Encyclopedia on Early Childhood Development

Home visiting

Updated: September 2012

Topic Editors :
Donna Spiker, PhD, and Erika Gaylor, PhD, Center for Education and Human Services, SRI International, USA

Table of contents

Synthesis 4

Home Visiting Programs and Their Impact on Young Children's School Readiness 7
ERIKA GAYLOR, PHD, DONNA SPIKER, PHD, SEPTEMBER 2012

Prenatal/Postnatal Home Visiting Programs and Their Impact on the Social and Emotional Development of Young Children (0–5) 14
NANCY DONELAN-MCCALL, PHD, DAVID OLDS, PHD, SEPTEMBER 2012

Maternal Mental Health Outcomes and Children's Mental Health and Home Visiting 20
ROBERT T. AMMERMAN, PHD, S. DARIUS TANDON, PHD, SEPTEMBER 2012

Evidence for the Role of Home Visiting in Child Maltreatment Prevention 26
KIMBERLY BOLLER, PHD, SEPTEMBER 2012

Replicating and Scaling Up Evidence-Based Home Visiting Programs: The Role of Implementation Research 32
DIANE PAULSELL, MPA, SEPTEMBER 2012

Topic funded by

Synthesis

How important is it?

Home visiting programs are a type of prevention strategy that provides a range of structured services to young children and their family in a home- setting environment and from a trained service provider. These structured services include case management, referrals to existing community services, parenting and child education and social support to pregnant women among others. Although most home visiting programs are voluntary, some states and communities highly encourage participation by families with risk of maltreatment. Over the last two decades, a growing number of home visiting programs have been implemented in developed and developing countries. Examples of programs in Canada and the United Sates include Parent as Teachers, Nurse Family Partnerships, Early Head Start, and Healthy Steps, whereas Educate Your Child,[1] The Roving Caregivers,[2] and Madres Guías[3] are examples of programs found in Latin America and in the Caribbean.

Educate Your Child (Cuba) is a non-institutionalized, community- and family-based program available to Cuban children under the age of six years old and pregnant women. Service providers offer individualized care to children and demonstrations of stimulation activities to parents during in-home sessions. Positive impacts on children's socio-emotional and motor development have been found following participation to the program. The program methodology has been adapted in different countries, including Ecuador, Chile, Brazil, Mexico, Venezuela, Colombia and Guatemala.

The Roving Caregivers (Caribbean countries) is an early childhood development and family support program available to at-risk Caribbean children under the age of three years old. Service providers make regular visits to families to provide a range of services, such as direct support to children and their families, quality care and attention, better health and nutrition and preschool preparation. Children who participated in the program showed improvement in terms of cognitive development, expressive language, visual perception and overall school readiness.

Madres Guías (Honduras) is one of the most comprehensive community- and home-based programs available to children from birth to age four or six years old and to pregnant women living under the poverty line in municipalities with the highest rate of mortality and malnutrition in Honduras (Central America). Madres Guías (i.e., mother guides) provide prenatal education, newborn screening, early stimulation, parental education and support, nutrition services and basic education. Materials used for child and/or parental training are all adapted to the communities' language and sociocultural conditions.

Although home visiting programs differ from each other in terms of *targeted population* (children with disabilities, teen mothers, at-risk families), *providers* (professionals, paraprofessionals, volunteers), *activities* and *schedules*, they all share the same objective, which is to support children's healthy growth and development. More specifically, the main goals of most home visiting programs are to improve parents' child-rearing beliefs, knowledge and ability to provide a positive environment for their children. By reaching out to

families and caregivers who would not otherwise seek support services, these programs have the potential to improve parenting skills and to reduce short- and long-term adverse outcomes for child's heath and development.

What do we know?

An increasing number of researchers have evaluated the efficacy of home visiting programs over the years. Results from these studies suggest a differential effect depending on the outcome of interest. Whileparticipation inseveral home visiting programs is effective at improving children's cognitive and behavioural outcomes (e.g., Early Head Start, The Nurse Family Partnership and The Infant Health and Developmental program), few home visiting programs have been able to significantly improve pregnancy outcomes and reductions in child maltreatment have been found for some models, but not for others. With regard to the impact of home visiting programs on maternal depression, evidence from recent studies suggests that some components help to improve child's health and development and mothers' sensitivity to child cues. That said, mothers with major depressive disorder who receive In-Home Cognitive Therapy (IH-CBT) in combination with home visiting services usually experience a larger decrease in depressive symptoms in comparison to those receiving home visiting alone, but it also is clear that many home visitors need additional training or supports to address maternal depression.

In addition to being influenced by the outcome of interest, the efficacy of home visiting programs is dependent upon the population targeted, providers and home visit content. Home visiting programs are generally more effective when services are provided to the neediest subgroups in a population (e.g., parents living in poverty, with psychological difficulties or children with disabilities) and when participants are fully involved in the intervention. Furthermore, larger positive effects of home visiting programs are usually found when nurses and/or other professionals deliver services to families instead of paraprofessionals. By having the required qualifications through training, supervision and monitoring, professional home visitors have access to a greater amount of resources and support, in turn allowing them to provide high quality services to families and to sustain implementation of home visiting programs with a high degree of fidelity over time. With regard to home visit content, home visiting programs tend to be more effective when services are comprehensive in focus, implement the program model with rigour, and when they target families' multiple needs. Finally, home visiting programs that promote high quality parent-child relationships and combined with high-quality early education programs are most likely to result in better school readiness outcomes for children.

What can be done?

In order to accurately measure the efficacy of several home visiting programs, a comprehensive assessment that includes measures of multiple child and family outcomes at various points in time should be favoured. Similarly, given that the effectiveness of home visiting programs tends to differ among the population targeted, it would be useful to collect information about the impact of these programs on various population subgroups. This information would help researchers to further determine which dimensions of home visiting programs can be adapted for different contexts and populations without threatening the program's effectiveness and fidelity to the model.

Further research is also needed to identify program components and the threshold of dosage and duration of services necessary to produce the greatest long-term positive effect. Another area of research that warrants further examination is the impact of maternal depression on home visiting programs' effectiveness. Advances in

research would not only help providers to have a better understanding of the way depression severity and its course interacts with program elements to bring about positive or negative outcomes, but it may also help home visitors to receive better training that support their work with mothers who have significant depression. As such, home visitors are encouraged to learn, through supervision and coaching, when and how maternal depression and/or other psychosocial risk factors need to be addressed and in which circumstances they should make referrals to mental health professionals.

Finally, one way to improve long-term participation to home visiting programs would be to integrate them into a broad and diversified system. More research is needed to understand how participation in home visiting programs in the early years of life serves to encourage high-risk parents to take advantage of early education programs available to them that can further support children's school readiness outcomes.

References

1. UNICEF. La Contextualización del Modelo de Atención Educativa no Institucional Cubano "Educa a tu Hijo" en Países Latinoamericanos. Available at: http://www.movilizando.org/images/Educa_a_tu_Hijo_UNICEF_Siverio.pdf. Accessed September 14, 2012.
2. Foundation for the Development of Caribbean Children. Family & Community Intervention. Available at: http://www.fdcchildren.org/index/what-we-do/family-community-intervention.html. Accessed September 14, 2012
3. Vargas-Barón E. Going to Scale: Early childhood development in Latin America. Washington, DC: The RISE Institute; 2009. Available at: http://www.issa.nl/newsletter/09/spring/files/GoingToScale_30Mar2009.pdf. Accessed September 14, 2012.

Home Visiting Programs and Their Impact on Young Children's School Readiness

Erika Gaylor, PhD, Donna Spiker, PhD

SRI International, Center for Education and Human Services, USA

September 2012, Rev. ed.

Introduction

Home visiting programs are designed and implemented to support families in providing an environment that promotes the healthy growth and development of their children. Programs may target their services to families and caregivers who are at a particular disadvantage when it comes to establishing and maintaining such an environment. They may also focus on families in which the child is more vulnerable than the typical child because of health or developmental concerns.

Subject

Home visitation is a type of service-delivery model that can be used to provide many different kinds of interventions to target participants.[1] Home visiting programs can vary widely in their goals, clients, providers, activities, schedules and administrative structure. They share some common elements, however. Home visiting programs provide structured services:

1. in a home setting;
2. from a trained service provider;
3. in order to alter the knowledge, beliefs and/or behaviour of children, caregivers or others in the caregiving environment and to provide parenting support.[2]

Home visits are structured in some way to provide consistency across participants, providers, and visits and to link program practices with intended outcomes. A visit protocol, a formal curriculum, an individualized service plan, and/or a specific theoretical framework can be the basis for activities that take place during home visits. Services are delivered in the living space of the participating family and within their ongoing daily routines and activities. The providers may be credentialed or certified professionals, paraprofessionals, or volunteers, but typically they have received some form of training in the methods and topical content of the program so that they are able to act as a source of expertise for caregivers.[3] Finally, home visiting programs are attempting to achieve some change on the part of participating families—in their understanding (beliefs about child-rearing, knowledge of child development), and/or actions (their manner of interacting with their child or structuring the environment)—or on the part of the child (change in rate of development, health status, etc.). Home visiting also may be used as a way to provide case management, make referrals to existing community services, or bring information to parents or caregivers to support their ability to provide a positive home environment for their

children.[4]

Problems

Data about the efficacy of home visiting programs have been accumulating over the past three decades. Recent projects have used randomized designs, with multiple data sources and outcome measures, and longitudinal follow-up. These studies have generally found that home visiting programs produce a limited range of significant effects and that the effects produced are often small.[5,6] Detailed analyses, however, sometimes reveal important program effects.[7] For example, certain subsets of participants may experience long-term positive outcomes on specific variables.[8,9] These results and others suggest that in assessing the efficacy of home visiting programs, it is important to include measures of multiple child and family outcomes at various points in time and to collect enough information about participants to allow for an analysis of the program effects on various types of subgroups.

Other difficulties when conducting or evaluating research in this area include ensuring the equivalency of the control and experimental groups in randomized controlled trials (RCTs),[10] controlling for participant attrition (which may affect the validity of findings by reducing group equivalence) and missed visits (which may affect validity by reducing program intensity),[11] documenting that the program was fully and accurately implemented, and determining whether the program's theory of change logically connects program activities with intended outcomes.

