Encyclopedia on Early Childhood Development

Low income and pregnancy

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Synthesis on low income and pregnancy

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How important is it?

Nearly 12% of all Canadian children live below the low-income level, according to 2005 federal statistics. This represents 788,000 children.[1] Low income is particularly prevalent among single-parent families headed by a woman. According to 2005 figures, 33.4% of those in that category fall below the low-income cut-off. Researchers agree that poverty compounds the stresses that all families face and can have a negative effect on children's development. The risks of negative child outcomes and the likelihood of poor living conditions are noticeably higher for children living in families with annual incomes below $30,000.[2]

What do we know?

Since family earnings can change over time, researchers recognize two types of low income, one transitory and the other persistent. Persistent low income, or simply long-term poverty, has been found to be more damaging than short-term poverty. When poverty occurs in the early years, it also appears to be more damaging than when it happens later in childhood.

Low family income has been consistently associated with low IQ and early school failure. It has also been linked to several childhood problems, including insecure attachment, negative mood and inattention, as well as other behavioural problems. A number of factors that are associated with poverty may exert a negative influence on a child's social and emotional development: a lack of community support, single parenthood, low parental education, maternal depression, nutrition, low birth weight and infant health are just some of the variables. In fact, when researchers take into account these associated factors, low family income by itself appears to have little causal effect on early social and behavioural development.

What can be done?

Thus, although improving the economic status of families promotes more positive outcomes for children's cognitive development and academic achievement, direct services and therapeutic interventions may be a comparatively more promising alternative for improving children's psychosocial development and reducing behaviour problems. The key seems to be bringing in early intervention. Home visiting is one way in which a variety of services can be provided to low-income families. Evidence is emerging that the impact of high quality multidimensional home visiting programs lasts long after the intervention ends. Families set a different life trajectory, with fewer closely spaced children, less reliance on public assistance, and greater health and well-being among the children. Home visits, particularly in combination with centre-based care, have been successful in reducing children's behaviour problems. Two notable centre-based programs that have shown long-term effects on children's behaviour are Perry Preschool and Head Start**.** More research is

still needed to determine what components of programs are essential and which produce the greatest long-term impact. Similarly, more research is needed to find out how programs work to produce their long-term impact, whether it is because of improved caregiving, increased maternal personal resources, improved family functioning, expanded economic resources, or all of the above.

Other services and policies that are likely to have positive effects on children's environments and development include food supplementation programs for pregnant women and housing subsidy programs. Despite these promising research results, intervention services are not always readily available in practice. For instance, they are not as easily accessible in rural as in urban areas of Canada and, similarly, they are not as readily accessible in the northern regions as in the south of the country. Researchers say that improving the parents' or caregivers' understanding of children's normal and problematic development, as well as improving their so-called service perception, or their beliefs and expectations about social services, is important to ensure that families who need services seek them. They also suggest reducing barriers to service accessibility by providing child care, assistance with transportation costs, varied program times and locations, low-cost or free programs, and efforts to accommodate literacy, language and cultural differences.

Researchers call for increased funding for interventions that would help low-income children whose development may be compromised by family or environmental risk factors. In addition, they call for increased evaluation of intervention services, especially as they are implemented in less than ideal real-world settings. Program evaluations should be theory-based, use rigorous methods, and include a focus on children's emotional, social and behavioural outcomes.

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Low Income (Poverty) During Prenatal and Early Postnatal Periods and Its Impact on Psychosocial Child Development

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Topic
Low income and pregnancy

Introduction
Many expectant and new mothers have low family incomes. Their children tend to display more behavioural problems and less prosocial behaviour than children born to mothers with higher family incomes.1-13 To what extent and in what ways income differences may be the cause of children's behavioural problems are therefore crucial research and policy questions.

Subject
Behavioural problems in children are costly for both families and society. Since both tax and income-transfer (eg, child allowance) policies provide effective ways of changing family income, it is important to establish whether low family incomes per se are responsible for children's psychosocial problems.

Problems
Key methodological problems in research on this topic include:

1. distinguishing family income from other aspects of a family's socioeconomic status, such as parental education;
2. determining the extent to which the association between family income and children's psychosocial outcomes may be causal in nature; and
3. determining the mechanisms by which income affects psychosocial outcomes.

A key policy question in this area of research is whether steps to redistribute income from richer to poorer families are more cost-effective than intervention programs designed to prevent or treat psychosocial problems.

Research Context
Linkages between family income and children's behavioural outcomes have been investigated with cross-sectional and longitudinal data.1-13 Because family incomes may vary from one year to the next,14 longitudinal data relating family income during prenatal or early postnatal periods to later psychosocial outcomes in children provide a

much stronger basis for establishing causal inference than do cross-sectional studies that relate concurrent family income to child psychosocial outcomes. In addition, studies that include statistical controls for confounding family conditions (such as family structure) offer better causal estimates than studies that do not. Lastly, a handful of experimental studies have manipulated family economic conditions through the random assignment of families to various welfare reform conditions.15

Key Research Questions

1. Does prenatal or early postnatal family income affect children's psychosocial outcomes?
2. If so, what pathways account for such an effect?

Recent Research Results

An income-based definition of poverty compares a household's total cash income (from work, welfare, relatives, and all other sources) with a threshold level of income that varies according to family size, inflation and, in some definitions, according to general societal living standards. A substantial minority of families moves in and out of poverty each year. Unemployment, divorce or other untoward events decrease incomes and push families into poverty. Reemployment, marriage or other positive events increase family incomes, pushing them up and over the poverty threshold.16 Income is a distinct component of a household's socioeconomic status by virtue of its volatility, a reality that is not well represented by the occupation- or education-based measures often employed in psychological studies. Unfortunately, there are very few longitudinal studies of children's early development that include high-quality measurement of family incomes.

a) Correlational Studies

Research with young children has found that low family income and poverty are associated with a variety of psychosocial outcomes.1-13 To date, more studies have concentrated on the effects of income on problem behaviour1-3,5-13 than on positive behaviour.2,4-5,8 However, there is some evidence that income is associated with both types of behaviour in young children.2,4-5

Low family income during the early childhood has been linked to comparatively less secure attachment,4 higher levels of negative moods and inattention,5 as well as lower levels of prosocial behaviour in children.2 The link between low family income and young children's problem behaviour has been replicated across several datasets with different outcome measures, including parental reports of externalizing and internalizing behaviours,1-3,7-9,11-12 teacher reports of preschool behavioural problems,10 and assessments of children based on clinical diagnostic interviews.7

