Children's Mental Health Research
Quarterly
Children's Health Policy Centre
Vol. 5, No. 1 2011

Nurse-Family Partnership and Children's Mental Health

Overview
Nurse and moms collaborate for kids

Review
Three decades of research back NFP

Feature
Adapting NFP: An Ontario pilot study

Letters
Shared care in children's mental health

Next Issue

Preventing prenatal exposure to alcohol

Many children in BC suffer the consequences of being exposed to alcohol prenatally. In the Spring 2011 issue, we examine what can be done to help girls and women avoid consuming alcohol while pregnant.

WE'RE HYPERLINKED!
Please be aware that all underlined text is linked to another page in this issue or to an external website. If you're reading onscreen, just click on the text to be taken to the link.

About the Children's Health Policy Centre

As an interdisciplinary research group in the Faculty of Health Sciences at Simon Fraser University, we aim to connect research and policy to improve children's social and emotional well-being, or *children's mental health*. We advocate the following public health strategy for children's mental health: addressing the determinants of health; preventing disorders in children at risk; promoting effective treatments for children with disorders; and monitoring outcomes for all children. To learn more about our work, please see www.childhealthpolicy.sfu.ca

Children's Health Policy Centre

VOL. 5, NO. 1 2011

Quarterly

About the Quarterly

In the *Quarterly,* we present summaries of the best available research evidence on children's mental health interventions, using systematic review methods adapted from the *Cochrane Collaboration*.

Quarterly Team

Scientific Writer
Christine Schwartz, PhD, RPsych

Scientific Editor
Charlotte Waddell, MSc, MD, CCFP, FRCPC

Research Coordinator
Jen Barican, BA

Research Assistants
Orion Garland, BA
& Larry Nightingale, LibTech

Production Editor
Daphne Gray-Grant, BA (Hon)

Copy Editor
Naomi Pauls, BA, MPub

Contact Us

We hope you enjoy this issue. We welcome your letters and suggestions for future topics. Please email them to chpc_quarterly@sfu.ca or write to the Children's Health Policy Centre, Attn: Daphne Gray-Grant, Faculty of Health Sciences, Simon Fraser University, Room 2435, 515 West Hastings St., Vancouver, British Columbia V6B 5K3
Telephone (778) 782-7772

SFU
SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

This Issue

How to Cite the *Quarterly*

We encourage you to share the *Quarterly* with others and we welcome its use as a reference (for example, in preparing educational materials for parents or community groups). Please cite this issue as follows:

Schwartz, C., Waddell, C., Shepherd, C., Garland, O., Barican, J., Gray-Grant, D., & Nightingale, L. (2011). Nurse-Family Partnership and children's mental health. *Children's Mental Health Research Quarterly, 5*(1), 1–16. Vancouver, BC: Children's Health Policy Centre, Faculty of Health Sciences, Simon Fraser University.

Nurse and moms: collaborating for kids

"I've matured a lot. Clarissa [the nurse visitor] helped me to think better, to know what's out there, and to make choices. She's been one of my biggest supporters, and she's one of my best friends, too."[1]

Felicia, the mother of two-year-old Sarahi, made these comments about her experiences with Nurse-Family Partnership (NFP) in Los Angeles. Felicia began her journey with NFP when she was 17 and pregnant. She was also under house arrest and being monitored by child protective services. Read on to learn what NFP did for Felicia and Sarahi and many families like them.

What is Nurse-Family Partnership?

NFP is a targeted prevention program that aims to improve the lives of vulnerable first-time mothers and their children. The program involves nurses visiting young mothers in their homes, starting prenatally and continuing until children are two years old.[2] Led by David Olds in the United States, NFP's creators had three primary goals for the program: improving prenatal outcomes; preventing child maltreatment; and enhancing parental competence and economic self-sufficiency.[3, 4]

NFP was always intended as a targeted primary prevention program. The developers therefore focused on high-risk, low-income, first-time mothers.[5] (A different nurse home visitation was not successful in preventing the recurrence of abuse or neglect in Canadian families, providing further evidence of the importance of primary prevention.[6])