Research Context

Because home visiting programs differ in their goals and content, research into their efficacy must be tailored to program-specific goals, practices, and participants. In general, home visiting programs can be grouped into those seeking medical/physical health outcomes and those seeking parent-child interaction and child development outcomes. The target population may be identified at the level of the caregiver (e.g., teen mothers, low-income families) or the child (e.g., children with disabilities). Some programs may have broad and varied goals, such as improving prenatal and perinatal health, nutrition, safety, and parenting. Other programs may have narrower goals, such as reducing the incidence of child abuse and neglect. Program outcomes may focus on adults or on children; providers frequently cite multiple goals (e.g., improved child development, parent social-emotional support, parent education).[12]

In this chapter, we focus on the effectiveness of home visiting programs in promoting developmental, cognitive, and school readiness outcomes in children. The majority of home visiting services and research have focused on the period prenatally through 2 to 3 years and thus have not measured long-term impacts on school readiness and school achievement. However, more recent studies have examined the impact on these outcomes indirectly through changes in parenting practices and precursors to successful school success (i.e., positive behaviour outcomes including self-regulation and attention).

Key Research Questions

Key research questions include the following:

1. What are the short-term and long-term benefits experienced by participating families and their children

relative to nonparticipating families, particularly for children's school readiness skills and parenting to support child development?

2. What factors influence participation and nonparticipation in the program?
3. Do outcomes differ for different subgroups?

Research Results

A recent review of seven home visiting program models across 16 studies that included rigorous evaluation components and measured child development and school readiness outcomes concluded positive impacts on young children's development and behaviour. Six models showed favourable effects on primary outcome measures (e.g., standardized measures of child development outcomes and reduction in behaviour problems).[13] Only studies with outcomes using direct observation, direct assessment, or administrative records were included. Problems identified in a review over a decade ago still plague this field, however.

In most of the studies described, programs struggled to enroll, engage, and retain families. When program benefits are demonstrated, they usually accrued only to a subset of families originally enrolled in the programs, they rarely occurred for all of a program's goals, and the benefits were often quite modest in magnitude.[5]

Research into the implementation of home visiting programs has documented a common set of difficulties across programs in delivering services as intended. First, target families may not accept initial enrollment into the program. Two studies that collected data on this aspect of implementation found that one-tenth to one-quarter of families declined invitations to participate in the home visiting program.[14,15] In another study, 20 percent of families that agreed to participate did not begin the program by receiving an initial visit.[11] Second, families may not receive the full number of planned visits. Evaluation of the Nurse Family Partnership model found that families received only half of the scheduled number of visits.[16] Evaluations of the Hawaii Healthy Start and the Parents as Teachers programs found that 42 percent and 38 percent to 56 percent of scheduled visits respectively were actually conducted.[14,17] Even when visits are conducted, the planned curriculum and visit activities may not be presented according to the program model, and families may not follow through with the activities outside of the home visit.[18,19] Finally, in a review of major home visitation research, Gomby, Culross, and Berman[5] found that between 20 percent and 67 percent of enrolled families left home visitation programs before the scheduled termination date. Recent studies of Early Head Start also show that families with the greatest number of risk factors are the most likely to drop out.[20]

Most notable, perhaps, is that the assumed link between parent behaviour change and improved outcomes for children has not received general support in research conducted to date. In other words, even when home visitation programs succeed in their goal of changing parent behaviour, these changes do not appear to produce significantly better child outcomes.[21,22] One recent exception, however, was a study of the Home Instruction Program for Preschool Youngsters (HIPPY) model with low-income Latino families showing changes in home parenting and better third-grade math achievement.[23] Earlier evaluations of HIPPY found mixed results regarding program effectiveness. In some cohorts, program participants outperformed nonparticipants on measures of school adaptation and achievement through second grade, but these results were not replicated with other cohorts at other sites.

The review of home visiting programs described above included only studies using rigorous designs and measurement. However, a number of models did show significant impacts on child development and school readiness outcomes. The Early Head Start model used a randomized controlled trial design to study the impact of a mixed-model service delivery (i.e., center-based and home-visiting) on developmental outcomes at 2- and 3-year follow-up. Overall, there were small, but significant gains on cognitive development at 3 years, but not 2 years. Studies of the Nurse Family Partnership model followed children to 6 years and found significant program effects on language and cognitive functioning as well as fewer behaviour problems in a randomized controlled trial study.[24] In addition, more recent evaluations of Healthy Families America have shown small, but favourable effects on young children's development.[25,26]

Mixed findings have been found on the effectiveness of home visiting programs to increase early identification of language delays. The Nurse Family Partnership model showed a significantly better detection rate of language delays,[10] while one study of the Hawaii Healthy Start Program did not show evidence of preventing language delays or improving early identification.[27]

A number of model programs were unable to document program impacts on parenting and home environment factors that are predictive of children's early learning and development through control group designs. An evaluation of Hawaii's Healthy Start program found no differences between experimental and control groups in maternal life course (attainment of educational and life goals), substance abuse, partner violence, depressive symptoms, the home as a learning environment, parent-child interaction, parental stress, and child developmental and health measures.[25] However, program participation was associated with a reduction in the number of child abuse cases.

A 1990's evaluation of the Parents as Teachers (PAT) program also failed to find differences between groups on measures of parenting knowledge and behaviour or child health and development.[17] Small positive differences were found for teen mothers and Latina mothers on some of these measures. More recent randomized controlled trial studies with the Parents as Teachers Born to Learn curriculum do find significant effects on cognitive development and mastery motivation at age 2 for the low socioeconomic families only.[28] A randomized controlled trial of Family Check-Up demonstrated favourable impacts on at risk toddlers' behaviour and positive parenting practices.[29]

Randomized controlled trials have also shown that programs are more likely to have positive effects when targeted to the neediest subgroups in a population. For example, in the Nurse Family Partnership model children born to mothers with low psychological resources had better academic achievement in math and reading in first through sixth grade compared to their control peers (i.e., mothers without the intervention with similar characteristics).[30,31]

The largest randomized trial of a comprehensive early intervention program for low-birth-weight, premature infants (birth to age three), the Infant Health and Development Program, included a home visiting component along with an educational centre-based program.[7] At age three, intervention group children had significantly better cognitive and behavioural outcomes and improved parent-child interactions. The positive outcomes were most pronounced in the poorest socioeconomic group of children and families and in those who participated in the intervention most fully. The Chicago Parent-Child Center Program also combined a structured preschool program with a home visitation component. This program found long-term differences between program

participants and matched controls. Participating children had higher rates of high-school completion, lower rates of grade retention and special education placement, and a lower rate of juvenile arrests.[32] Another example showing more intensive programming has larger impacts is the Healthy Steps evaluation showing significantly better child language outcomes when the program was initiated prenatally through 24 months.[33] These studies suggest that a more intensive intervention involving the child directly may be required for larger effects to be seen.

Conclusions

Research on home visitation programs has not been able to show that these programs have a strong and consistent effect on participating children and families, but modest effects have been repeatedly reported for children's early development and behaviour and parenting behaviours and discipline practices. Programs that are designed and implemented with greater rigour seem to provide better results. Home visitation programs also appear to offer greater benefits to certain subgroups of families, such as low-income, single, teen mothers.

Implications

Programs that are successful with families at increased risk for poor child development outcomes tend to be programs that offer a comprehensive focus—targeting families' multiple needs—and therefore may be more expensive to develop, implement, and maintain. In their current state of development, home visitation programs do not appear to represent the low-cost solution to child health and developmental problems that policymakers and the public have hoped for.[5] However, information that is accumulating about long-term outcomes and effective practices may lead to the development of replicable programs that are capable of producing modest but consistent and positive results for participating target families.

Regarding child development and school readiness outcomes, more recent studies show promise in impacting these outcomes indirectly through promoting positive parenting practices and home supports for early learning. As we learn more about the mechanisms for these impacts, both direct and indirect, research will demonstrate the most effective approach to link home visiting services and early childhood education and child care programs to more fully realize positive outcomes. For example, one possible reason the Nurse Family Partnership model produces such strong effects on child academic achievement relative to other program models is that children whose parents participated in the program were more likely to be enrolled in formal early childhood education programs between 2 and 5 years of age.[24] For high risk families, home visiting programs can serve to encourage families to take advantage of preschool programs available to them and their children to further support school readiness outcomes.

References

1. Roberts, R. N., & Wasik, B. H. (1990). Home visiting programs for families with children birth to three: Results of a national survey. *Journal of Early Intervention*, 14, 274-284.
2. Wasik, B. H., & Bryant, D. M. (2000). Home visiting: Procedures for helping families (2nd ed.). Thousand Oaks, CA: Sage Publications.
3. Behrman, R. E. (Ed.). (1999). *The future of children. Home visiting: Recent program evaluations*(Vol. 9). Los Altos, CA: The David and Lucile Packard Foundation.
4. Halpern, R. (2000). Early childhood intervention for low-income children and families. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 361-386). New York, NY: Cambridge University Press.