Generally speaking, support for an association between low family income and children's problem behaviours is modest. For example, one study found that a child whose family had low incomes between birth and age 5 was 30% more likely to have parent-reported behavioural problems than a child whose family did not experience low incomes.7 Research has found somewhat stronger links between children's psychosocial outcomes and persistent, as opposed to transitory, poverty.3,6

b) Causal Modeling

A handful of child outcome studies have attempted to distinguish the effect of family income from the effects of other aspects of family life, such as parental education, that may differ between poor and non-poor families.2-3, 8, 11-13 Overall, statistical controls for correlated aspects of family socioeconomic status produce either very small or no significant net associations between family income and children's behavioural problems. Statistical controls for children's prior problem behaviour reduce the effects of low family income on children's behavioural problems by about half.3-8

Experimental designs involving the manipulation of family incomes are better suited to establishing causal associations between household income and well-being in children because differences in income are not associated with child or parent characteristics. Random-assignment experiments conducted in the 1990s attributed low-income families with a variety of conditions, some of which boosted maternal employment but not family income, while others boosted both maternal employment and family income.[15] Relative to controls, children in families with mothers assigned to conditions that boosted only employment differed little in terms of externalizing or internalizing behavioural problems. Children in families with mothers assigned to conditions that also boosted family income showed improvements in some psychosocial outcomes relative to controls. Unfortunately, the studies were focused primarily on school-aged children, and therefore the findings from these studies do not address the question of whether increases in income during the first years of life would have a positive effect on children's psychosocial development.

Conclusions

On average, children reared in low-income families have more psychosocial problems than do children reared in high-income families. But research has failed to establish substantial causal linkages between low family income and children's psychosocial outcomes; indeed, other characteristics of low-income families appear to be more important. Family structure—single motherhood in particular—has been identified in a number of studies as an important correlate of children's behavioural and social adjustment.18 Substance abuse,19 genetic differences,20 and exposure to early trauma21 are other possible factors that may account for the link between low family incomes and children's behavioural problems.

Much more research is needed to identify which correlates of low family incomes are the most amenable to intervention efforts. In addition, because past studies have focused primarily on whether poverty affects young children's problem behaviour, research is also needed to investigate the links between low family income and other psychosocial outcomes in children.

Implications for Policy and Services

Current research does not appear to suggest that improving the economic status of low-income families would, by itself, promote children's psychosocial development or reduce their behavioural problems; indeed, a family's income status appears to have a much more substantial causal effect on children's cognitive development and academic

achievement.2-3, 15, 17 Consequently, while income transfers may be effective in improving children's cognitive development, it is unlikely that they will improve children's social and behavioural adjustment. In the end, direct services and therapeutic interventions may be a comparatively more promising alternative.

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Low Income and Its Impact on Psychosocial Child Development

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Topic
Low income and pregnancy

Introduction
There is a voluminous body of literature to support the theory that family poverty adversely affects children's health, intellectual capabilities, academic achievement, and behaviour.[1-27] By contrast, a small but growing body of literature has demonstrated how various policies and interventions can attenuate poverty's negative influence on child development.[28-48]

Subject
Most research in this field has focused on the following:

a) Examining statistical linkages between family poverty and psychosocial development in children
b) Adjusting these linkages for confounding factors
c) Identifying the mechanisms by which poverty exerts its negative influence
d) Determining which clinical and public policy interventions are most likely to attenuate poverty's deleterious effects on children's psychosocial development.

Problems
The key problems in this area of investigation are as follows:

a) Determining the mechanisms and pathways by which poverty produces negative effects
b) Separating the effects of family poverty from the effects of living in impoverished communities
c) Distinguishing between the effects of poverty and its many associated confounders
d) Establishing the extent to which the intensity and duration of poverty respectively affect negative child psychosocial development
e) Identifying the long-term beneficial effects of policies and programs designed to attenuate poverty's negative effects on children.

Research Context

Research in this area has included cross-sectional and longitudinal observational studies on the effects of poverty, as well as the randomized assignment and investigation of short-term and (more importantly, but more difficult to ascertain) long-term outcomes of intervention. Obviously, the nature of the problem precludes the random assignment of test subject groups to conditions of poverty vs. non-poverty conditions, and animal studies cannot be used to corroborate, expand upon, or explicate findings from epidemiological studies.

Key Research Questions

The key research questions in this area are as follows:

a) What are the mechanisms and pathways by which poverty exerts a negative effect on child psychosocial development?
b) What programs and policies attenuate poverty's negative effects on child psychosocial development?

Recent Research Results

Among the major confounders and pathways by which poverty exerts a negative influence on child psychosocial development, we found:

- community factors, such as schools, neighbourhoods, peer influences, paucity of job opportunities, cost of food and other essentials, and exposure to stress and violence;[20,31,34]
- single-parent households (the feminization of poverty, as well as the adverse psychosocial effects of divorce and of having only one adult oversee activities, day-in and day-out);
- young maternal age at birth of child;
- low maternal education;[4,5,8,10,24]
- increased family size;
- breastfeeding;
- maternal depression[12,21,39]
- smoking;[27]
- an authoritarian parenting style;
- lead poisoning in children,[3]
- frequent family moves, and, in extreme cases, family homelessness;
- low birthweight,[4,5,10,13,17,18] its complications and treatments, including the use of corticosteroids to prevent bronchopulmonary dysplasia;[1]
- undernutrition,[11] failure to thrive (failure to gain weight at the anticipated rate during the first two years of life), and iron deficiency;[14]
- increased prevalence and severity of chronic health problems, such as asthma.[25,26]

The neurocognitive effects of lead poisoning, of failure to thrive, and possibly, of iron deficiency and other early health problems in children appear to be largely or totally irreversible. All of these factors build a strong case for instituting effective primary prevention strategies. Moreover, underprivileged children with low birthweight[23] and lead poisoning[3] appear to suffer from greater cognitive impairments than do low birthweight,

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lead-poisoned children from more economically privileged families. Indeed, these findings may apply to the effects of other chronic conditions as well.