Nurses were identified as the optimal home visitors with vulnerable families because of their training and expertise in maternal and child health.[7] In fact, when NFP was tried using paraprofessional visitors instead of nurses, significantly more families missed visits and withdrew from the program and significantly fewer children did well.[8] Currently, NFP home visitors must be registered nurses with at least a bachelor's degree in nursing.[1]

A schedule that meets needs and builds trust

The developers of NFP designed the program to start in pregnancy, given the importance of beginning primary prevention as early as is feasible. Consequently, nurses start visiting young mothers during the second trimester of pregnancy.[7] The 75- to 90-minute visits begin weekly and eventually progress to monthly as children approach two years of age (see Table 1). These frequencies were designed to facilitate nurses establishing trusting relationships with the mothers and to assist with the more intense needs that occur during pregnancy and early infancy. In total, mothers receive 64 planned home visits.[1] The program also stipulates that

NFP is a targeted prevention program that aims to improve the lives of vulnerable first-time mothers and their children.

Nurse-Family Partnership at a glance

Aimed at: high-risk first-time mothers
Delivered by: registered nurses
Beginning during: second trimester
Total home visits per family: 64 planned
Minutes per visits: 75–90 minutes
Families per nurse: maximum 25

nurses carry caseloads of no more than 25 NFP families, to ensure intensive support for the mothers.[1]

Table 1: Frequency of nurse home visits[2]

Time period/developmental stage	Frequency of visits
1st month after enrollment (during 2nd trimester of pregnancy)	Weekly
2nd month enrollment until the birth	Twice monthly
Weeks 0–6 after birth of child	Weekly
Months 2–21 after birth of child	Twice monthly
Months 21–24 after birth of child	Monthly

During each visit, nurses follow detailed protocols for addressing the challenges associated with particular stages of prenatal and early child development (see Table 2).[2] Nurses receive extensive training before NFP visits begin, and they are supervised and supported as the program progresses.[1] Additional information about the program is available on the NFP website (www.nursefamilypartnership.org).

Table 2: Nursing tasks during home visits[1, 2]

Stage	Tasks
Prenatal	• Tracking dietary intake and weight gain • Assessing substance use and intervening to reduce use • Identifying early pregnancy complications and intervening to address them • Coordinating access to health care and social services
Early childhood	• Teaching about early childhood health and development • Building mothers' capacity to provide appropriate stimulation to their children • Teaching mothers to create safer environments for their children • Teaching alternatives to harsh and restrictive punishments

Returning to Felicia's story, NFP helped this young mother better prepare for parenthood. Her nurse, Clarissa, explains: "We work on our client's goals and what they want to get out of it, and then we support what they are already thinking about."[1] Felicia, a successful NFP "graduate," is now working part-time while she completes a two-year college program. Her daughter, Sarahi, is thriving.

The story of Felicia and Sarahi is not unique. In the United States, researchers have tracked diverse maternal and child outcomes from NFP for 30 years now.[3] However, NFP has yet to be tested in Canada. Consequently, its effects on outcomes most salient to Canadian children's mental health — improving parenting and reducing child maltreatment, as well as decreasing children's problems with behaviour, anxiety, depression and substance use — are unknown here. Nevertheless, by examining the outcomes from the American evaluations, we can learn about the potential implications for Canadian children. In the Review article that follows, we summarize the latest American research evidence.

Three decades of research back NFP

To gauge the effectiveness of Nurse-Family Partnership (NFP) for vulnerable mothers and children, we conducted a search for all available randomized controlled trial (RCT) evaluations of this program. After retrieving and assessing all potentially relevant articles, three RCTs — described in 14 original articles — met our inclusion criteria (which, along with our search strategy, are described in the Appendix).

The Olds research team conducted all three RCTs. These evaluations took place in Elmira, New York (beginning in 1977); Memphis, Tennessee (1988); and Denver, Colorado (1994).[1] Notably, mothers and children participating in these studies were evaluated repeatedly, over very lengthy follow-up periods. More information about each of the RCTs is provided in Table 3.

NFP mothers engaged in many more positive parenting behaviours, including providing better stimulation and demonstrating better responsiveness.