5. Gomby, D. S., Culross, P. L., & Behrman, R. E. (1999). *Home visiting: Recent program evaluations-analysis and recommendations. The Future of Children*, 9(1), 4-26.
6. Wagner, M., Spiker, D., & Linn, M. I. (2002). *The effectiveness of the Parents as Teachers program with low-income parents and children*. Topics in Early Childhood Special Education, 22(2), 67-81.
7. Gross, R. T., Spiker, D., & Haynes, C. W. (Eds.). (1997). *Helping low birth weight, premature babies*. Stanford, CA: Stanford University Press.
8. Karoly, L. A., Greenwood, P. W., Everingham, S. S., Hoube, J., Kilburn, M. R., Rydell, C. P., et al. (1998). *Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions* (No. MR-898-TCWF). Santa Monica, CA: RAND Corporation.
9. Olds, D. L., Eckenrode, J., Henderson, C. R., Kitzman, H., Powers, J., Cole, R., et al. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect: 15-year follow-up of a randomized trail. *Journal of the American Medical Association*, 278(8), 637-643.
10. Olds, D. L. (2002). Prenatal and infancy home visiting by nurses: From randomized trials to community replication. *Prevention Science*, 3(3), 153-172.
11. Wagner, M., Spiker, D., Linn, M. I., Gerlach-Downie, S., & Hernandez, F. (2003). Dimensions of parental engagement in home visiting programs: Exploratory study. Topics in Early Childhood Special Education, 23(4), 171-187.
12. Roberts, R. N., Wasik, B. N., Casto, G., & Ramey, C. T. (1991). Family support in the home: Programs, policy, and social change. *American Psychologist*, 46(2), 131-137.
13. Paulsell, D., Avellar, S., Sama Martin, E., & Del Grosso, P. (2010). Home visiting evidence of effectiveness review: Executive summary. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
14. Duggan, A. K., McFarlane, E. C., Windham, A. M., Rohde, C. A., Salkever, D. S., Fuddy, L., et al. (1999). Evaluations of Hawaii's Healthy Start Program. *The Future of Children*, 9(1), 66-90.
15. 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. *The Future of Children*, 9(1), 44-65.
16. Korfmacher, J., Kitzman, H., & Olds, D. L. (1998). Intervention processes as predictors of outcomes in a preventive home visitation program. *Journal of Clinical Child & Adolescent Psychology*, 26(1), 49-64.
17. Wagner, M. M., & Clayton, S. L. (1999). The Parents as Teachers program: Results from two demonstrations. *The Future of Children*, 9(1), 91-115.
18. Baker, A. J. L., Piotrkowski, C. S., & Brooks-Gunn, J. (1999). The Home Instruction Program for Preschool Youngsters (HIPPY). *The Future of Children*, 9(1), 116-133.
19. Hebbeler, K. M., & Gerlach-Downie, S. G. (2002). Inside the black box of home visiting: A qualitative analysis of why intended outcomes were not achieved. *Early Childhood Research Quarterly*, 17, 28-51.
20. Roggman, L. A., Cook, G. A., Peterson, C. A., & Raikes, H. H. (2008). Who drops out of Early Head Start home visiting programs? *Early Education & Development*, 19(4), 574-599.
21. Caughy, M. O., Huang, K., Miller, T., & Genevro, J. L. (2004). The effects of the Healthy Steps for Young Children Program: Results from observations of parenting and child development. *Early Childhood Research Quarterly*, 19(4), 611-630.
22. Minkovitz, C. S., Strobino, D., Mistry, K. B., Scharfstein, D. O., Grason, H., Hou, W., et al. (2007). Healthy steps for young children: Sustained results at 5.5 years. *Pediatrics*, 120(3), 658?668.
23. Nievar, M. A., Jacobson, A., Chen, Q., Johnson, U., & Dier, S. (2011). Impact of HIPPY on home learning environments of Latino families. *Early Childhood Research Quarterly*, 26, 268-277.
24. 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*, 6(6), 1550-1559.
25. Caldera, D., Burrell, L., Rodriguez, K., Crowne, S. S., Rohde, C., & Duggan, A. (2007). Impact of a statewide home visiting program on parenting and on child health and development. *Child Abuse & Neglect*, 31(8), 829-852.
26. Landsverk, J., Carrillo, T., Connelly, C. D., Ganger, W., Slymen, D., Newton, R., & al., e. (2002). Healthy Families San Diego clinical trial: Technical report. San Diego, CA: The Stuart Foundation, The California Wellness Foundation, State of California Department of Social Services: Office of Child Abuse Prevention.
27. King, T. M., Rosenberg, L. A., Fuddy, L., McFarlane, E., Sia, C., & Duggan, A. K. (2005). Prevalence and early identification of language delays among at-risk three year olds. *Journal of Developmental and Behavioral Pediatrics*, 26(4), 293-303.

28. Drotar, D., Robinson, J., Jeavons, L., & Lester Kirchner, H. (2009). A randomized, controlled evaluation of early intervention: The Born to Learn curriculum. Child: Care, *Health & Development*, 35(5), 643-649.

29. Shaw, D. S., Dishion, T. J., Supplee, L., Gardner, F., & Arnds, K. (2006). Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood. *Journal of Consulting and Clinical Psychology*, 74(1), 1?9.

30. 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(4), e832-e845.

31. 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 Pediatric Adolescent Medicine*, 164(5), 412-418.

32. Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285(18), 2339-2346.

33. Johnston, B. D., Huebner, C. E., Anderson, M. L., Tyll, L. T., & Thompson, R. S. (2006). Healthy steps in an integrated delivery system: Child and parent outcomes at 30 months. *Archives of Pediatrics & Adolescent Medicine*, 160(8), 793-800.

Prenatal/Postnatal Home Visiting Programs and Their Impact on the Social and Emotional Development of Young Children (0–5)

Nancy Donelan-McCall, PhD, David Olds, PhD

University of Colorado Denver, USA

September 2012, Rev. ed.

Introduction

Social and emotional problems in young children can be traced to mothers' prenatal health,[1,2] parents' caregiving[3,4] and their life-course (such as the timing of subsequent pregnancies, employment, welfare dependence).[5,6] Home visiting programs that address these antecedent risks and protective factors may reduce social and emotional problems in children.

Subject

Home visiting has a long history in Western societies of being used to deliver services to vulnerable populations. In many European countries, home visiting is a routine part of maternal and child health care, although the practice is less established in Canada and the United States.[7] Over the past 30 years, one of the most promising prevention strategies targeted at decreasing rates of child maltreatment has been to provide health services, parenting education, and social support to pregnant women and families with young children in their own homes. However, reviews of the literature on home visiting programs have been quite mixed.[8,9]

Home visiting programs vary in their targeted populations, program models, and those who deliver the services. Most operate on the assumption, however, that parents' prenatal health behaviours, care of their children, and life-course affect their children's social and emotional development.[10]

Problems

Prenatal tobacco exposure and obstetrical complications have both been implicated in the development of externalizing behaviour problems in children;[1,2] there is now evidence that the impact of prenatal tobacco exposure is greatest in the presence of a specific genetic vulnerability.[11]

Child abuse, neglect, and excessively harsh treatment of children are associated with both internalizing and externalizing behaviour problems and later violent behaviour,[3,4,12] but again, the impact of child maltreatment on severe antisocial behaviour appears to be greatest in the presence of genetic vulnerability.[13] Family

dependence on welfare, large families with closely spaced births, and single parenthood are all associated with compromised social and emotional development in children.[5,6]

Research Context

While some meta-analyses of home visiting programs suggest that many types of home visiting programs can make a difference in reducing adverse outcomes such as child maltreatment and childhood injuries,[14,15] meta-analyses can produce misleading results if there are insufficient numbers of trials of programs represented in the cross-classification of home visiting target populations, program models, and visitors' backgrounds. For example, a review on prevention of maltreatment and associated impairment concluded that programs delivered by paraprofessional home visitors were not effective in reducing child protection reports or associated impairments whereas those delivered by nurses evidenced reductions in child maltreatment.[8]

Key Research Questions

Understanding the impacts home visiting programs have had on children's social and emotional development begins with identifying those programs that have affected antecedent risk and protective factors associated with child and emotional development in addition to specific social and emotional outcomes. Specifically, what home visiting program models show the greatest promise for improving pregnancy outcomes, reducing child abuse and neglect, and improving parents' life-course and children's social and emotional development?

Recent Research Results

Improvement of pregnancy outcomes.

Most trials of prenatal home visiting have produced disappointing effects on pregnancy outcomes such as birth weight and gestational age,[9,16,17] although one program of prenatal and infancy home visiting by nurses has reduced prenatal tobacco use in two trials[18,19] and has reduced pregnancy-induced hypertension in a large sample of African-Americans.[20]

Reducing child abuse and neglect and injuries to children.

The program of prenatal and infancy home visiting by nurses, tested with a primarily white sample, produced a 48 percent treatment-control difference in the overall rates of substantiated rates of child abuse and neglect (irrespective of risk) and an 80 percent difference for families in which the mothers were low-income and unmarried at registration.[21] Corresponding rates of child maltreatment were too low to serve as a viable outcome in a subsequent trial of the program in a large sample of urban African-Americans,[20] but program effects on children's health-care encounters for serious injuries and ingestions at child age 2 and reductions in childhood mortality from preventable causes at child age 9 were consistent with the prevention of abuse and neglect.[20,22]

Maternal life-course.

The effect of home visiting programs on mothers' life-course (subsequent pregnancies, education, employment, and use of welfare) is disappointing overall.[10] In the trial of the nurse home visitor program described above, there were enduring effects of the program 15 years after birth of the first child on maternal life-course

outcomes (e.g., interpregnancy intervals, use of welfare, behavioural problems due to women's use of drugs and alcohol, and arrests among women who were low-income and unmarried at registration).[21] The effects of this program on maternal life-course have been replicated in separate trials with urban African-Americans[20,23,24] and with Hispanics.[18]

Children's social and emotional problems.

An increasing number of home visiting programs have found beneficial program effects on infants' attachment behaviours and classifications of attachment security.[25-30] Attachment security is considered a reflection of the quality of parental caregiving and is associated with subsequent behavioural adaptation with peers.[31]

The program of prenatal and infancy home visiting by nurses described above produced treatment-control differences in 15-year-olds' arrests and reductions in arrests and convictions among 19-year-old females.[32,33] In a subsequent trial with a large sample of urban African-Americans the program produced treatment impacts on 12-year-olds' use of substances and internalizing disorders.[34]

In the third trial of the nurse home visitor program, nurse-visited, 6-month-old infants born to mothers with low psychological resources (i.e., maternal IQ, mental health, and sense of efficacy) displayed fewer aberrant emotional expressions (e.g., low levels of affect and lack of social referencing of mother) associated with child maltreatment.[18]

Finally, a Finnish trial of universal home visiting by nurses[35] and two U.S. programs implemented by master's degree-level mental health or developmental clinicians have found significant effects on a number of important child behavioural problems.[36,37] Additionally, a paraprofessional home visitation program found effects on externalizing and internalizing behaviours at child age 2; however due to the large number of effects measured in this study, replication of the findings is warranted.[38]

Conclusions

Few home visiting programs have improved pregnancy outcomes, parental life-course, child abuse and neglect rates, compromised caregiving, and children's social and emotional problems. The programs with the greatest promise in affecting these outcomes have employed professional home visitors, with the strongest evidence coming from trials of programs using nurses. In a trial that included separate treatment groups of nurse and paraprofessional home visitors, the nurses produced effects that were twice as large as those of the paraprofessionals.[18]

The program of prenatal and infancy home visiting by nurses has produced consistent effects on clinically significant outcomes in three separate trials with different populations living in different contexts and at different points in U.S. social and economic history. These results increase the likelihood that these findings will have applicability to a wide range of different populations within the U.S. today.