Poverty has been shown to be independently associated with lower IQ;[4] early school failure, school retention, suspension, and dropout;[5] increased rates of behaviour problems;[10] and lack of access to mental health services when faced with behaviour problems. To date, associations between poverty, diminished intellectual capabilities and academic achievement have been more robustly demonstrated than have associations between poverty, increased rates of behaviour problems and mental health problems.[4] Also, long-term poverty appears to be more damaging than short-term poverty, and poverty that occurs during infancy and preschool years appears to be more damaging than poverty experienced later in childhood.[4] Very recent studies suggest that growing up in poverty leads to systematic changes in brain development. These changes tend to involve the prefrontal cortex and affect so-called executive functions, such as self-regulation, planning, and emotional control.[39]

The evidence suggests that many clinical and public policies are effective in addressing the socio-cultural factors associated with poverty that impair children's development. These policies include the provision of early intervention programs,[28-33,37,38] especially publicly funded, centre-based, and comprehensive early child development programs. These kind of programs have been shown to be effective in preventing developmental delay, improving grade retention and accelerating placement into special education. Nutrition support programs, such as food support programs for pregnant women and infants, and school nutrition programs, such as the school breakfast program, have been shown to reduce rates of low birthweight,[36] iron deficiency,[43,47,48] and school underachievement.[40] Nurse home visitation has been associated with improvements in various measures of the quality of the home environment and in child development outcomes.[42] Housing subsidy programs for low-income families that provide rental vouchers for use in the private housing market allow families greater choice in where they choose to live, resulting in improved neighbourhood safety and reduced exposure to violence.[31]

Conclusion

A large body of research literature has demonstrated the deleterious effects of family poverty on the multiple aspects of child psychosocial development. But while multiple pathways and confounders of poverty's influence on child development have been identified, much remains unknown. Moreover, the literature demonstrates the proven or likely benefits of public policies and clinical practices in the psychosocial development of children growing up in poverty.

Implications for Policy and Services

Interventions with demonstrated effectiveness for children in poverty include:

a) (USA) Head Start and early intervention programs for ex-premature babies and physically healthy preschoolers from low-income families. Policies that increase participation in and the quality of such services are likely to have beneficial effects on child development.

b) Food supplementation programs such as the (USA) Women, Infants and Children's Program (WIC) have been shown to reduce low birthweight and iron deficiency, and school nutrition programs, such as the school breakfast program, have been shown to improve scores on standardized tests of academic achievement.
c) Nurse home visitation has been shown to result in improvements in multiple measures of the quality of home environments.
d) Housing subsidy programs result in improved neighbourhood safety and reduced exposure to violence.

While we have found no studies to corroborate the efficacy of the following services and policies in improving the psychosocial functioning in children, we contend that they are likely to have a variety of positive effects on child development:

1. Housing policies that diminish frequent moves for families or the homelessness of children benefit children physically and psychologically. Policies that diminish children's exposure to lead-contaminated house dust promote healthy development.
2. Smoking cessation services for pregnant women and parents, increased taxes on cigarettes, and bans on smoking in public areas, all reduce children's prenatal and passive exposure to tobacco smoke, which appears to be a potent neurotoxicant.
3. Improved access to quality health care is likely to have significant positive effects on the overall development of low-income children.
4. Improved integration of health and other child and family services ensures continuity in care.[49] Often, the only human service sector that regularly interacts with low-income parents and their children in the early years of children's lives is the primary medical care system. Developing better clinical approaches and systems of care that result in early identification, triage, referral, and treatment of chronic physical health, nutrition, and developmental problems is likely to improve children's development.
5. Services aimed at the identification and treatment of maternal depression and other mental health problems are likely to improve the mental health of mothers.

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Low Income and Its Impact on Psychosocial Child Development
Comments on Duncan and Magnuson, and Weitzman

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(Published on line April 3, 2003)

Topic
Low income and pregnancy

Introduction
On one hand, Greg J. Duncan and Katherine A. Magnuson have provided a brief, very sophisticated presentation of the effects of poverty on prenatal and early postnatal development and its impact on the psychosocial development of children. On the other hand, Michael Weitzman has written a remarkably comprehensive and concise article on low income and its impact on child development. In both cases, the authors show that they are highly knowledgeable about the interactions between poverty and early childhood development.

Research and Conclusions
Duncan and Magnuson's paper demonstrates that:

- On average, children in low-income families have more psychosocial problems than do children who grow up in high-income families.
- However, research has not established substantial causal linkages between low family income and children's psychosocial outcomes. Correlated characteristics of low-income families (such as family structure) appear to be more important.
- More research is needed to identify which correlates of low income can be most effectively addressed through intervention efforts.

However, in this paper, the impacts of various interventions on children and families living in poverty may have been underrepresented. Duncan and Magnuson have aptly focused on economic policy, indicating that income redistribution may significantly improve outcomes in children. However, the impact of various early intervention programs such as the Head Start and Day Care programs (which have produced both short-term and medium-term results) was not adequately considered — this, despite the vast body of literature now available on Head Start research and David Weikart's studies on early intervention.

Weitzman, who is very familiar with the literature, provides highly appropriate and valuable interpretations of the research. I was amazed by his ability to summarize this complex literature so concisely. Weitzman's foremost argument:

- That there are many confounders and pathways by which poverty negatively influences child psychosocial development.
- That poor children may suffer greater impairment from adverse events than other children under similar circumstances (eg, lead poisoning or failure to thrive).
- That the early years are a period of particular vulnerability during which poverty may be more damaging than later in life.

On a minor note, Weitzman could have paid somewhat more attention to the health consequences of poverty issues and other adverse factors, such as low birthweight. For many years, the Robert Wood Johnson Foundation sponsored the Infant Health and Development Program (IHDP), which provided considerable longitudinal data concerning the health and developmental consequences of intervention programs for low birth weight infants. The effects of poverty can be identified in these data.

Implications for Services and Policy Perspectives

Duncan and Magnuson have certainly identified some major issues for policy consideration related to family income and consequent developmental outcomes in children. They have also provided a service by proposing policy options geared towards improving developmental outcomes in children by improving the economic status of low-income families. While Duncan and Magnuson indicate that family income has a preponderant causal effect on both children's cognitive and economic development and on their academic achievements, they also suggest that economic improvement will not, in itself, necessarily resolve psychosocial development and behavioural problems. Indeed, although they are not oblivious to the potential importance of intervention programs, these authors focus much too narrowly on income issues and income redistribution.

Duncan and Magnuson have presented the policy implications associated with family income and the potential significance of moving families out of poverty with salient accuracy. However, despite their familiarity with the relevant literature, they have failed to adequately consider the potential of intervention programs.

In the area of intervention programs, Weitzman has identified entirely appropriate implications for policy. His paper effectively examines a variety of intervention programs that target children growing up in impoverished environments and provides an excellent summary of the health, developmental, and policy issues surrounding the development of these children. Moreover, Weitzman holds that we need not await the day that poverty is (ideally) abolished once and for all to provide positive influences to poor children as they grow.

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Interventions to Promote the Healthy Social and Emotional Development of Low-Income Children

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Topic
Low income and pregnancy

Introduction
There has been a recent explosion in knowledge about the importance of the earliest years of life in setting the stage for the development of social and emotional skills and capacities in young children. It is from these early experiences and relationships that children develop, or fail to develop, the ability to trust others, and to regulate emotions and social behaviours. In turn, these skills are related to success in school.