Table 3: Description of Nurse-Family Partnership studies[4,8–10]

Location	Elmira, New York	Memphis, Tennessee	Denver, Colorado
Study setting	Semi-rural	Urban	Urban
Number of participants	400	1,139	735
Participant ethnicity	89% white 11% African-American	92% African-American 8% not specified	47% Mexican-American 35% white 15% African-American 3% American-Indian or Asian-American
Average number of nursing visits	Prenatal: 9 Postnatal: 23	Prenatal: 7 Postnatal: 26	Prenatal: 7 Postnatal: 21
Age of children at final evaluation	19 years	12 years	4 years

Although all three RCTs targeted high-risk first-time mothers, researchers further identified mothers at *highest* risk. In Elmira, these participants were defined as single, low-income mothers under 19 years.[11] In Memphis and Denver, they were defined as mothers having low scores on a composite measure of mental health, intelligence and "mastery."[8, 12]

While all three RCTs assessed a comprehensive range of maternal and child outcomes, here we focus on those most salient to children's mental health — parenting and children's behavioural and emotional well-being. In the three RCTs, researchers assessed most of the parenting outcomes during

infancy and early childhood. They assessed outcomes relevant to children's mental health across the full range of developmental ages and stages, from self-soothing behaviours in infancy to criminal convictions in adolescence.

Helping new moms develop new skills

Across all three sites, NFP mothers engaged in many more positive parenting behaviours, including providing better stimulation[11, 13] and demonstrating better responsiveness[14, 15] during their children's early years. Among mothers from Elmira, however, only the highest-risk participants made such gains.

In Elmira and Memphis, NFP also led to fewer negative parenting attitudes and behaviours. Specifically, mothers punished children less frequently[11, 14] and held fewer beliefs associated with child maltreatment (such as endorsing the use of physical punishment and displaying limited empathy).[13]

In Elmira and Memphis, nurse-visited children experienced fewer hospital visits for injuries or ingestions associated with abuse or neglect.[11, 13] Overall, NFP shows strong and enduring effects in preventing maltreatment (as shown in Table 4).

Table 4: Nurse-Family Partnership parenting outcomes[8, 10–19]

Elmira, New York	
All NFP families: • Fewer hazards in the home (34 & 46 months)* • Less use of punishment (46 months)† • Fewer hospital visits for injuries/ingestions (12 months)‡ • Less reported/substantiated maltreatment (15 years)†	**Highest-risk NFP families:** • Less use of negative restriction & punishment (10 & 22 months) • Better provision of play materials (10, 22 & 34 months)‡ • Better involvement with child (34 months)‡ • Better stimulation of language skills (34 & 46 months)
Memphis, Tennessee	
All NFP families: • Better emotional & cognitive stimulation (2 years) • Fewer negative parenting beliefs (2 years) • Fewer hospital visits for injuries/ingestions (2 years)	**Highest-risk NFP families:** N/A
Denver, Colorado	
All NFP families: • Better responsiveness to child (2 years)‡ • Less domestic violence exposure (only in the 6 months before the child's 4th year)	**Highest-risk NFP families:** • Provision of more responsive & stimulating home environments (4 years)

* Months and years reflect child's age when outcomes assessed.
† But not significant during *earlier* assessment.
‡ But not significant during *later* assessment.

NFP's ability to reduce children's exposure to other important adverse experiences, however, was limited. For example, exposure to domestic violence was measured at all sites but only found to be significantly reduced in Denver, and only during the six-month period before children reached age 4.[8]

How is children's mental health affected?

Although NFP produced some mental health benefits for children in all three trials, specific outcomes varied by site, developmental stage and risk level. For example, in Elmira, NFP infants had more positive moods[11] while in Denver they engaged in more self-soothing behaviours.[15] Also in Denver, NFP infants had increased emotional expressiveness, although only among the highest-risk infants.[15] In contrast, infant mental health was not assessed in Memphis.