Implications

In spring 2010, the Health Resources and Services Administration and the Administration for Children announced the availability of funds for the Affordable Care Act Maternal, Infant, and Early Childhood Home

Visiting Program.[39] The program emphasizes and supports successful implementation of high-quality home visiting programs that have demonstrated evidence of effectiveness as defined in the legislation. Eight existing home visiting programs met the minimal legislative threshold for federal funding: Early Head Start, the Early Intervention Program, Family Check-up, Healthy Families America, Healthy Steps, Home Instruction Program for Preschool Youngsters, Nurse-Family Partnership, and Parents as Teachers.[40] In August 2011, the Coalition for Evidence-Based Policy built upon the government's review by evaluating the extent to which programs implemented with fidelity would produce important improvements in the lives of at-risk children and parents.[41] Through this review, one program was given a strong rating (the Nurse-Family Partnership), two were given medium ratings (Early Intervention Program and Family Check-up), and all other programs were given a low rating.

Effective programs, those with strong evidentiary standards and effective community replication, can reduce risks and adverse outcomes for fetal, infant, and child health and development. As policymakers and practitioners decide to invest in home visiting services during pregnancy and the early years of the child's life, they should examine carefully the evidentiary foundations of the program in which they invest. Programs vary considerably in their underlying theoretical and empirical foundations, the quality of the program guidelines, and their likelihood of success.

References

1. Arseneault, L.T., R. E. Boulerice, B. Saucier, J. F., Obstetrical complications and violent delinquency: Testing two developmental pathways. *Child Dev*, 2002. 73(2): p. 496-508.
2. Wakschlag, L.S.P., K. E. Cook, E. JrBenowitz, N. L. Leventhal, B. L., Maternal smoking during pregnancy and severe antisocial behavior in offspring: a review. *Am J Public Health*, 2002. 92(6): p. 966-74.
3. Widom, C.S., Child abuse, neglect, and adult behavior: Research design and findings on criminality, violence, and child abuse. *Amer. J. Orthopsychiat*, 1989. 59(3): p. 355-367.
4. Widom, C.S., The cycle of violence. *Science*, 1989. 244: p. 160-166.
5. Furstenberg, F.F., J. Brooks-Gunn, and S.P. Morgan, *Adolescent mothers in later life. Human development in cultural and historical contexts* . 1987, New York, NY, USA: Cambridge University Press. xiv, 204 p.
6. Yeung, W.J.L., M. R. Brooks-Gunn, J., How money matters for young children's development: parental investment and family processes. *Child Dev*, 2002. 73(6): p. 1861-79.
7. Wasik, B.H., D.M. Bryant, and C.M. Lyons, *Home visiting : procedures for helping families*. 1990, Newbury Park, Calif.: Sage.
8. MacMillan, H.M., J.Offord, D.Griffith, L.MacMillan, A., Primary prevention of child sexual abuse: a critical review. *Journal of Child Psychology and Psychiatry*, 1994, 32767.
9. Issel, M.L., et al., A review of prenatal home-visiting effectiveness for improving birth outcomes. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 2011. 40: p. 157-165.
10. Gomby, D.S.C., P. L. Behrman, R. E., Home visiting: recent program evaluations--analysis and recommendations. *Future Child*, 1999. 9(1): p. 4-26, 195-223.
11. Kahn, R.S.K., J. Nichols, W. C. Lanphear, B. P., Role of dopamine transporter genotype and maternal prenatal smoking in childhood hyperactive-impulsive, inattentive, and oppositional behaviors. *J Pediatr*, 2003. 143(1): p. 104-10.
12. Toth, S.L., D. Cicchetti, and J. Kim, Relations among children's perceptions of maternal behavior, attributional styles, and behavioral symptomatology in maltreated children. *J Abnorm Child Psychol*, 2002. 30(5): p. 487-501.
13. Caspi, A., et al., Role of genotype in the cycle of violence in maltreated children. *Science*, 2002. 297(5582): p. 851-4.
14. Guterman, N.B., *Stopping child maltreatment before it starts : emerging horizons in early home visitation services*. Sage sourcebooks for the human services. 2001, Thousand Oaks, Calif. ; London: Sage Publications. xv, 247 p.
15. Roberts, I., M.S. Kramer, and S. Suissa, Does home visiting prevent childhood injury? A systematic review of randomised controlled trials. *BMJ*, 1996. 312(7022): p. 29-33.

16. Olds, D.L.H., P. Robinson, J.Song, N.Little, C., Update on home visiting for pregnant women and parents of young children. *Curr Probl Pediatr*, 2000. 30(4): p. 107-41.
17. Olds, D.L.K., H., Review of research on home visiting for pregnant women and parents of young children. *The Future of Children*, 1993. 3(3): p. 53-92.
18. Olds, D.L.R., J. O'Brien, R. Luckey, D. W. Pettitt, L. M. Henderson, C. R. JrNg, R. K. Sheff, K. L. Korfmacher, J. Hiatt, S. Talmi, A., Home visiting by paraprofessionals and by nurses: a randomized, controlled trial. *Pediatrics*, 2002. 110(3): p. 486-96.
19. Olds, D.L.H., C. R. Jr Tatelbaum, R. Chamberlin, R., Improving the delivery of prenatal care and outcomes of pregnancy: a randomized trial of nurse home visitation. *Pediatrics*, 1986. 77(1): p. 16-28.
20. Kitzman, H.O., D.Henderson, C.Hanks, C.Cole, R.Tatelbaum, R.McConnochie, K.Sidora, K.Luckey, D.Shaver, D.Engelhardt, K.James, D.Barnard, K., Effects of home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: a randomized controlled trial. *JAMA*, 1997. 278(8): p. 644-652.
21. Olds, D.E., J.Henderson, C.Kitzman, H.Powers, J.Cole, R.Sidora, K.Morris, P.Pettitt, L.Luckey, D., Long-term effects of home visitation on maternal life course and child abuse and neglect: a 15-year follow-up of a randomized trial. *JAMA*, 1997. 278(8): p. 637-643.
22. Olds, D.L.K., H. Hanks, C. Cole, R. Anson, E. Sidora-Arcoleo, K. Luckey, D. W. Henderson, C. R. JrHolmberg, J. Tutt, R. A. Stevenson, A. J. Bondy, J., Effects of nurse home visiting on maternal and child functioning: age-9 follow-up of a randomized trial. *Pediatrics*, 2007. 120(4): p. e832-45.
23. Kitzman, H.O., D. L. Sidora, K. Henderson, C. R. JrHanks, C. Cole, R. Luckey, D. W. Bondy, J. Cole, K. Glazner, J., Enduring effects of nurse home visitation on maternal life course: a 3-year follow-up of a randomized trial. *JAMA*, 2000. 283(15): p. 1983-9.
24. Olds, D.L., et al., 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. *Arch Pediatr Adolesc Med*, 2010. 164(5): p. 419-24.
25. Heinicke, C.M.F., N. R.Ruth, G.Recchia, S. L.Guthrie, D.Rodning, C, Relationship-based intervention with at-risk mothers: Outcome in the first year of life. *Infant Mental Health Journal*, 1999. 20(4): p. 349-374.
26. Jacobson, S.F., K., Effect of Maternal Social support on Attachment: Experimental Evidence. *Child Development*, 1991. 62: p. 572-582.
27. Juffer, F.H., R. A. Riksen-Walraven, J. M. Kohnstamm, G. A., Early intervention in adoptive families: Supporting maternal sensitive responsiveness, infant-mother attachment, and infant competence. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 1997. 38(8): p. 1039-50.
28. Lieberman, A.W., D.Pawl, J., Preventive intervention and outcome with anxiously attached dyads. *Child Development*, 1991. 62: p. 199-209.
29. van den Boom, D.C., Do first-year intervention effects endure? Follow-up during toddlerhood of a sample of Dutch irritable infants. *Child Development*, 1995. 66(6): p. 1798-816.
30. van den Boom, D.C., The influence of temperament and mothering on attachment and exploration: an experimental manipulation of sensitive responsiveness among lower-class mothers with irritable infants.[Erratum Appears in Child Dev 1994 Dec;65(6):Followi]. *Child Development*, 1994. 65(5): p. 1457-77.
31. Sroufe, A.C., E., Contribution of attachment theory to developmental psychopathology., in *Developmental Psychopathology Vol.1: Theory and Methods.*, D.C. Cicchetti, D., Editor. 1995, John Wiley and Sons Inc.: New York, NY. p. 581-617.
32. Olds, D., et al., Long-term effects of nurse home visitation on children's criminal and antisocial behavior: 15-year follow-up of a randomized controlled trial. *JAMA*, 1998. 280(14): p. 1238-44.
33. Eckenrode, J., et al., Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year follow-up of a randomized trial. Arch Pediatr Adolesc Med, 2010. 164(1): p. 9-15.
34. Kitzman, H.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. *Arch Pediatr Adolesc Med* 164, 412-8 DOI: 164/5/412 [pii] 10.1001/archpediatrics.2010.76.
35. Aronen, E.T.K., S. A., Long-term effects of an early home-based intervention. *Journal of the American Academy of Child & Adolescent Psychiatry*, 1996. 35(12): p. 1665-72.
36. Lowell, D.I., et al., A randomized controlled trial of Child FIRST: A comprehensive home-based intervention translating research into early childhood practice. *Child Development*, 2011. 82(1): p. 193-208.
37. Shaw, D., et al., Improvements in maternal depression as a mediator of intervention effects on early childhood problem behavior. *Development & Psychopathology*, 2009. 21(417-439).
38. Caldera, D., et al., Impact of a statewide home visiting program on parenting and on child health and development. *Child Abuse & Neglect*, 2007. 31(8): p. 829-852.
39. Affordable Care Act, H.R. 3590-216, Subtitle L,- Maternal and Child Health Services. 2010. Available from: http://docs.house.gov/energycommerce/ppacacon.pdf. Accessed July 30, 2012.

40. Avelar S, Paulsell D. Lessons Learned from the Home Visiting Evidence of Effectiveness Review. Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Washington, DC; 2011.

41. Coalition for Evidence-Based Policy. HHS's maternal, infant, and early childhood home visiting program: Which program models identified by HHS as "Evidence-Based" are most likely to produce important improvements in the lives of children and parents? August 2011.