Both empirical evidence and anecdotal evidence suggests that young, low-income children in the United States are disproportionately likely to experience problems in mastering social and emotional skills. Nationally, about one-third of kindergartners experience one demographic risk factor, with 16% experiencing two or more. For minority and city-dwelling children the figures are much higher.[1] Research based on teacher reports suggests that about 10% of all young kindergarten children lack needed social and emotional skills. Research on low-income children suggests about one-quarter to one-third lack such skills. Reports by childcare teachers convey great concern regarding the behaviour of the children in their care. Reports from all over the United States also reveal that unknown numbers of children are actually asked to leave child care settings because of their behavioural problems. Young children in low-income environments also manifest clinical levels of disorder, with prevalence rates comparable to those of older children. Data like these, coupled with widespread concern among child care providers and kindergarten teachers about children's aggressive, withdrawn, or otherwise challenging behaviour have stimulated growing policy, and (to a lesser extent) research interest in the efficacy of interventions to help low-income families and other caregivers promote healthy social and emotional development in young children.

Problems
Although research paints a very clear and compelling picture about risk factors that are linked with poor social and emotional outcomes in young children (particularly parental risk factors, such as the use of harsh discipline, a lack of warmth, maternal depression, substance abuse and domestic violence), few resources have been allocated either to interventions or to research. There has been limited investment in funding for

interventions to help low-income children whose development (especially social and emotional development) may be compromised by family or environmental risk factors that place them at risk of experiencing early school failure.[2] Funding for services to children with clinical levels of problems is also limited.[3,4]

The Research Context

Although the quality of research on this subject is mixed, there is a large body of research literature about general interventions that promote child and, often, family well-being through home visiting, child development, and family support programs.[5] However, these studies have included few, if any, analyses of the impact of general interventions on children who show specific signs of problematic behaviours, lack of social skills, or who are in families experiencing multiple risk factors. There is also research that shows that quality child care, in settings where teachers have warm, nurturing relationships with children, promotes better cognitive, linguistic, and social and emotional outcomes, although research also shows that low-income children are less likely to be in such settings than their more affluent counterparts.[6]

More recently, a number of intervention studies (many of which are still in progress) have been funded to examine the impact of intentional strategies to address social and emotional issues. Generally these studies fall into one of three categories. The first set of studies tests the impact of specially designed classroom-based social and emotional skills curricula. The second set of studies is similar to the earlier generation of studies assessing more generic programs, but pays more attention to measures and outcomes related to social-emotional domains, involves interventions that are more explicitly designed to be relationship based, and includes more analysis of risk levels in sub populations. Examples include in-progress assessments of an intervention targeting all children and families (*Healthy Steps*[7]) or all low-income children (*Early Head Start*[8]). The third set of studies tests the impact of general case management/mental health interventions for identified children in child care and primary health care settings, and sometimes in settings serving more concentrated numbers of children at great risk, such as homeless shelters. A body of research is also emerging that explores in greater depth the ways in which social and emotional behaviours impact school success or failure.[9]

Key Research Questions

The research questions in this current round of intervention research focus largely on assessing the short-term effects of a specific intervention on child outcomes, particularly those related to school readiness and early success in school. To a lesser extent, some efforts have been made to track reductions in parental depression, utilization of services (such as substance abuse) and changes in parental disciplinary practices. Efforts to assess the impact of intentional interventions, such as mental health consultation strategies on non-parental caregivers, are more limited, although many field investments concern these strategies.

Recent Research Results

This section briefly summarizes the research findings from the studies referred to above. Although promising, the research on social skills curricula for young children generally

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involves very small samples, and lacks longitudinal follow-up. Whether recommended provisions are robust enough to deal with the levels of risk that many low-income children experience is questionable. More promising in this area are social skills experiences that include parents and teachers as well as children.[10] Some research on interventions also combines social, emotional, and academic interventions. Research on more generic strategies with a focus on the higher-risk children shows more promising results. Research on *Early Head Start*, for example, finds positive changes in both parental behaviour and child cognitive and behavioural measures at age 3. However, needy, vulnerable, high-risk families still do not achieve the desired outcomes. Multi-site interventions based on principles of strength-based family support and case management are also promising. The *Starting Early Starting Smart*[11] research, for example, showed more improved behaviours and language development in the children in the intervention group than in the control group. Also prevalent was the pronounced use of parental services for substance abuse.

Conclusions

The very limited body of research in this area makes it difficult to draw conclusions with great certainty, and many results are not yet published. However, a few things do seem clear, namely:

1) Careful studies of interventions show reductions in problematic child behaviour for at least six months to a year after the intervention.[12]
2) For infants and toddlers, home visiting programs have not shown the anticipated impacts, and there is some concern that the most vulnerable families are the ones least likely to remain in such programs.
3) For preschoolers, the most promising interventions involve both families and caregivers who use the same strategies.
4) Despite the high level of maternal depression in low-income populations, interventions that show changes in parental practices and/or child outcomes do not usually show changes in maternal depression levels. (This fact is troubling since the negative impact of maternal depression has been substantiated with clear evidence, not only with regard to social and emotional behaviours, but also cognitive behaviour).
5) Although evidence-based interventions to guide practitioners are limited, practitioners, by necessity, are inventing new approaches to respond to the social and emotional challenges of the children and families they serve. For example, in some communities, *Early Head Start* programs are building in more intensive interventions for highly vulnerable families (eg, those who have been incarcerated for substance abuse). However, such efforts are rarely evaluated on a formal basis.

Implications

The clearest implication of current developmental research is that it is important to invest in efforts to promote healthy relationships and social and emotional development in young children. Failure to do so is costly to both children and to society. A second implication is that there is a need for a coherent research agenda in this area, including the development and testing of theory-based interventions to address relationship-based

problems experienced by infants, toddlers, and preschoolers in the context of their families, and in out-of-home experiences. A third implication is that research is required to more closely examine the nexus between social and emotional development and success in school, given the importance of success in school for low-income children. Equal attention must also be paid to the quality of preschool and early school experiences, particularly in helping teachers deal with children with challenging behaviour.