Throughout the children's development, researchers in Memphis and Elmira assessed behavioural outcomes. In both evaluations, NFP children had significantly fewer problems on a measure examining a wide range of behavioural concerns only once and only in early childhood (at age 4 in Elmira and at age 6 in Memphis).[14, 17] Nevertheless, children from these two communities continued to show gains into adolescence on other specific behavioural measures. Notably, children from Elmira had fewer arrests and convictions at ages 15 and 19.[4, 16] As well, the highest-risk children from this community had reduced alcohol use (but not substance impairment) during adolescence.[16] Similarly, children from Memphis were less likely to try alcohol or cannabis, and among those who did, NFP children used these substances for fewer days.[9]

> *"NFP's ability to prevent maltreatment was one of the strongest and most consistent findings."*

While NFP was not designed to prevent anxiety or depression, it still had some success in doing so. Measured once in Elmira and three times in Memphis, these symptoms were significantly lower among NFP children but only in Memphis and only at age 12.[9] Additional benefits are shown in Table 5.

Table 5: Nurse-Family Partnership children's mental health outcomes[4, 9, 11, 14–17]

Elmira, New York	
All NFP families: • More positive moods (6 months)* • Fewer behaviour problems (4 years)‡ • Fewer arrests & convictions (15 & 19 years)	**Highest-risk NFP families:** • Fewer running away episodes (15 years) • Fewer days consuming alcohol (15 years)
Memphis, Tennessee	
All NFP families: • Fewer behaviour problems at 6 years†‡ • Fewer symptoms of anxiety/depression at 12 years† • Alcohol & cannabis: less likely to have ever used & fewer days of use (12 years)	**Highest-risk NFP families:** N/A
Denver, Colorado	
All NFP families: • Better self-soothing in fearful situations (6 months)	**Highest-risk NFP families:** • More positive emotional expression (6 months)

* Months & years reflect child's age when outcomes assessed.
† But not significant during *earlier* assessment.
‡ But not significant during *later* assessment.

Many successes but challenges still to overcome

Three rigorous RCT evaluations have documented NFP's ability to help vulnerable American families achieve positive outcomes. NFP advanced the mothers' parenting, including improving competency and sensitivity, while also preventing negative parenting attitudes and behaviours. Among these gains, NFP's ability to prevent maltreatment was one of the strongest and most consistent findings. The duration of this benefit was particularly noteworthy, with fewer substantiated maltreatment reports as many as 13 years later (in Elmira).

NFP's benefits for children's mental health have been more mixed. The program's success in preventing serious behavioural concerns, including substance misuse and criminality, was strongly evident. Again, the duration of these benefits was striking, with one evaluation showing children with fewer arrests and convictions a full 17 years after the program ended (Elmira). NFP's ability to prevent depression and anxiety was more limited.

It is compelling that mothers and children from diverse ethnicities and diverse communities were able to achieve gains with NFP in the United States.[12] Nevertheless, replication studies are needed to determine whether benefits can be achieved for Canadian families. Programs found to be successful among Americans, such as multisystemic therapy, have not always shown positive outcomes among Canadians.[20] Canada's uniquely vulnerable populations of Aboriginal and immigrant children, its challenging remote service settings and its more generous social services all may influence program effects.[21] Consequently, high-quality evaluations of NFP are needed in Canada so we can learn how to better meet the needs of vulnerable families here.

"Replication studies are needed to determine whether benefits can be achieved for Canadian families."

Analyzing costs in a US context

When researchers began analyzing NFP outcomes, they also worked to uncover information about financial costs and benefits. In Elmira, New York, NFP yielded net savings of $180 US (in 1980 dollars) for each of the highest-risk nurse-visited families.[22] These savings were a result of NFP families' reduced reliance on food stamps, Medicaid and child protection services compared to control families.[22] The Memphis trial yielded even stronger results. Here, investments in NFP led to net savings of $789 US (in 2006 dollars) for each nurse-visited family, due to similar inter-sectoral public savings.[18] These data suggest that prevention efforts can indeed be cost-effective.

Feature

Adapting NFP: An Ontario pilot study

Debbie Sheehan started her career working in a neonatal intensive care unit. Later she brought her passion for working with mothers and babies to her home visiting as a public health nurse. Now, as director of the Family Health Division for the City of Hamilton, Ontario, she is delighted to be part of a team poised to launch the first primary prevention evaluation of Nurse-Family Partnership (NFP) in Canada.

Sheehan, who holds a bachelor's degree in nursing and a master's degree in social work, first heard of David Olds when articles about his NFP program began to be published in the 1980s. Much later — in 2006 — when her team was developing a research agenda for Hamilton, they quickly landed on the concept of prenatal nurse home visitation.