Maternal Mental Health Outcomes and Children's Mental Health and Home Visiting

[1]Robert T. Ammerman, PhD, [2]S. Darius Tandon, PhD

[1]Cincinnati Children's Hospital Medical Cener and University of Cincinnati College of Medicine, USA, [2]Johns Hopkins niversity Department of Pediatrics, USA

September 2012

Introduction

Mental health problems (of which maternal depression is the most common) are highly prevalent in low-income women. This is unsurprising given that they are at elevated risk due to risk factors such as stressful life events, low social support, child care stress, marital difficulties and poverty.[1,2] Children of depressed mothers, including those with subclinical depression, may experience a range of negative outcomes including developmental delays, cognitive impairments, and attachment insecurity.[3,4] Given the large number of perinatal women they serve, home visitation programs are in a unique position to address maternal depression. In this chapter, we focus on recent research related to home visitation programs' identification and response to maternal depression, identify gaps in this existing research, and provide recommendations for the practice and policy community on addressing maternal depression within home visitation.

Subject

Home visiting programs are common in developed countries reflecting efforts to optimize child development and maternal life course. A substantial social and financial investment has been made in these programs. Research has demonstrated that a large proportion of mothers served in home visiting suffer from mental health problems, with up to 50 percent experiencing clinically elevated levels of depression during the critical first years of their child's development.[5] There is evidence that many depressed mothers fail to fully benefit from home visiting.[6] Identifying depressed mothers or those at risk for depression who are participating in home visiting, and treating or preventing the condition and its deleterious consequences, can improve program outcomes and foster healthy child development.

Problems

Depression in new mothers has profound and often long-term negative effects on parenting and child development. Depressed mothers are often overwhelmed in the parenting role, have difficulty reading infant cues, struggle to meet the social and emotional needs of their children, and are less tolerant of child misbehaviour.[7] Offspring of depressed mothers, particularly if they are exposed to depression in the first year of life, are more likely to be poorly attached to their caregivers, experience emotional and behavioural dysregulation, have difficulty with attention and memory, and are at greater risk for psychiatric disorders throughout childhood.[8] Home visiting focuses on fostering healthy child development by improving parenting and maternal functioning. To the extent that depressed mothers have persistent mood problems during participation in home visiting, they may benefit less from services and their children will continue to be at risk for poor outcomes. Moreover, one of the objectives of home visiting is to link mothers with other professional

services in their communities, including mental health treatment. However, home visitors may not recognize the need for such a referral in depressed mothers, and, even when they are successfully identified and referred to mental health providers, few mothers receive effective treatment.[6]

Research Context

Despite the growing number of studies on the efficacy of home visiting, only recently has attention been paid to maternal depression. Research has been conducted to determine the prevalence of maternal depression among home visitation clients,[9,10,11,12] with these studies reporting depressive symptom rates around 50 percent. A smaller number of studies have examined home visitation programs' identification of maternal depression,[9,11] and challenges related to programs' identification and response.[13,14] In recognition of the prevalence of maternal depression and home visiting programs' limited response to this issue, interventions aimed at preventing and treating maternal depression have been developed.

Key Research Questions

There are three key research questions:

- First, how does maternal depression impact outcomes of interest in home visiting, including parenting, maternal life course, and child health and development?
- Second, what is the prevalence and course of maternal depression in the context of home visitation? A related issue is understanding the implications of elevated depressive symptoms versus diagnosis of major depressive disorder.
- Third, what is the best approach to preventing and treating depression in new mothers participating in home visitation programs?

Recent Research Results

Home visitation and maternal depression

To date, there is limited evidence that home visitation programs impact maternal depression. One *randomized controlled trial* comparing home-visited families with control participants who received other community services found a statistically significant difference in mean depressive symptoms at two years post-enrollment, but this contrast was nonsignificant at three years post-enrollment.[15] A second study of Early Head Start found no differences in depressive symptoms between intervention and control group participants post-intervention, although a difference was detected at a longer-term follow-up prior to children's enrollment in kindergarten.[10] Other randomized controlled trial studies have not found effects of home visitation on maternal depressive symptoms.[12,16,17]

There is evidence that depression can have a negative impact on the effects of home visiting programs. Depression has been associated with negative views of parenting and limited knowledge of child development.[18] In the Early Head Start Research and Evaluation Project,[6] depressed mothers showed deficits in mother-child interaction and in obtaining education and job goals relative to those without depression. However, depressed mothers also showed gains in some aspects of engaging with their children during structured tasks. Duggan et al.[19] found that depressed mothers with lower levels of attachment anxiety showed improvements in sensitivity to child cues relative to those with higher levels of attachment anxiety and those who did not receive home visiting. Research on the Nurse-Family Partnership

[20] has consistently shown that mothers with low psychological resources, a construct that includes some symptoms of depression, benefit most from home visitation. Taken together, it is evident that depression affects home visiting outcomes in complex ways.

Identification and response to maternal depression

Home visitors typically do not identify or respond to maternal depression during the course of their home visits with clients.[11,12,17] Several reasons appear to contribute to home visitors' lack of attention to maternal depression, including feeling they do not have appropriate training on approaches to discussing the topic with clients, perceptions that depressed clients are more difficult to engage, challenges in prioritizing discussion of poor mental health in the context of clients' other pressing needs, and lack of clarity on the extent to which they should address maternal depression.[13,14] Systematic screening and referral at time of home visitation enrollment can help identify women needing supports for maternal depression.

Treatment of maternal depression

Because depressed mothers rarely obtain effective treatment in the community, two approaches have been developed that provide treatment in the home. Ammerman and colleagues created In-Home Cognitive Behavioral Therapy (IH-CBT).[21] IH-CBT is a structured and manual-driven approach that is provided by a master's degree-level therapist. It is an adapted form of an evidence-based treatment for depression that has been modified for the home setting, addresses the unique needs of new mothers who are socially isolated and live in poverty, and engages the home visitor to facilitate a strong collaborative relationship in order to maximize outcomes for mothers and children. A recent clinical trial[22] found that mothers with major depressive disorder receiving IH-CBT alongside home visiting, relative to those receiving home visitation alone, had lower levels of diagnosed major depressive disorder at post-treatment (29.3 percent vs. 69.0 percent) and at three-month follow-up (21.0 percent vs. 52.6 percent). They also reported larger drops in self-reported depressive symptoms, increased social support, lower levels of other psychiatric symptoms and increased functional capacity.

Beeber et al.[23] conducted a clinical trial of interpersonal psychotherapy (IP) with 80 newly immigrated Latina mothers ages 15 years or older who were participating in Early Head Start. Depressed mothers were randomly assigned to IP treatment or a "usual care" condition. Treatment was delivered by psychiatric nurses who partnered with a Spanish interpreter. Eleven sessions were provided by the team, and five additional boosters were administered by the interpreter. Results showed significant drops in self-reported depression in the IP relative to the usual care group that were maintained at one month post-treatment.

Interventions to prevent maternal depression

Given the large number of home visiting clients at risk for developing clinical depression, Tandon and colleagues have adapted an intervention – the Mothers and Babies Course[24] – for use in home visitation as a depression prevention intervention. Findings from a recent randomized controlled trial[25,26] found that depressive symptoms declined at a significantly greater rate for intervention participants than usual care participants between baseline and one week, three months, and six months post-intervention, with the strongest effects found at six months post-intervention. Intervention participants were also less likely to have a depressive episode at six months post-intervention compared to usual care participants (14.6 percent vs. 32.4 percent), as assessed by a structured clinical interview.

Research Gaps

Research on depression in home visitation is still in its early stages. There is a need for theoretically-driven studies examining how maternal depression impacts mother and child outcomes in home visiting programs. The primary focus of this effort should be a better understanding of how depression severity and course interacts with program elements to bring about positive or negative outcomes. Relatedly, few studies have distinguished elevated depressive symptoms from the clinical condition of major depressive disorder. It is possible that such a distinction may be important for understanding how depression impacts home visiting and how it should best be addressed. Identification of moderating influences and mechanisms of change will guide the improvement of home visiting programs to better meet the needs of this population. Such program refinements will likely involve home visitor training and supervision, curricular changes, systematic screening and identification, and augmented approaches that seek to prevent depression or provide effective treatment to those already suffering from major depressive disorder. Regarding prevention and treatment, there is a dearth of information on long-term impacts of these program additions. Major depressive disorder is episodic, and relapse is common. As a result, prevention and treatment approaches that decrease relapse risk and/or increase the intervals between major depressive episodes over the long term hold the greatest promise to benefit mothers and children. Finally, there is a need to better understand how to disseminate empirically-supported prevention and treatment programs on a large scale and across different home visitation models.

Conclusions

Maternal mental health, in particular depression, in home visitation programs is a serious concern. Evidence suggests that depression is highly prevalent. Home visitors are often challenged when working with depressed mothers, have difficulty identifying depression, and struggle to link mothers to effective mental health treatment in the community. Research on the impact of depression on home visiting outcomes is mixed with some studies reporting negative results while others suggesting that depressed mothers may benefit from these programs. However, studies show that home visiting alone has little positive impact on maternal depressive symptoms. To the extent that mothers are depressed during home visiting, this factor is likely to have implications for child health and development. Several evidence-based approaches to preventing and treating depression have emerged. Although continued research is warranted, preliminary findings are encouraging and suggest that home visitation is an important setting in which to reach depressed mothers or those at risk for depression.

Implications for Parents, Services and Policy

Because depression is highly prevalent among women enrolled in home visitation, systematic multimodal approaches need to be employed to effectively and efficiently identify and respond to this issue. First, systematic screening should take place for every newly enrolling home visitation client. Reliable, valid and brief screening tools are readily available that can be integrated into programs' standard intake processes.

Second, programs need to provide training for home visitors on how to address maternal depression during home visits. Home visitors should understand when and how maternal depression should be addressed and when they should make referrals to mental health professionals. Training should also provide guidance on balancing conversations about family-identified needs with discussions pertaining to maternal depression and other psychosocial risk factors that impair effective parenting. A premium should be placed on developing home visitors' skills and assuring that these skills are used. The use of reflective supervision[27] and coaching[28] are two approaches that have been used effectively in other contexts to develop and maintain staff skills. Third, efforts to augment existing home visitation services with mental health interventions aimed at preventing and treating maternal depression should be further tested with rigorous research studies and scaled up as appropriate. Efforts should also be made to integrate preventive and treatment interventions within a single home visitation program so the full spectrum of women needing intervention for maternal depression is supported. In each of these recommended areas for policy and practice, multiple stakeholders (including home visiting staff and clients) must be involved to ensure the development of ecologically-valid approaches and secure community buy-in and ownership.