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Barriers to Services Promoting Child Emotional, Behavioural, and Social Health

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Topic
Low income and pregnancy

Introduction
In this paper on barriers to service, we will begin by defining the parameters of our work. Barriers are defined as both real and perceived obstacles that prevent or interfere with access to services. Services are defined as specific intervention or prevention strategies to decrease child emotional, behavioural, and social problems. We define emotional, behavioural, and social problems broadly as within the area of children's mental health, views on the causes and definitions of problems vary widely.[1]

Our focus is children from 0 to 5 years of age who are living in low-income families. However, the paucity of literature on this kind of population has led us to look more broadly to services working to decrease child emotional, behavioural, and social problems. As a result, the conclusions reached and the implications discussed herein apply beyond this specific population.

Background
Over 1.2 million Canadian children are poor.[2] Repeated cross-sectional studies that provide a snapshot of how children are doing at a single point in time have demonstrated an association between low income and a variety of child morbidities,[3-6] including emotional, behavioural, and social difficulties. Longitudinal studies which allow for the investigation of the impact of low income on child development over time further demonstrate that the greater depth and duration of poverty in early life (preschool and early school years), the greater the impact on child outcomes will be.[6-7] This article focuses on poor, young children up to 5 years of age — a population at high risk for developing emotional, behavioural, and social difficulties.

Key Questions
The framework for identifying barriers to services to decrease child emotional, behavioural and social problems for low-income families with young children examines four specific questions:

1) Are services effective?

2) Are services available?
3) Are those in need seeking referral to services?
4) Are services accessible?

Research

Are Services Effective?

A number of services for low-income families with young children have been rigorously evaluated and appear to be effective. These specific individual services consist of certain day care and preschool programs,[8] parenting programs,[9] and nurse home visitation services.[10] A complete review of these services is beyond the scope of this article. Other services for low-income families with young children are currently being carefully evaluated (eg, support/education groups for single, low-income mothers of young children).[11] Preliminary results are positive, but the evaluation of these services remains incomplete.

It is alarming how few of the programs for low-income families with young children have been rigorously evaluated. The same is true, more broadly, for the gamut of services aimed at decreasing child emotional and behavioural problems.

In addition to the need to do more evaluation, it is also important to consider what method of evaluation has been adopted. Research strategies to evaluate services range from efficacy research (the study of how a service works under ideal conditions) to effectiveness research (the study of how a service works in the real world). Assessment of services in the real world is important, since on one hand participants in efficacy studies may not be representative of those who attend conventional clinical or community-based services, and on the other hand services provided in efficacy studies may be highly controlled and may not accurately represent services provided in the real world.[12,13,14] An effectiveness evaluation framework is therefore most relevant to services evaluation.

Are Services Available?

The availability of services aimed at decreasing child emotional and behavioural problems varies according to where a family lives. Therefore, services are neither readily available to all low-income families with young children, nor to other populations of families and children in Canada. In general, services are more readily available in urban (as opposed to rural) settings, and in southern (as opposed to northern) regions of Canada. Indeed, research suggests that only a relatively small proportion of children with emotional and behavioural problems actually receives professional help.[15,16] While every child with emotional and behavioural problems may not need professional resources, increasing service availability, through the creation of new services, along with hiring new service personnel, and redistributing resources[17] would be important steps towards breaking down barriers to services for many families, including low-income families with young children.

Are Those in Need Seeking Referral to Services?

Families may not seek services if the problem for which the service is sought is poorly understood (problem recognition) or if their understanding of the available service is

unclear of unfavourable (service perception). Difficulties with problem recognition include parents', teachers', or health care providers' inabilities to identify the need for service,[1] denial of problem severity,[1] and the belief that the problem can be "handled" without intervention[1,18] or will get better on its own, with time.[18] In addition, the family must have reached some degree of readiness for change[19] before services are sought.[11] Difficulties with service perception include lack of trust in or negative experiences with the providers, lack of desire on the part of the child to receive help, and stigma related to mental health problems.[11] Education about the norms and deviations in the emotional, behavioural, and social development of children 0 to 5 years old, and about helpful approaches to specific child and family problems may help families and others make better-informed decisions about whether a service is needed. Establishing community awareness regarding children's mental health problems, receiving supportive comments from others who have used the services or from community leaders, and making efforts to decrease stigma may also be helpful.[20]

Are Services Accessible?

An effective, available service that is recognized as necessary to families and young children is still of little use if families cannot access the service. Accessibility barriers include waiting lists, service costs, transportation, inconvenient times or locations, child care, parental mood, language and cultural issues, and literacy.[1,11,21] Low-income families may favour non-clinic based interventions[21,22] although not all studies consistently support this view.[23] Studies on intervention attrition have shown that socio-economically disadvantaged families in which parents have little education, present with psychopathologies and experience high levels of stress are most likely to drop out of services and programs.[24,25] These features are shared by many low-income families.

The barriers identified have provided logical parameters for the methods used to increase service accessibility. These include provision of childcare, assistance with transportation costs, varied program times and locations, low-cost or free programs, and efforts to accommodate literacy, language, and cultural differences. Another approach to increasing service accessibility is to ask families about their preferences. Consumer research marketing techniques have been applied to a variety of families, including low-income families, to identify program preferences.[26,27,28] Issues such as timing, instructor qualifications, and program research base were identified as important features.

Conclusions

Our framework for understanding barriers to services for helping children with emotional and behavioural difficulties is based on four specific questions: (1) Are services effective? (2) Are services available? (3) Are those in need seeking referral to services? (4) Are services accessible? Barriers to treatment were identified in all of these areas. First, in terms of service effectiveness, some services for this population of families have been evaluated and found to be helpful. However, many services have not been adequately evaluated. Second, service availability varies according to whether recipients are in urban vs. rural or southern vs. northern locations. Third, difficulties with both problem recognition and service perception may exist, creating barriers to service use by

low-income families with young children. Finally, numerous barriers to service accessibility have been identified.

Implications

Removing barriers to services for low-income families with young children (and for many other Canadian families) is a task that varies according to the barrier to be surmounted. Recommendations must therefore reflect this specificity. Interventions that have proven effective should be widely available, whereas those that have not should be subject to evaluation. Careful attention should be paid to issues of respondent burden when asking families to answer evaluations.[15] Moreover, it should be noted that barriers to service accessibility relate to broad issues such as national and provincial health care planning, specifically in terms of recruitment and funding for health care professionals who work with young children and families. Planning is needed to ensure that adequate resources are available to serve at-risk populations of children and families. Difficulties related to problem recognition and service perception may be overcome through appropriate education about normal and deviant child behaviour, and community acceptance of services. Barriers to service accessibility have been well documented, and careful planning around service timing and location, childcare, and transportation assistance can also be very helpful in reducing these barriers. Consideration of all these issues should therefore be a routine part of both service planning and service budgets.