Early interventions matter most

"We were trying to figure out where we thought we could make the biggest difference," Sheehan recalls. "And if you look at all the literature around intervention, it's clear that the earlier you intervene, the better you do."

Sheehan contacted Harriet MacMillan, Offord Chair and Professor of Child Psychiatry and Pediatrics in the Faculty of Health Sciences at McMaster University. With help from numerous community partners, a Hamilton pilot study is now underway. Seven potential additional Ontario sites want to participate in a new randomized controlled trial on NFP as soon as funding can be secured.

"I have a passion for the power of good research."

— Debbie Sheehan, public health nurse

Why more testing?

Sheehan says that while existing research on the program has been outstanding — she describes it as "gold standard" — there are still too many unknowns to guarantee that the program will be effective in Canada.

"Every country has been different," she says. "Just because a program works well in the US doesn't mean it will work well anywhere else." One of the differences she notes between the two countries is the health care system — predominantly publicly funded in Canada versus (mostly) privately insured in the US. "Does this in itself change the outcomes?" she asks.

Another difference is "population scarcity" in Canada, where nurses face the challenge of large distances between homes that are visited, especially in rural areas. Then there's the issue of Canada's multicultural mix, which includes a large Aboriginal population with different cultures that need to be respected. "That is exactly why [researcher] David Olds demands and expects we do a significant level of research before adopting the program in Canada," she says. "It's expensive in the short term, but it pays off quickly."

Furthermore, only research can reveal which changes can make a difference. For example, the NFP trial in Denver, Colorado, replaced nurses with well-trained paraprofessionals, who were less expensive. It sounded like a terrific, cost-effective idea. But, Sheehan explains, research revealed that while mothers still benefited from the visits, significantly more dropped out, and the children did not fare significantly better on *any* outcome measures.

> *"If you look at the opportunity to make a difference in the lives of children and young women, it's very powerful and very fulfilling."*

Making a difference for mothers and children

"I have a passion for the power of good research," Sheehan says. Currently working through a host of difficult details (for example, how to produce a curriculum for mothers who cannot read), Sheehan is nevertheless excited about the potential for this program in Canada. She hopes her enthusiasm will be supported by the research findings to come.

"If you look at the opportunity to make a difference in the lives of children and young women, it's very powerful and very fulfilling," she says. "As well, cost-benefit analysis shows the program is cost-effective in the short *and* long term. There are very few interventions that can make this kind of difference."

Shared care in children's mental health

To the Editors:
In the last two issues of the *Quarterly*, you suggested contacting family physicians when parents had concerns about their children's mental health. Is there any evidence suggesting whether a "shared care" approach — where a family physician coordinates care with others, such as a child psychiatrist or mental health care worker — results in better outcomes for children?

Gayle Read
Victoria, BC

The available evidence suggests that shared care improves children's outcomes while promoting the efficient use of practitioners' time.

Family physicians are usually the first point of contact for families seeking health care. As a result, these doctors play a vital role in helping children with mental health problems.[23] "Shared care" is an approach that supports family physicians to collaborate and share responsibilities with other more specialized mental health practitioners, so that more and better mental health care is provided within primary care settings.[23]

Our search for evidence (using the terms "shared, collaborative and/or integrated care") failed to uncover any systematic reviews or randomized controlled trial evaluations of these forms of mental health care. However, we did find three publications that reported on children's outcomes using cohort and case-control study designs.

Findings from these studies[24–26] showed that mental health care worked most effectively when it was integrated with primary care in a single location. Such a unified system provided greater privacy and accessibility for children and families. It also reduced treatment wait times. Because of the greater comfort that children and families often felt in the primary care setting, attendance also tended to increase.

Most importantly, both parents and children in the shared care settings reported fewer behavioural concerns, including school maladjustment,[25] and required fewer sessions to complete treatment[24] compared to children in typical settings. Therefore, the available evidence suggests that shared care improves children's outcomes while promoting the efficient use of practitioners' time.[23]

We welcome your questions

If you have a question relating to children's mental health, please email it to chpc_quarterly@sfu.ca or write to the Children's Health Policy Centre, Attn: Daphne Gray-Grant, Faculty of Health Sciences, Simon Fraser University, Room 2435, 515 West Hastings St., Vancouver, BC V6B 5K3.