References

1. Mayberry, L. J., Horowitz, J. A., & Declercq, E. (2007). Depression symptom prevalence and demographic risk factors among US women during the first 2 years postpartum. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 36, 542-549.
2. Segre, L. S., O'Hara, M. W., Arndt, S., & Stuart, S. (2007). The prevalence of postpartum depression: The relative significance of three social status indices. *Social Psychiatry and Psychiatric Epidemiology*, 42, 316-321.
3. Center on the Developing Child. (2009). *Maternal depression can undermine the development of young children (Working Paper 8).* Boston, MA: Harvard University.
4. National Research Council and Institute of Medicine. (2009). *Depression in parents, parenting and children: Opportunities to improve identification, treatment and prevention*. Washington DC: The National Academies Press.
5. Ammerman, R. T., Putnam, F. W., Bosse, N. R., Teeters, A. R., & Van Ginkel, J. B. (2010). Maternal depression in home visitation: A systematic review. *Aggression and Violent Behavior*, 15, 191-200.
6. Administration on Children Youth and Families. (2002). *Making a difference in the lives of children and families: The Impacts of Early Head Start Programs on infants and toddlers and their families*. Washington, DC: U.S. Department of Health and Human Services.
7. Goodman, S. H. (2007). Depression in mothers. *Annual Review of Clinical Psychology*, 3, 107-135.
8. Hay, D. F., Pawlby, S., Waters, C. S., Perra, O., & Sharp, D. (2010). Mothers' antenatal depression and their children's antisocial outcomes. *Child Development*, 81, 149-165.
9. Ammerman, R. T., Putnam, F. W. , Altaye, M., Chen, L., Holleb, L., Stevens, J., Short, J., & Van Ginkel, J. B. (2009). Changes in depressive symptoms in ?rst time mothers in home visitation. *Child Abuse & Neglect*, 33, 127-138.
10. Chazan-Cohen, R., Ayoub, C., Pan, B. A., Roggman, L., Raikes, H., McKelvey, L., & Hart, A. (2007). It takes time: Impacts of Early Head Start that lead to reductions in maternal depression two years later. *Infant Mental Health Journal*, 28, 151-170.
11. Tandon, S. D., Parillo, K. M, Jenkins, C. J., & Duggan, A. K. (2005). Home visitors' recognition of and response to malleable risk factors among low-income pregnant and parenting women. *Maternal Child Health Journal*, 9, 273-283.
12. Duggan, A., Caldera, D., Rodriguez, K., Burrell, L., Rohde, C., & Crowne, S. S. (2007). Impact of a statewide home visiting program to prevent child abuse. *Child Abuse & Neglect*, 31, 801-827.
13. Lecroy, C. W., & Whitaker, K. (2005). Improving the quality of home visitation: An exploratory study of difficult situations. *Child Abuse & Neglect*, 29, 1003-1013.
14. Tandon, S. D., Mercer, C., Saylor, E., & Duggan, A. K. (2008). Paraprofessional home visitors' perceptions of addressing poor mental health, substance abuse, and domestic violence: A qualitative study. *Early Childhood Research Quarterly*, 23, 419-428.
15. Landsverk, J., Carrilio, T., Connelly, C. D., Granger, W. C., Slymen, D. J., & Newton R. R. (2002). *Healthy Families San Diego clinical trial: Technical report*: San Diego, CA: San Diego Children's Hospital and Health Center.
16. Mitchell-Herzfeld, S., Izzo, C., Greene, R., Lee, E., & Lowenfels, A. (2005). *Evaluation of Healthy Families New York (HFNY): First year program impacts*. Albany, NY: Healthy Families New York.

17. Duggan, A. K., Fuddy, L., Burrell, L., Higman, S., McFarlane, E., Windham, A., & Sia, C. (2004). Randomized trial of a statewide home visiting program to prevent child abuse: Impact in reducing parental risk factors. *Child Abuse & Neglect*, 28, 623-643.

18. Jacobs, S., & Easterbrooks, M. A. (2005). Healthy Familes Massachusetts final evaluation report. 2005; Retrieved from http://www.healthyfamiliesamerica.org/downloads/eval_hfm_tufts_2005.pdf.

19. Duggan, A., Berlin, L., Cassidy, J., Burrell, L., & Tandon, S. (2009). Examining maternal depression and attachment insecurity as moderators of the impacts of home visiting for at-risk mothers and infants. *Journal of Consulting Clinical Psychology*, 77, 788-799.

20. Olds, D. L. (2010). The nurse-family partnership: From trials to practice. In A. J. Reynolds, A. J. Rolnick, M. M. Englund, & J. A. Temple (Eds.) (2010). *Childhood programs and practices in the first decade of life: A human capital integration* (pp.40-75). New York, NY: Cambridge University Press.

21. Ammerman, R. T., Putnam, F. W., Stevens, J., Bosse, N. R., Short, J. A., Bodley, A. L., & Van Ginkel, J. B. (2011). An open trial of in-home CBT for depressed mothers in home visitation. *Maternal and Child Health Journal*, 15, 1333-1341.

22. Ammerman, R. T., Putnam, F. W., Altaye, M., Stevens, J., & Van Ginkel, J. B. (2012). A clinical trial of In-Home CBT for depressed mothers in home visitation. Unpublished manuscript, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA.

23. Beeber, L. S., Holditch-Davis, D., Perreira, K., Schwartz, T., Lewis, V., Blanchard, H., Canuso, R., & Goldman, B. D. (2010). Short-term in-home intervention reduces depressive symptoms in early head start Latina mothers of infants and toddlers. *Research in Nursing & Health*, 33, 60-76.

24. Munoz, R. F., Le, H. N., Ippen, C. G., Diaz, M. A., Urizar, G. G., et al. (2007). Prevention of postpartum depression in low-income women: Development of the Mamas y Bebes/Mothers and Babies Course. *Cognitive and Behavioral Practice*, 14, 70-83.

25. Tandon, S. D., Mendelson, T., Kemp, K., Leis, J., Perry, D. (2011). Preventing perinatal depression in low-income home visiting clients: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 79, 707-712

26. Tandon, S. D., Leis, J., Mendelson, T., Perry, D. F., & Kemp, K. (2012).6-month outcomes from a randomized controlled trial to prevent perinatal depression in low-income home visiting clients. Unpublished manuscript, Johns Hopkins University, Baltimore, Maryland, USA.

27. Heller, S. S., & Gilkerson, L. (2011).*Practical guide to reflective supervision*. Washington, DC: Zero to Three.

28. Fixsen, D., Naoom, S., Blase, K., Friedman, R., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: University of South Florida.

Evidence for the Role of Home Visiting in Child Maltreatment Prevention

Kimberly Boller, PhD

Mathematica Policy Research, USA

September 2012

Introduction

In 2010, 3.3 million referrals of alleged acts of maltreatment involving 5.9 million children were made to child protective services agencies in the United States. Almost 1.8 million reports were investigated, and of those, 436,321 were substantiated and 24,976 were found to be indicated (unsubstantiated, but with suspected maltreatment or risk of maltreatment). An estimated 1,560 children died because of maltreatment, with the highest rates of victimization in the first year of life – 20.6 per 1,000 children.[1] Research demonstrates that outcomes for children who survive child maltreatment (defined as neglect, abuse, or a combination of the two) are poor, with performance below national norms in a range of outcomes areas, including psychosocial and cognitive well-being and academic achievement.[2,3,4] The costs to society overall of these children not reaching their full potential and the lower than expected productivity of adult survivors of abuse are estimated at as much as $50-90 billion per year in the U.S.[5,6] These findings underscore the need for strategies to prevent child maltreatment in order to improve outcomes for children, families and communities.

Subject

Prenatal, infant and early childhood home visiting is one strategy that holds promise for preventing child maltreatment. Home visiting involves a trained home visitor working with parents in the family home to enhance the parent-child relationship, reduce risks of harm in the home, and provide a supportive environment. Most home visiting programs are voluntary, and states and communities encourage participation by families with risk for maltreatment (for example, families where parents have low levels of education, live in poverty, single-parent households, and parents who themselves were involved in the child welfare system). Over the past 40 years, more than 250 home visiting models have been developed by researchers and service providers, ranging widely in their approach to staffing, curriculum, length of service delivery, and demonstrated effectiveness in reducing rates of child maltreatment.[7] This chapter provides an overview of the evidence about the effectiveness of home visiting in preventing child maltreatment, identifies research gaps and discusses implications for key stakeholders.

Problems

It is challenging for states and communities to decide how to select home visiting models that are appropriate for their target populations and effective in preventing child maltreatment. Public officials and decisionmakers need information to help them select from the different home visiting models. In many instances, the quality of

the research is not sufficient to draw conclusions about the effects of a given model on child maltreatment.[8]

One measurement challenge is that states have different reporting and investigation requirements that hinder comparisons of rates of child maltreatment. In general, the rates of substantiated child abuse and neglect and emergency room visits for injuries and ingestions are relatively low, which means that much of the research includes measures of risk for child maltreatment, such as harsh parenting (use of corporal discipline techniques), maternal depression, substance abuse and domestic violence, and protective factors such as a positive home environment and a high-quality parent-child relationship. Assessing these risk factors using administrative and observational data collection techniques can be costly, and, although less costly, parent reports may not be as reliable. Another challenge is the potential for surveillance effects. Surveillance effects[9] refer to the potential for increased reporting on families who participate in child welfare system services or research because more professionals are working with families and may file reports of suspected abuse and trigger an investigation, increasing the likelihood of a finding for these families compared to those who do not participate.

Research Context

Research on child maltreatment has increased over the past 15 years and meta-analyses and reviews of the literature on the effectiveness of home visiting programs to prevent child maltreatment exist.[10,11,12] However, until recently there was not a wide ranging systematic review of the evidence on home visiting.[7,13,14,15,16] An effort launched in 2009 by the U.S. Department of Health and Human Services (HHS), the Home Visiting Evidence of Effectiveness (HomVEE), filled this gap by providing a systematic review of the early childhood home visiting research with particular attention to its applicability to the prevention of child maltreatment. The intent of the review was to assess the literature using pre-specified methodologies to identify and assess its quality. HHS used results of the review to identify which home visiting program models met requirements for evidence of effectiveness to guide state selection of models as part of a $1.5 billion federal initiative designed to increase the number of families and children served through evidence-based home visiting. The initiative is targeted at improving child and family outcomes, including decreasing rates of child maltreatment and improving parenting practices that may decrease risk for maltreatment. The nine national models that met the HHS evidence requirements as of October 2011 include Child FIRST, Early Head Start–Home Visiting (EHS–HV), Early Intervention Program for Adolescent Mothers (EIP), Family Check-Up, Healthy Families America (HFA), Healthy Steps, Home Instruction for Parents of Preschool Youngsters (HIPPY), Nurse-Family Partnership (NFP), and Parents as Teachers (PAT). As of July 2012, with completion of another round of the Home Visiting Evidence of Effectiveness reviews, three additional models met the U.S. Department of Health and Human Services evidence requirements, with detailed reports forthcoming.[17] As summarized below for the nine models with full reviews available, not all demonstrated evidence of effectiveness in reducing child maltreatment and improving parenting practices.[7,8]

Key Research Questions

This review is designed to address two research questions:

1. What is the evidence of effectiveness of home visiting to reduce rates of child maltreatment?
2. What is the evidence of effectiveness of home visiting to increase positive parenting practices associated

with reductions in the risk of child maltreatment?