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Effective Early Childhood Development Programs for Low-Income Families: Home Visiting Interventions During Pregnancy and Early Childhood

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(Published online February 5, 2004)

Topic
Home visiting programs (prenatal and postnatal)
Low income and pregnancy

Introduction
Concern for the health and well-being of young children, particularly children from low-income, socially disadvantaged families, has resulted in the exploration of alternative approaches to delivering services to young families. Home visiting is one venue through which a variety of services can be provided. In this paper, we focus on the impact of services provided in home visiting programs to low-income families with children under 5 years of age.

Subject
Despite the emphasis on prevention in traditional primary health care and family services, individual office/center-based care requires clients to take initiative to seek out services on their own. Generally, the services provided are limited to health guidance and the treatment of health and illness problems related to the conditions and concerns disclosed (one way or another) by the client to the provider. It has been proposed that home visiting can

a) reach out to those who do not seek services,
b) enhance clients' comfort and ability to reveal their conditions,
c) provide opportunities for providers to tailor their support and guidance to clients' real-life situations,
d) result in satisfying provider–client relationships.

Despite a broad range of services, home visiting services are expected to augment, rather than replace, center-based health and human services. Visits to families begin during pregnancy or from the time of birth and last until children are between 2 and 5 years of age. Home visiting programs vary dramatically. Differences exist in their underlying theoretical models, characteristics of target families, number and intensity of visits, duration, curriculum, approaches to services, degree of manualization, fidelity of implementation, and background, and training of the visitors.

Problems

Although the history of home visiting spans more than a century, it emerged with renewed force in the 1970s as a promising strategy to promote child health and development, and reduce abuse and neglect in vulnerable, at-risk families. Some of the recently developed home visiting programs have proliferated, encouraged by federal, state/provincial, local, and private support. Despite this encouragement, typically funding for programs has been commonly sought from budgets where funds have not previously been allocated. As a result, policy makers have turned to researchers for answers to questions regarding the relative merits of home visiting programs, and their impact on outcomes. Particular attention has been paid to the outcomes of programs that target families at risk because of low income levels and other adverse social circumstances.

Research Context

Most of the research to date has been designed to determine whether the health and development of children and their families are better as a result of home visit services. Research reports have provided limited information about the programs and their implementation. But apart from some exceptions,[1] investigators have generally not attempted to vary program features and systematically study them.

Key Research Questions

This review is designed to respond to two key questions:

1. What are the outcomes of home visiting programs for low-income families?
2. Do program outcomes differ based on program characteristics?

Recent Research Results

1. What are the effects of home visiting programs?

Several reviews have concluded that home visiting can be an effective strategy to improve the health and developmental outcomes of children from socially disadvantaged families.[2-4] However, effects have not been found consistently and some studies have reported no impact. When effects have been found, they are generally not as large as originally predicted. In addition, effects have not been consistently identified in the same outcome areas. As might be expected, different programs and different levels of program implementation have resulted in different outcomes. Some programs achieve effects while the program is in operation but the effects dissipate after the program ends, while others have reported delayed effects, year(s) after the program ends. In some instances, effects are apparent early on and are sustained for many years after the program ends.[5]

- Maternal Outcomes

Some programs that have included mother and family development strategies have demonstrated reductions in closely spaced pregnancies and reductions in total number of pregnancies. Prenatal health behaviours, including reductions in tobacco and other substance abuse, have been reported but have not been consistently associated with improved pregnancy outcomes. More positive parenting attitudes and mother–child interactions have been found. Mothers who were home visited have reported less impairment from substances than those not visited. One long-term follow-up study demonstrated fewer arrests and convictions in the home-visited group 15 years after the

birth of a child.[6] Home visited mothers also have been found more likely to be involved in stable relationships.

- Child Health and Development

Although some studies have demonstrated improvement in immunization rates, others have found no improvement in rates of immunization or other preventive services. Of the two major studies reporting a reduction of abuse and neglect as a major outcome, reductions were found in one but not in the other. Although not consistent, some studies have demonstrated reductions in child hospitalizations for injuries and ingestions and for primary care for sensitive conditions. Cognitive testing has resulted in inconsistent findings across studies. Differences between children in families home visited and those not visited tend to be minimal or not sustained.

2. Do program outcomes differ according to program characteristics?

- Characteristics of the Participants

Debate about universal versus targeted services continues.[7] However, to date, most programs target those at risk. Programs often focus on adolescents, on socially disadvantaged mothers with their first child, on medically/developmentally at-risk children, or on families with characteristics that place them at risk for abuse and neglect. Evidence is accumulating that mothers with the fewest personal and social resources, including low income, benefit more from the service, at least in the areas assessed, than do those with more resources.[2]

- Intensity of the program

Regardless of the number of visits suggested in program manuals, only about half of the recommended visits actually occur. Although an optimal number of visits have not been determined, there is evidence that more visits are better and a threshold may be required to produce effects. In addition to lower than expected rates of visits, programs are reporting higher than anticipated drop-out rates.[8] The rates vary from less than half of families remaining active after one year to nearly all being active after two years.[9] Often the reason for attrition is unknown. Nevertheless, there is now preliminary evidence about what keeps families engaged and invested in visits.

- Importance of the Visitor-Family Relationship

Most programs emphasize the importance of a positive visitor–family relationship since programs are voluntary, and visiting depends on the willingness of the family to invest.[10] Indeed, evidence suggests that the quality of the relationship is a predictor of program outcomes. Nevertheless, programs vary in their criteria for defining a satisfactory relationship: some focus on a constructed friendship, others on a teacher–learner relationship, and still others on a therapeutic alliance. Increasingly, evidence suggests that a constructed friendship alone is not sufficient to produce the anticipated outcomes. Such a friendship may provide temporary relief from isolation and despair but may not be sufficient to build the resources necessary to be effective in establishing lasting family, mother, and child outcomes.

- Uni-dimensional vs. Multi-Dimensional Programs

Some programs focus heavily on teaching child development and parent–child interaction strategies, others focus on friendship and providing a supportive presence, still others focus on the activities suggested by the family. Some programs are multi-dimensional and address the life course development of the mother, family life, child caregiving, and the fostering of overall development.[11] These programs, which consider both program and individual client goals, attempt to balance the management of current strains with building strengths in the multiple areas necessary to meet future challenges. Evidence is emerging that the impact of multi-dimensional home visiting programs lasts long after the intervention ends. Families set a different life trajectory with fewer closely spaced children, less reliance on public assistance, and greater health and well-being among the children.[12] We know little about how programs work to produce their long-term impact. For example, it is unclear whether children do better because of improved caregiving, increased maternal personal resources, improved family functioning, expanded economic resources, or all of the above.