Appendix

Research methods

For our review, we searched the Medline and PsycINFO databases and the Institute for Scientific Information Citation Indices for randomized controlled trials on Nurse-Family Partnership. We also scanned reference lists in published review articles and on the NFP website to identify any additional RCTs.

We then applied the criteria described below to ensure we included only the highest-quality pertinent studies:

- All available English-language articles published in peer-reviewed scientific journals
- Clear descriptions of participant characteristics, study settings and interventions
- Random assignment of participants to intervention and comparison groups at study outset
- Maximum attrition rates of 20% at post-test and comparable rates at follow-up
- Each evaluation included follow-up periods of two years or more after post-test
- Statistical significance reported for all major outcome measures

The team then assessed each retrieved article and verified the accuracy of all interpretations. Differences of interpretation were discussed and resolved by consensus. Data were then extracted and summarized by the team.

References

BC government staff can access original articles from BC's Health and Human Services Library.

1. Nurse-Family Partnership. (2010). *Webpage*. Retrieve December 7, 2010, from http://www.nursefamilypartnership.org/
2. Olds, D. L., Henderson, C. R., Jr., Kitzman, H. J., Eckenrode, J. J., Cole, R. E., & Tatelbaum, R. C. (1999). Prenatal and infancy home visitation by nurses: Recent findings. *Future of Children, 9,* 44–65, 190–191.
3. Olds, D. L. (2008). Preventing child maltreatment and crime with prenatal and infancy support of parents: The nurse-family partnership. *Journal of Scandinavian Studies in Criminology and Crime Prevention, 9,* 2–24.
4. Eckenrode, J., Campa, M., Luckey, D. W., Henderson, C. R., Jr., Cole, R., Kitzman, H., et al. (2010). Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year follow-up of a randomized trial. *Archives of Pediatrics and Adolescent Medicine, 164,* 9–15.
5. Olds, D. L., Sadler, L., & Kitzman, H. (2007). Programs for parents of infants and toddlers: Recent evidence from randomized trials. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 48,* 355–391.
6. MacMillan, H. L., Thomas, B. H., Jamieson, E., Walsh, C. A., Boyle, M. H., Shannon, H. S., et al. (2005). Effectiveness of home visitation by public-health nurses in prevention of the recurrence of child physical abuse and neglect: A randomised controlled trial. *Lancet, 365,* 1786–1793.
7. Olds, D. L. (2006). The nurse-family partnership: An evidence-based preventive intervention. *Infant Mental Health Journal, 27,* 5–25.
8. Olds, D. L., Robinson, J., Pettitt, L., Luckey, D. W., Holmberg, J., Ng, R. K., et al. (2004). Effects of home visits by paraprofessionals and by nurses: Age 4 follow-up results of a randomized trial. *Pediatrics, 114,* 1560–1568.
9. Kitzman, H. J., Olds, D. L., Cole, R. E., Hanks, C. A., Anson, E. A., Arcoleo, K. J., et al. (2010). Enduring effects of prenatal and infancy home visiting by nurses on children: Follow-up of a randomized trial among children at age 12 years. *Archives of Pediatrics and Adolescent Medicine, 164,* 412–418.