Recent Research Results

What is the evidence of effectiveness of home visiting to reduce child maltreatment?

The HomVEE systematic review of evidence found that there are studies of HFA and NFP that included measures of substantiated reports of child abuse and neglect. Although an NFP study conducted when children were 4 years old showed no effect,[18] another study found reductions in substantiated reports of child maltreatment 15 years after enrollment.[19] Across a number of HFA studies there was no evidence of near-term effects on substantiated reports,[20,21,22,23] and there were no longer-term follow-up studies. One study of Child FIRST found positive effects on involvement with child protective services at three years.[24] There are studies of Early Head Start–Home Visiting (EHS–HV), HFA, Healthy Steps, and NFP that measure effects on emergency room or doctor visits for injuries or ingestions but only NFP showed positive effects.[13,18,25,26]

Studies of HFA showed mixed but mostly no effects on a parent-reported measure of a range of abusive parenting behaviours. Some studies showed positive impacts of HFA on parent self-reports of reductions in the frequency of neglect, harsh parenting in the past week, and other types of abuse.[8,21,22,23,27]

What is the evidence of effectiveness of home visiting to increase protective factors associated with reductions in the risk of child maltreatment?

Seven of the nine models meeting the HHS evidence criteria have studies that report positive impacts on improving protective factors such as parenting practices and quality of parent-child interaction, and the safety and stimulation provided in the home environment (the study of Child FIRST did not include these outcomes and the Early Intervention Program for Adolescent Mothers studies did not show effects). Research demonstrates that NFP and PAT also have negative effects, such as program families having fewer appropriate play materials in the home than the comparison group families, using harsher discipline techniques and being less accepting of the child's behaviour. The review also found that EHS–HV had positive effects on parent knowledge of infant development.[8,14]

Research Gaps

Although there are studies of home visiting that report effects of child maltreatment on child and family outcomes, relatively few of them use rigorous methods that support drawing causal inferences about effectiveness. In fact, many studies of home visiting models that have a more early childhood education focus do not include measures of child abuse and neglect, rather they focus on risk and protective factors. Challenges to including measures of child maltreatment involve the complexity of obtaining consent from families and access to state child welfare records, the need for both short- and long-term follow-up to assess program impact, and concerns about the reliability and validity of parent or staff reports. Given the evidence that different types of home visiting may reduce maltreatment and increase protective factors, studies of home visiting should include measures of both.

The existing body of rigorous research has been conducted with relatively small sample sizes that do not allow for assessment of the impact of home visiting on child maltreatment for important race/ethnic, linguistic and

poverty subgroups. For example, an evidence review of home visiting program models targeted to American Indian and Alaska Native children and families found that of the three studies that demonstrated high levels of evidence of effectiveness, none reported outcomes separately for these children.[28]

Conclusions

Studies of home visiting's effectiveness as an intervention designed to prevent child maltreatment demonstrate some promise, but compared to the number of studies conducted that measure child maltreatment, risk for maltreatment, or protective factors, there are far more findings of no effects than reductions in maltreatment and improvements in child and family well-being. Research also demonstrates variation in evidence of effectiveness across home visiting models, which means that the decision about which model to implement is important. State and local policymakers and funders can use evidence of effectiveness to help make decisions about which model(s) to implement depending on community needs.

Overall, the research on home visiting to prevent child maltreatment could be improved with use of rigorous methods, appropriate measures, longer follow-up periods, and inclusion of and reporting on important subgroups. New studies should be large enough to include assessment and reporting of impacts by important subgroups to improve our understanding of what works for which populations. Evidence-based decision-making requires high-quality evidence and an investment in the research pipeline.

Implications for Parents, Services and Policy

Given the limited rigorous research evidence on home visiting's effectiveness to prevent child maltreatment, one potential impact of using an approach like Home Visiting Evidence of Effectiveness, which attaches state funding to the quality of the evidence, may be to increase the amount and quality of the child maltreatment prevention research conducted globally. Better research also may increase the use of evidence by service policymakers and service providers. Because the Home Visiting Evidence of Effectiveness and the U.S. Department of Health and Human Services evidence requirements and the resulting information about effectiveness are public, researchers can use them to increase the rigor of their evaluations. Likewise, policymakers can demand that evidence guide funding decisions and policy.[29]

One potential indicator of the success of increased attention to evidence of the effectiveness of home visiting on prevention of child maltreatment is the relative proportion of state and local funding available for evidence-based models compared to those with no or low levels of evidence. In turn, families will receive interventions that meet the highest levels of evidence for preventing child maltreatment, and they and the public can be confident that the programs they participate in and support through their tax dollars have the greatest potential to improve child and family well-being.

References

1. U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2011). Child maltreatment 2010. Washington, DC: U.S. Department of Health and Human Services.
2. RTI International (2008). *From early involvement with child welfare services to school entry: A 5- to 6-year follow-up of infants in the national survey of child and adolescent well-being*. Research Triangle Park, NC: RTI International.
3. RTI International (2008). *Adolescents involved with child welfare: A transition to adulthood*. Research Triangle Park, NC: RTI International.

4. RTI International (2010). *Children involved in child welfare: A transition to adolescence.* Research Triangle Park, NC: RTI International.
5. Corso, P.S. (n.d.). Dollars and lives: The economics of healthy children. Chicago, IL: The Doris Duke Charitable Foundation. Available at: http://www.preventchildabuse.org/publications/cap/documents/CorsoWHTPPR.pdf. Accessed July 30. 2012.
6. Corso, P. S., & Fertig, A.R. (2010). The economic impact of child maltreatment in the United States: Are the estimates credible? *Child Abuse & Neglect*, 34, 296–304.
7. Paulsell, D., Avellar, S., Sama Miller, E., & Del Grosso, P. (2011). *Home Visiting Evidence of Effectiveness: Executive summary.* Princeton, NJ: Mathematica Policy Research.
8. Supplee, L., Paulsell, D., & Avellar, S. (2012). What works in home visiting programs? In Curtis, P.A., Alexander, G. eds. *What Works in Child Welfare*. Washington, DC: Child Welfare League of American Press, 39-61.
9. Waldfogel, J. Prevention and the child protection system. (2009). *The Future of Children*, 19, 195-210.
10. Gomby, D. S. (2005). *Home visitation in 2005: Outcomes for children and parents. Invest in kids working paper no. 7.* Washington, DC: Committee on Economic Development.
11. Sweet, M. A., & Applebaum, M. I. (2004). Is home visiting an effective strategy? A meta-analytic review of home visiting programs for families with young children. *Child Development*, 75, 1435-1456.
12. Howard, K.S. & Brooks-Gunn, J. (2009). The role of home-visiting programs in preventing child abuse and neglect. *The Future of Children*, 19, 119-146.
13. Home Visiting Evidence of Effectiveness. (2011a). Reductions in child maltreatment. Available at: http://homvee.acf.hhs.gov/document.aspx?rid=2&sid=4. Accessed July 30, 2012.
14. Home Visiting Evidence of Effectiveness. (2011b). Positive parenting practices. Available at http://homvee.acf.hhs.gov/document.aspx?rid=2&sid=6. Accessed July 30, 2012.
15. The California Evidence-Based Clearinghouse for Child Welfare. (n.d.). Home visiting for prevention of child abuse and neglect. Available at: http://www.cebc4cw.org/topic/home-visiting-for-prevention-of-child-abuse-and-neglect/. Accessed July 30, 2012.
16. The California Evidence-Based Clearinghouse for Child Welfare. (n.d.). Home visiting for child well-being. Available at: http://www.cebc4cw.org/topic/home-visiting/. Accessed July 30, 2012.
17. Home Visiting Evidence of Effectiveness. (2011c). Latest releases. Available at http://homvee.acf.hhs.gov/document.aspx?rid=7&sid=29&mid=1. Accessed September 14. 2012.
18. Olds, D. L., Henderson Jr., C. R., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: A randomized trial of nurse home visitation. *Pediatrics*, 78, 65–78.
19. Olds, D. L., Eckenrode, J., Henderson, C. R., 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: The Journal of the American Medical Association*, 278(8), 637–643.
20. Chambliss, J. W. (1998). An experimental trial of a home visiting program to prevent child maltreatment (Doctoral dissertation, Georgia State University, 1998). *Dissertation Abstracts International*, 61(03B), 152–1628.
21. Duggan, A., McFarlane, E., Fuddy, L., Burrell, L., Higman, S. M., Windham, A., et al. (2004). Randomized trial of a statewide home visiting program: Impact in preventing child abuse and neglect. *Child Abuse & Neglect*, 28(6), 597–622.
22. Duggan, A., Caldera, D., Rodriguez, K., Burrell, L., Rohde, C., & Crowne, S. S. (2007). Impact of a statewide home visiting program to prevent child abuse. *Child Abuse & Neglect*, 31(8), 801–827.
23. DuMont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., et al. (2008). Healthy Families New York (HFNY) randomized trial: Effects on early child abuse and neglect. *Child Abuse & Neglect*, 32(3), 295–315.
24. Lowell, D.I., Carter, A.S., Godoy, L., Paulicin, B., &Briggs-Gowan, M.J. (2011). Child FIRST: A comprehensive home-based intervention translating research into early childhood practice. *Child Development*, 82 (1), 193-208.
25. Olds, D. L., Henderson, C. R., & 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(1), 89–98.
26. Kitzman, H., Olds, D. L., Henderson, C. R., 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: The Journal of the American Medical Association*, 278(8), 644–652.
27. Landsverk, J., Carrilio, T., Connelly, C. D., Ganger, W., Slymen, D., Newton, R., et al. (2002). *Healthy Families San Diego clinical trial: Technical report.* San Diego: The Stuart Foundation, California Wellness Foundation, State of California Department of Social Services: Office of Child Abuse Prevention.