Conclusions

A broad range of studies have confirmed better health and development in children and more positive environments in home-visit households, and give us reason to hope that home visiting is a strategy that can improve the lives of children at risk.

Not all home visiting services designed to promote the health of families with infants and young children yield comparable outcomes for all children. Although some programs have produced evidence of enduring, long-term family, maternal, and child outcomes, other broadly disseminated programs have not demonstrated detectable effects. Within programs there is evidence that those at higher risk make greater gains with home visiting than do those with less risk. This difference in program outcomes should not be surprising, given that programs differ dramatically in their clientele profiles, the backgrounds of providers, their explicit and implicit theoretical models, and how well those models have been translated into program content/processes, and subsequently implemented. There is still a need to determine what components of home visiting programs are essential and which produce the greatest long-term impact. Programs vary little in cost per year of service regardless of the professional level of the provider.[13] However, programs that have a lifetime impact have a higher benefit/cost ratio than do those with limited and short-lived impact.

Implications

Just as programs vary, so do their outcomes. Although some of the enthusiasm for home visiting has waned in the past decades as reports of some large randomized trials have failed to demonstrate program effects, evidence from other programs targeted for families at risk (eg, low-income families) has shown enough promise to build on program development momentum. Gomby and colleagues have hailed the scrutiny to which home visiting as a human-service strategy has been subjected, and have concluded that new home visiting program expansion should take advantage of what has been learned to date. They specifically recommend improving the quality and implementation of services and projecting a modest view of program effects.[4]

Interventions that have demonstrated a broad range of effects require significant resources and there will be ongoing pressure to use established program models while reducing the resources involved in their implementation. Caution should be exercised in this area. Preliminary evidence from descriptive studies within programs and meta-analyses of randomized trials (comparing programs with different characteristics) suggest that it will be important to adhere to established program models until there is sufficient evidence to support revisions.[14] Although the scientific literature provides some comparison of effects for programs with different constellations of characteristics, the field of home visits is still in its infancy as far as determining the relative importance of any specific characteristic is concerned.

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Evaluating Early Childhood Intervention Programs: Comments on Kitzman, Knitzer, and Lipman and Boyle

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Topic
Low income and pregnancy

Introduction
In recent years, several reviewers have evaluated the effects of early childhood education (ECE) programs for children.[1-6] Most of the research has focused on gains in children's cognitive development rather than behavioural development.[6] Overall, the results suggest that centre-based ECE programs that began in infancy have resulted in the most consistent improvements in children's cognitive and behavioural outcomes.[1,2,5]

These papers examine the effects of early childhood intervention programs on the social and emotional development of young children from low-income families. Knitzer provides an overall review on interventions, Kitzman focuses on the results of home visiting programs, and Lipman and Boyle focus on barriers to the receipt of services for young Canadian children. Taken together, these papers underscore the need to focus on the behavioural and emotional outcomes for poor children, the need for more rigorous evaluation of program intensity and attention to study attrition problems, and the need for long-term follow-up of children.

Research and Conclusions
These papers highlight the diversity of the interventions conducted over the past decades. It is impressive that reductions in behaviour problems are generally found across the different modalities. Reductions in child behaviour problems last at least six months to a year after the intervention. While most studies have focused upon and found evidence of short-term effects, I believe there is notable research involving long-term effects, such as the High/Scope Perry Preschool Project, which found effects on delinquency at age 14 and less involvement with the criminal justice system at ages 19 and 27.[5,7] Retrospective Head Start data also show that those who attended Head Start were less likely to have been charged with a crime as an adult.[8]
Second, home visiting programs alone have less consistently demonstrated intervention effects for children. Home visiting programs tend to be more parent-focused, and thus have had more success altering parenting behaviour. However, there have been exceptions. The Nurse Home Visitation Program found effects for mothers as well as for

behavioural outcomes of teenage children.[9] However, home visits in combination with centre-based care have been more successful in reducing children's behaviour problems.[10,11]

Third, although interventions have had an effect on parental behaviour, Knitzer, in particular, finds that there has not been a corresponding change in maternal depression. On the contrary, I believe studies have demonstrated effects for maternal depression. When the results of programs that have used random assignment to groups and provided family-oriented services to families through home visits are examined, mothers who received the treatment reported less depressive affect.[9,12-16] In my opinion, what deserves examination is whether maternal characteristics such as depression mediate the association between treatment and children's behaviour problems. To date, few studies have directly examined this question.[16-19]

Although there is consensus that families who experience multiple risks are the most likely to benefit from intervention programs, this population is not often served. Most of the work has been general interventions that promote child and family well-being. However, even if at-risk families are served, they are more likely to leave the program or less likely to participate. As noted by Lipman and Boyle, the availability of services in impoverished neighbourhoods, the accessibility of services and the psychological barriers to these services all present challenges to research. Finally, whether and how the intervention can be effective in the face of multiple family risks is an issue that reverberates throughout these papers and the research literature.[20] The authors point out the greater success of multidimensional (compared to unidimensional) programs, however.

Implications for Development and Policy

These reviews signal the need for coherent research. The diversity of interventions conducted makes it difficult to draw any firm conclusions about what works and why. Studies need to provide more careful documentation of such information as the amount of time spent on various activities, and rely on the same curriculum approaches across sites. Existing research efforts can improve by first assessing the intensity of the program and a family's engagement in the program. To date, few studies have examined how the amount of intervention received influences the effects of such programs. Whether there is a minimum number of visits necessary to have an effect can be analyzed in two ways: by comparing those who used the intervention to those who did not, or by measuring how the relative level of participation predicts the size of treatment effects. A few different evaluations have used these approaches to show that program effects depend on the level of program participation.[21-26] Thus, programs such as home visiting can improve children's outcomes if services are sufficiently intensive. Few studies have examined family engagement in the intervention program.[27-28] However, they have found that mother and child involvement was associated with better child outcomes. Moreover, involvement by the home visitor may moderate intervention effects. Home visitors who help a mother learn more adaptive problem-solving skills and become involved in her daily life have had a positive effect on emotional health.[16]

If interventions are to be effective, physical and psychological barriers to services must be overcome. Even when services are available, they are not accessible. If parents are to utilize services, they need help with child care, transportation and flexibility in the hours and location of services. Some studies have dealt successfully with accessibility problems.[29] Lipman and Boyle suggest that consumer research marketing techniques may be useful in identifying program preferences. Even if these barriers are overcome, psychological barriers remain. A lack of trust or confidence in service-providers or community institutions may prevent the use of services. In the case of behavioural problems, stigma presents an additional psychological barrier.