10. Olds, D. L., Eckenrode, J., Henderson, C. R., Jr., Kitzman, H., Powers, J., Cole, R., et al. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect: Fifteen-year follow-up of a randomized trial. *JAMA: Journal of the American Medical Association, 278,* 637–643.
11. Olds, D. L., Henderson, C. R., Jr., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: A randomized trial of nurse home visitation. *Pediatrics, 78,* 65–78.
12. Olds, D. L., Kitzman, H., Hanks, C., Cole, R., Anson, E., Sidora-Arcoleo, K., et al. (2007). Effects of nurse home visiting on maternal and child functioning: Age-9 follow-up of a randomized trial. *Pediatrics, 120,* e832–845.
13. Kitzman, H., Olds, D. L., Henderson, C. R., Jr., Hanks, C., Cole, R., Tatelbaum, R., et al. (1997). Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: A randomized controlled trial. *JAMA: Journal of the American Medical Association, 278,* 644–652.
14. Olds, D. L., Henderson, C. R., Jr., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 to 50 months of life? *Pediatrics, 93,* 89–98.
15. Olds, D. L., Robinson, J., O'Brien, R., Luckey, D. W., Pettitt, L. M., Henderson, C. R., Jr., et al. (2002). Home visiting by paraprofessionals and by nurses: A randomized, controlled trial. *Pediatrics, 110,* 486–496.
16. Olds, D., Henderson, C. R., Jr., Cole, R., Eckenrode, J., Kitzman, H., Luckey, D., et al. (1998). Long-term effects of nurse home visitation on children's criminal and antisocial behavior: 15-year follow-up of a randomized controlled trial. *JAMA: Journal of the American Medical Association, 280,* 1238–1244.
17. Olds, D. L., Kitzman, H., Cole, R., Robinson, J., Sidora, K., Luckey, D. W., et al. (2004). Effects of nurse home-visiting on maternal life course and child development: Age 6 follow-up results of a randomized trial. *Pediatrics, 114,* 1550–1559.
18. Olds, D. L., Kitzman, H. J., Cole, R. E., Hanks, C. A., Arcoleo, K. J., Anson, E. A., et al. (2010). Enduring effects of prenatal and infancy home visiting by nurses on maternal life course and government spending: Follow-up of a randomized trial among children at age 12 years. *Archives of Pediatrics and Adolescent Medicine, 164,* 419–424.

19. Eckenrode, J., Ganzel, B., Henderson, C. R., Jr., Smith, E., Olds, D. L., Powers, J., et al. (2000). Preventing child abuse and neglect with a program of nurse home visitation: The limiting effects of domestic violence. *JAMA: Journal of the American Medical Association, 284,* 1385–1391.
20. Littell, J. H., Popa, M., & Forsythe, B. (2006). Multisystemic therapy for social, emotional, and behavioral problems in youth aged 10–17. *Cochrane Database of Systematic Reviews,* Issue 2.
21. Waddell, C., Hua, J. M., Garland, O., Peters, R., & McEwan, K. (2007). Preventing mental disorders in children: A systematic review to inform policy-making in Canada. *Canadian Journal of Public Health, 98,* 166–173.
22. Olds, D. L., Henderson, C. R., Jr., Phelps, C., Kitzman, H., & Hanks, C. (1993). Effect of prenatal and infancy nurse home visitation on government spending. *Medical Care, 31,* 155–174.
23. Kates, N., Craven, M., Crustolo, A. M., Nikolaou, L., & Allen, C. (1997). Integrating mental health services within primary care: A Canadian program. *General Hospital Psychiatry, 19,* 324–332.
24. Abrahams, S., & Udwin, O. (2002). An evaluation of a primary care–based clinical psychology service. *Child & Adolescent Mental Health, 7,* 107–113.
25. Naar-King, S., Siegel, P. T., Smyth, M., & Simpson, P. (2003). An evaluation of an integrated health care program for children with special needs. *Children's Health Care, 32,* 233–243.
26. Valleley, R. J., Kosse, S., Schemm, A., Foster, N., Polaha, J., & Evans, J. H. (2007). Integrated primary care for children in rural communities: An examination of patient attendance at collaborative behavioral health services. *Families, Systems, & Health, 25,* 323–332.

Links to Past Issues

2010/ Volume 4

4 - Addressing Parental Depression

3 - Treating Substance Abuse in Children and Youth

2 - Preventing Substance Abuse in Children and Youth

1 - The Mental Health Implications of Childhood Obesity

2009/ Volume 3

4 - Preventing Suicide in Children and Youth

3 - Understanding and Treating Psychosis in Young People

2 - Preventing and Treating Child Maltreatment

1 - The Economics of Children's Mental Health

2008/ Volume 2

4 - Addressing Bullying Behaviour in Children

3 - Diagnosing and Treating Childhood Bipolar Disorder

2 - Preventing and Treating Childhood Depression

1 - Building Children's Resilience

2007/ Volume 1

4 - Addressing Attention Problems in Children

3 - Children's Emotional Wellbeing

2 - Children's Behavioural Wellbeing

1 - Prevention of Mental Disorders