION

The original question posed by this report was: *Does family literacy intervention have a measurable impact on health?* The answer to this question is yes and no: it depends what you measure, and how you interpret that measurement.

From a narrow interpretation of health, the scan did not identify any studies that measured health outcomes directly, i.e. no study documented a specific health condition prior to enrollment in a program, and an improvement in that health condition as an effect of participating in a family literacy program. However, there is a growing body of

research that suggests the potential of family literacy to influence health outcomes more broadly defined.

The nearest approximation to such evidence was provided by the four studies reviewed by O'Brien et al. (2004), and Herman & Mayer (2004). Nonetheless, the former could only demonstrate that children received health services thanks to participation in Head Start; and the latter documented reductions in the use of emergency medical services resulting from a targeted self-care training initiative. None of the studies offered evidence that health was actually improved. However, each of them was able to demonstrate a positive impact on one of the determinants of health, as identified by the Public Health Agency of Canada's population health approach.

The section "How does family literacy address health" identified many potential outcomes of participation in family literacy, and how these outcomes might produce health benefits, when viewed from a population health perspective. The subsequent article analysis showed that all but one of the studies could demonstrate a positive impact on the status or condition of at least one health determinant (e.g., Healthy Child Development, Personal Health Practices and Coping Skills). At the very least, this demonstrates a strong potential for family literacy programs to improve child and family health, by acting on the many different conditions that determine it.

Finally, as noted in the section "Defining health", any evidence of cognitive or social development in children (as demonstrated by measured increases in literacy ability or closer bonds between parents and children) may be considered a health outcome, based on the understanding that each is a central component of healthy child development. In this respect, many family literacy programs can be seen to produce measurable health outcomes, in the form of social or cognitive gains.

Two of the above studies assessed program effectiveness in terms of such outcomes. Anderson et al. (2003) found strong evidence that early childhood development programs (like Head Start) produce significant cognitive gains for children, but was unable to identify any other consistent social or family outcomes. St. Pierre & Ricciuti (2005)

measured literacy gains in children and parents, but could not attribute these gains to participation in a family literacy program (e.g. Even Start). Ultimately, neither study offered strong evidence for the effectiveness of these models. However, one must ask about the literacy measures used – all standardized pre and post-tests. It is conceivable that some of the possible gains can be best captured through qualitative measures and over longer periods of time.

The four studies reviewed focused on U.S. programs for which there is no Canadian equivalent, so their outcomes may not necessarily be generalized. Of the "typical" models described earlier, the "Parent and Children Together" is best exemplified by the Even Start program in the U.S. The Head Start program, on the other hand, is an example of the "Parent Involvement" model, where the focus is on the child's literacy development, with parents recruited to support them as necessary. These are the dominant models in the U.S. and both are widely supported by public funds. However, as demonstrated by Anderson et al. (2003) and St. Pierre & Ricciuti (2005), there is little cumulative or reliable evidence that these programs achieve the goals they set.

By contrast, there is no such uniformity of practice in Canada, where funding varies from province to province, and practice is largely respondent to local needs and capacities. Well-known interventions fall under the "Focus on Parents" (e.g., Learning and Parenting Skills), "Parent Involvement" (e.g., Parent-Child Mother Goose, Ontario's Parenting and Family Literacy Centres) and "Community Family Literacy Support/Resources" (e.g., Books for Babies) categories of family literacy programming (Jay, 2000). A review of these programs suggests that a high proportion of Canadian programs place a primary focus on developing parent's literacy or parenting skills as a way to support literacy development in children and develop stronger bonds between parent-child (Duguay, 2004; ; Nason & Whitty, 2004). As noted earlier, due largely to the diversity and complexity of programs, there is little available research of program effectiveness in Canada. Yet, even in the U.S., where there is little evidence that Even Start and Head Start programs achieve their goals, the above studies offered some limited evidence of the effectiveness of parenting education to improve child and family health. In this respect, practice in Canada may be hypothesized to produce many of the same benefits as the U.S.

models, at a fraction of the investment. Recent publications from the English and French sectors highlight the fact that Canadian practice responds to locally-defined needs, and builds on local capacities. In this respect, practice closely reflects the aims and practices of public health policy, as defined by the population health approach which “takes action based on analyses and understandings of the entire range of the determinants of health... [it] recognizes the complex interplay between the determinants of health [and] uses a variety of strategies and settings to act on the health determinants in partnership with sectors outside the traditional health system or sector.” (PHAC, 2002)

This type of broad-based action is illustrated by Health Canada’s Community Action Program for Children (CAPC) and Canadian Prenatal Nutrition Program (CPNP) which provide a range of family literacy services and supports (Nason & Whitty, 2004). Programs and initiatives like these demonstrate a growing recognition of family literacy’s potential to produce benefits for children, families and communities, and are evidence that family literacy practice is slowly finding its place among a standard array of available social services.

While child and parental literacy development may be the original aims of family literacy programming, health is its final objective. On the strength of the preceding conceptual analysis and research evidence, the current initiative to develop a Family Literacy and Health training module can be seen as particularly timely and relevant.

The literature suggests the need for focused longitudinal study of the precise links and outcomes from these initiatives.