Future intervention programs need to resist financial pressures. Kitzman contends that interventions that have had a broad range of effects required significant resources and there is constant pressure to reduce the number of resources involved in implementation. However, economists such as Barnett have argued against under-investment in children, citing, for example, studies such as the Perry Preschool Project, in which benefits outweighed costs by a factor of seven to one.[1,30]

Intervention programs need to examine the interplay between social and emotional development and success in school. I would also add that observational measures on children's task engagement, persistence and enthusiasm are needed to supplement the existing measures.

Finally, the authors suggest that a more modest view of program effects needs to be adopted. There is a need to re-examine the general question of what it is reasonable to expect from any given intervention.[20] Many families face persistent poverty and multiple risk factors. One intervention alone cannot be expected to significantly alter their life trajectory. However, what is reasonable in terms of the size of the effects? Since cognitive effects are generally larger than behavioural effects, this expectation varies by outcome. What is reasonable in terms of duration of the effect? What is reasonable in terms of the overall breath or scope of the effect? Are effects expected for both children and parents? Are effects expected across cognitive, behavioural and health domains?

Overall, I agree with the authors that the field of early childhood intervention is still in its infancy with respect to determining the relative importance of any specific characteristic concerned. However, the fact that such programs most benefit those families facing multiple risks indicates that these programs have accomplished what they were set up to achieve.

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Services for Low-Income Children and Their Families: Comments on Lipman and Boyle, Kitzman, and Knitzer

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Topic
Low income and pregnancy

Introduction
Low family income constrains access to basic resources, including food, shelter and health care. Economic hardship, in turn, places stress upon relationships among family members.[1,2] Research has accumulated on the adverse direct and indirect effects of low family income on a range of child outcomes, including cognition and achievement, physical health, and emotional, social and behavioural well-being.[3-5] Experiences of family poverty during early childhood, especially when they are extended and relatively extreme, have the most detrimental effects on children's development.[6-10] This finding, coupled with growing interest in the developmental significance of early childhood, has focused attention on strategies for intervening to promote low-income children's well-being.[11,12] Lipman and Boyle, Kitzman, and Knitzer are all recognized experts in this area. Taking various tacks, their work highlights the need to enhance low-income children's development, broadly speaking, with a particular emphasis on the importance of their early emotional, social and behavioural outcomes for subsequent functioning. Each of the researchers points to promising policy and programmatic strategies, based in part on their exemplary work, to achieve this goal.

Research and Conclusions
Using the widest lens, Lipman and Boyle review the state of knowledge on intervention and prevention strategies designed to ameliorate young children's emotional, social and behaviour problems. In addition to calling for more rigorous program evaluations, the researchers argue for more assessments of the effectiveness of services in the community contexts in which they are delivered, as well as the development of methodological tools for determining service effectiveness. While concluding that our knowledge is limited, Lipman and Boyle identify a number of barriers — structural and perceived — that prevent the recognition of social and emotional problems in young children and hinder receipt of services. Barriers to service delivery, in particular, include regional disparities in the availability of services, the adequacy and appropriateness (including perceived) of existing services and a range of accessibility problems (e.g. transportation, child care, hours of operation and culture/language). Among Lipman and Boyle's recommendations to removing these barriers are providing greater resources to serve at-risk populations of

children and families, namely those who are low-income. Efforts to raise community awareness about young children's social and emotional development and problematic behaviours and the potential benefits of services should be undertaken alongside such initiatives.

Knitzer takes a narrower approach by considering programs specifically targeting low-income and at-risk children's social and emotional problems. After identifying the magnitude of the problem — which is quite large with respect to low-income children's readiness for school and their prevalence of clinical disorders — she analyzes the evidence. Knitzer, like Lipman and Boyle, concludes that existing evaluations of programs for low-income children targeting emotional, social and behaviour problems are relatively scarce. However, she acknowledges that current interventions, many still underway, have paid increasing attention to low-income children's behavioural problems either through targeted services in school, home or clinic settings, or through the inclusion of social and emotional outcomes in program evaluations. These interventions, Knitzer speculates, will yield further insights into ameliorating low-income children's emotional and social problems. She points to programs that work in a coordinated manner with parents as well as caregivers and teachers to promote low-income children's emotional well-being as a particularly promising avenue. Knitzer also emphasizes the need to consider the connection between young children's socio-emotional and academic functioning. Similar to Lipman and Boyle, Knitzer reiterates the need for greater political investment in addressing young children's social, emotional and behavioural well-being.

Kitzman focuses exclusively on home visiting as a strategy for providing services to families with young children, notably those who are low-income. Drawing on several recent reviews of the home visiting literature, much of it based on her own and her colleagues' well documented work, she takes a more optimistic view of the efficacy of home visiting programs than Knitzer (albeit still a sober-eyed view). She surmises that home visiting programs are associated with children's enhanced health and development — although not necessarily in the emotional, social and behavioural domain — and more optimal child-rearing environments. Yet Kitzman acknowledges that findings are mixed, in large part, because of variability across programs in theoretical models, targets of service, service intensity, implementation and quality, to name a few key dimensions that have likely contributed to this inconsistency. She identifies several features of home visiting programs that may lead to more positive outcomes. These characteristics include meeting the needs of both parents and children — these needs must extend beyond providing social support — ensuring programs are delivered to capacity and targeting programs to the most vulnerable families.

Implications for Policy

A common theme to emerge from these three papers is that the state of our knowledge regarding strategies to promote low-income children's social, emotional and behavioural development is incomplete. Whether we need to develop better program models more generally, as Lipman and Boyle and Knitzer argue, or specifically with respect to home visiting, as Kitzman proposes, the call for more program evaluations is clear. These evaluations should be theory-based, use rigorous methods and include a focus on

children's emotional, social and behaviour outcomes. As well, this work should consider links between children's emotional and social health and their success in school and their parents' health and behaviour.

That said, policy-makers must act, even in a state of incomplete knowledge. The authors of these three papers recognize this situation and make several, often tentative, recommendations. Knitzer and Kitzman advocate programs that take a multi-dimensional approach. Meeting the needs of low-income children entails working with those adults whose relationships with children are central to their well-being, specifically parents as well as caregivers and teachers. These services can be provided in a variety of settings (home, child care/school and clinic) and need to be part of a coordinated effort. As Lipman and Boyle and Knitzer note, the fact that the need for services far outpaces the availability and receipt of services should be of paramount concern to policy-makers. Addressing a number of barriers is straightforward, but increasing capacity entails substantial investment. However, the cost to children, families and society is too high to ignore the importance of promoting low-income children's emotional, social and behavioural well-being.

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