References

- Anderson, L.M., Shinn, C., Fullilove, M.T., Scrimshaw, S.C., Fielding, J.E., Normand, J., & Garande-Kullis, V.G. (2003). The effectiveness of early childhood development programs. *American Journal of Preventive Medicine*, 24(3S), 32-46.
- Auerbach, E.R. (1989). Towards a social-contextual approach to family literacy. *Harvard Educational Review*, 59(2), 165-181.
- Berkman, N.D. et al. (2004). *Literacy and health outcomes*. [Evidence Report/Technology Assessment, Number 87]. Rockville, MD: Agency for Healthcare Research and Quality.
- Canadian Paediatric Society (2006). *Paediatrics & Child Health* 2006; 11(9): 553-632. Retrieved May 25, 2007, from: http://www.pulsus.com/Paeds/11_09/contents.htm (Issue devoted to early literacy)
- Desjardins, J.Y. (1996). *Outil de réflexion pour une intervention en alphabétisation familiale*. [Québec] : Les commissions scolaires des régions de Québec, Chaudière-Appalaches.
- Duguay, R., Bernard, L., & Deschênes-Doucet, C. (2004). *Répertoire commenté : Matériel d'animation en alphabétisation familiale*. Moncton, NB : Université de Moncton, Groupe de recherche en petite enfance. Retrieved April 8, 2007, from the Public Health Agency of Canada web site: http://www.phac-aspc.gc.ca/dca-dea/pubs/lang/pdf/repertoire_commente.pdf
- Hauser, Jo and Peggy Edwards. Literacy, Health Literacy and Health: A Literature Review, prepared for the Canadian Public Health Association Expert Panel on Health Literacy (to be published in 2007)
- Health Canada. (2005). *About Health Canada*. Accessed April 22, 2007, from: http://www.hc-sc.gc.ca/ahc-asc/activit/about-apos/index_e.html
- Herman, A.D. & Mayer, G.G. (2004). Reducing the use of emergency medical resources among Head Start families: A pilot study. *Journal of Community Health* 29(3), p. 197.
- Hertzman, C. & Wiens, M. (1996). Child development and long-term outcomes: A population health perspective and summary of successful interventions. *Social Science & Medicine*, 43(7), 1083-1095.
- Letouzé, S. (2006). *Pour mon enfant d'abord: Etude de l'impact de l'alphabétisation familiale sur les familles vivant en milieu minoritaire*. Ottawa, ON : Coalition francophone pour l'alphabétisation et la formation de base en Ontario.

- McCain, M. & Mustard, J. F. (1999). *Reversing the Real Brain Drain: The Early Years Study*. Toronto, ON : Ontario Children's Secretariat.
- Nason, P.N., & Whitty, P.A. (2004). *Language, literacy and healthy development: The work of CAPC and CPNP projects*. NB: University of New Brunswick, The Early Childhood Centre. Retrieved April 8, 2007, from the Public Health Agency of Canada web site: <http://www.phac-aspc.gc.ca/dca-dea/pubs/lang/pdf/literacy.pdf>
- Nickse, R.S. (1991). *A typology of family and intergeneration literacy programs: Implications for evaluation*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, Illinois, April 3, 1991.
- Pierre, R. (2003). *L'éveil à l'écrit en contexte familial*. Montréal: Université de Montréal, Groupe de recherche sur l'alphabétisation et l'acquisition de la littératie. Retrieved March 23, 2007, from the Coin de la famille web site: <http://www.coindelafamille.ca/outils/download/195/195.pdf>
- Perrin, B. (1989). *Literacy and health project: Phase one: Making the world healthier and safer for people who can't read*. Toronto, ON: Ontario Public Health Association & Frontier College. Retrieved April 9, 2007, from: <http://www.opha.on.ca/resources/literacy1research.pdf>
- Perrin, B. (1998). *How does literacy affect the health of Canadians: A profile paper*. Retrieved April 7, 2007, from the Public Health Association of Canada, Population Health web site: <http://www.phac-aspc.gc.ca/ph-sp/phdd/literacy/literacy2.html#3>
- Public Health Agency of Canada. (2002). *Population health*. Retrieved April 29, 2007, from <http://www.phac-aspc.gc.ca/ph-sp/phdd/approach/index.html#What>
- Reach Out and Read (program website) <http://www.reachoutandread.org/>
- Smythe, S. & Weinstein, L. (2005). *Weaving literacy into family and community life*. Ottawa, ON: Canadian Association of Family Resource Programs.
- St. Pierre, R.G. (2005). Effects of a family literacy program on low-literate children and their parents: Findings from an evaluation of the Even Start family literacy program. *Developmental Psychology*, 41(6), 953-970.
- Statistics Canada. (1996). *Growing up in Canada: National Longitudinal Survey of Children and Youth*. Ottawa, ON: Human Resources Development Canada.
- Thériault, J. ([2004]). *L'Émergence de l'écrit ou l'éveil du jeune enfant à la lecture et à l'écriture*. [Québec] : Ministère de l'Éducation, du Loisir et du Sport. Retrieved April 27, 2007, from: <http://www.meq.gouv.qc.ca/DFGA/politique/eveil/renseignements/pdf/emergence.pdf>

Thomas, A. (Ed.). (1998). *Family literacy in Canada (1998): Profiles of effective practices*. Welland, ON: Soleil Publishing. Retrieved March 14, 2007, from the National Adult Literacy Database: <http://library.nald.ca/item/117>

United Nations Educational, Scientific and Cultural Organization. (2005). *Literacy portal*. Accessed April 22, 2007: http://portal.unesco.org/education/en/ev.php-URL_ID=40338&URL_DO=DO_TOPIC&URL_SECTION=201.html

World Health Organization. (2006). *Constitution of the World Health Organization*. 45th ed., suppl. Retrieved April 22, 2007, from: http://www.who.int/governance/eb/who_constitution_en.pdf