28. Del Grosso, P., Kleinman, R., Esposito, A.M., Sama Martin, E., & Paulsell, D. (2011). *Assessing the evidence of effectiveness of home visiting program models implemented in tribal communities.* Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Washington, DC.

29. Avellar, S. & Paulsell, D. (2011). *Lessons learned from the home visiting evidence of effectiveness review.* Princeton, NJ: Mathematica Policy Research.

Replicating and Scaling Up Evidence-Based Home Visiting Programs: The Role of Implementation Research

Diane Paulsell, MPA

Mathematica Policy Research, USA

September 2012

Introduction

Over the past two decades, a growing number of home visiting programs have been developed and implemented in North America and internationally to support parents with young children. Home visiting programs for families with pregnant women and young children operate in all 50 states in the United States, with an estimated 400,000 to 500,000 families receiving services.[1] These programs span a continuum of locally-developed programs, evidence-informed programs (developed based on evidence about best practice, but not evaluated), and evidence-based programs (those with rigorous evaluation evidence of effectiveness).

During the same time period, interest has grown among policy makers, practitioners, and funders in North America, the United Kingdom and elsewhere in promoting the use of practices and interventions with scientific evidence of effectiveness. In the US, the Obama administration has funded a range of initiatives that require the use of evidence-based strategies in areas such as teen pregnancy prevention, home visiting, education and workforce innovation.[2,3] In the field of home visiting, an increasing number of programs have been rigorously evaluated and have demonstrated evidence of effectiveness in outcome domains such as parenting, maternal and child health, child development and school readiness, reductions in child maltreatment, and family economic self-sufficiency.[4,5,6]

Subject

Identifying core components of interventions found to be effective and understanding what it takes to implement those components with fidelity to the program model is critical to successful replication and scale-up of effective programs and practices in different community contexts and populations.[7] There is growing recognition in the early childhood field of the importance of effective implementation and the need for implementation research that can guide adoption, initial implementation, and ongoing improvement of early childhood interventions.[8,9,10] The promise of implementation research and using data to drive program management is compelling because it offers a potential solution to the problem of persistent gaps in outcomes between at-risk children and their more well-off peers. This article discusses implementation research in the home visiting field, how such research can be used to strengthen programs and improve targeted outcomes, and the conditions and supports necessary for effective implementation.

Problems

Simply adopting an evidence-based home visiting program and meeting the initial start-up requirements of the model developer is not enough to ensure that it will produce the positive effects for children and families found in evaluation research.[11] Home visiting services should be implemented with fidelity to the program model. For example, home visitors should have required qualifications, visits should occur at the intended frequency and duration, visit content should be delivered as intended, and the quality of services provided to families should be high. Moreover, service providers need adequate supports and resources to sustain implementation with a high degree of fidelity over time.[12]

Research Context

While the body of rigorous research on the effectiveness of home visiting programs has grown substantially in recent years, research on implementation lags behind.[4] Research reports and articles typically provide only minimal information about how programs are implemented and their fidelity to the program model.[8] As national and local governments, communities and service providers seek to scale up the use of evidence-based home visiting programs, research is needed to develop program fidelity standards and measures, understand the conditions necessary for high-fidelity implementation, and create tools to assess implementation and support program improvement.

Key Research Questions

This review is designed to address two questions:

1. What do we know about fidelity of implementation in evidence-based home visiting programs?
2. What conditions and resources are necessary to support and sustain high-fidelity implementation over time?

Recent Research Results

What do we know about fidelity of implementation in evidence-based home visiting programs?

Researchers have developed a number of theoretical frameworks that define implementation fidelity.[13,14,15] Most include adherence to the program model, dosage, quality, and participants' responsiveness and engagement in services; some include the quality of participant-provider relationships.

While research on fidelity in home visiting programs is fairly sparse, studies have documented some components, such as dosage and duration of services, home visit content, and participant-provider relationships. Research shows that families typically receive roughly half of the number of home visits expected.[16,17] For example, across three randomized controlled trials conducted of Nurse Family Partnership, average dosage of visits ranged from 45 to 62 percent.[18] Research also shows that many, perhaps most, families enrolled in home visiting programs drop out before their eligibility ends.[16,19,20] Some home visiting studies have varied the dosage that families were offered and found that fewer home visits produced outcomes similar to higher levels of exposure.[21]

Systematic study of activities and topics discussed during home visits is essential for understanding whether content was delivered as intended and how content varies across families and over time. While most programs provide curriculum guidelines and training for home visitors, research suggests that content is not always delivered as planned and varies across families. For example, multiple studies have found that, despite program objectives that emphasize parenting, little time or emphasis was placed on parent-child interactions.[22,23] A recent study of Early Head Start found that, on average, home visitors spent 14 percent of each home visit on activities designed to improve parent-child interactions.[24] Fidelity frameworks also emphasize the importance of developing positive participant-home visitor relationships, since these relationships may influence the extent of parent engagement and involvement in home visits.[17,25,26] Some research indicates that higher-quality relationships are associated with better outcomes for children.[27,28]

What conditions and resources are necessary to support and sustain high-fidelity implementation over time?

Best practice and emerging research suggest that home visiting staff need training, supervision and fidelity monitoring, a supportive organizational climate, and mental health supports to sustain high-fidelity implementation over time. The effect of these kinds of supports on home visitors has not been well studied, but some research on similar interventions indicates implementation of evidence-based practices with fidelity monitoring and supportive consultation predicts lower rates of staff turnover, as well as lower levels of staff emotional exhaustion relative to services as usual.[29,30,31] Moreover, a supportive organizational climate has been associated with more positive attitudes toward adoption of evidence-based programs.[32]

Research Gaps

More research is needed to guide decisions about adoption, adaptation and replication, and support scale-up of evidence-based home visiting programs. For example, research is needed to determine the thresholds of dosage and duration of services necessary to positively affect family and child outcomes. Planned variation studies, in which program components, content, home visitor training, or dosage of services is varied, can identify core dimensions of implementation that are critical for achieving program impacts, as well as dimensions that could be adapted for different contexts and populations without threatening the program's effectiveness.

To facilitate these studies, more work is needed to develop implementation measures. While some measures have been developed – such as observational measures of home visiting quality and scales for assessing the participant-home visitor relationship – their validity and reliability have not been sufficiently tested with different populations and service delivery contexts.[33]

Conclusions

As interest in the promise of evidence-based home visiting programs to improve outcomes for children and families grows, policymakers and practitioners need guidance about how to implement them effectively and sustain high-fidelity implementation over the long term. While the body of implementation research on home visiting programs is growing, more work is needed. Research shows that most programs do not deliver the full dosage of services intended, and families often drop out of programs before their eligibility ends. Variation also exists in adherence to intended activities and topics covered during home visits. Emerging research points to the importance of supportive supervision, fidelity monitoring, and organizational climate to support home visitors and maintain support for the evidence-based program. Additional research on these topics can provide guidance and tools for promoting successful implementation of evidence-based home visiting and adaptation of program models to different populations and contexts.

Implications for Parents, Services and Policy

Supporting high-fidelity implementation of evidence-based home visiting programs has the potential to improve outcomes for at-risk children and families. Policymakers and funders should use the available research on implementation and encourage future work to guide decisions about how to scale up evidence-based programs effectively and support them over time. For example, implementation research can be used to assess the readiness of local agencies to implement home visiting programs with fidelity. Government and other funders can use implementation research to structure requirements for monitoring and reporting on specific dimensions of implementation. Government and funders at all levels can support these efforts by creating data systems to facilitate fidelity monitoring and use of data for program improvement. Moreover, implementation research can inform staff training and ongoing technical assistance. For parents, the implication is that participation and engagement matter. Parents must understand the goals of the program they are enrolling in and the expectations for taking up and participating in services. To achieve intended dosage, program staff may need to help parents address barriers to their participation.

Researchers should continue building the knowledge base about how to implement home visiting programs effectively by reporting information on implementation alongside results of rigorous effectiveness evaluations. Additional research on the replication and scale-up of home visiting programs should be conducted to identify the conditions, processes, and supports associated with achieving and sustaining high-fidelity implementation.

References

1. Stoltzfus, E., & Lynch, H. (2009). *Home visitation for families with young children*. Washington, DC: Congressional Research Service.
2. Goesling, B. (2011). Building, evaluating, and using an evidence base to inform the DHHS Teen Pregnancy Prevention Program. Paper presented at the Society for Adolescent Health and Medicine Annual Meeting, Seattle, WA.
3. Haskins, R., & Baron, J. (2011). *Building the connection between policy and evidence*. London, UK: NESTA.
4. Paulsell, D., Avellar, S., Sama Miller, E., & Del Grosso, P. (2011). *Home visiting evidence of effectiveness: Executive summary.* Princeton,

NJ: Mathematica Policy Research.

5. Daro, D. (2006). *Home visitation: Assessing progress, managing expectations*. Chicago, IL: Chapin Hall at the University of Chicago.
6. Gomby, D. S. (2005). Home visitation in 2005: Outcomes for children and parents. (Invest in Kids Working Paper No. 7). Washington, DC: Committee on Economic Development.
7. Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, 19, 531-540.
8. Avellar, S., & Paulsell, D. (2011). *Lessons learned from the home visiting evidence of effectiveness review*. Princeton, NJ: Mathematica Policy Research.
9. Kaderavek, J. N., & Justice, L. M. (2010). Fidelity: an essential component of evidence-based practice in speech-language pathology. *American Journal of Speech-Language Pathology*, 19, 369-379.
10. Paulsell, D., Porter, T., Kirby, G., Boller, K., Sama Martin, E, Burwick, A., Ross, C., & Begnoche, C. (2010). *Supporting quality in home-based child care: Initiative design and evaluation options*. Princeton, NJ: Mathematica Policy Research.
11. Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, 41, 327-350.
12. Coffee-Borden, B., & Paulsell, D. (2010). *Recruiting and training home visitors for evidence-based home visiting: Experiences of EBHV grantees*. Princeton, NJ: Mathematica Policy Research.
13. Daro, D. (2010). *Replicating evidence-based home visiting models: A framework for assessing fidelity*. Princeton, NJ: Mathematica Policy Research.
14. Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balian, S. (2007). A conceptual framework for implementation fidelity. *Implementation Science*, 2,40.
15. Berkel, C., Mauricio, A. M., Schoenfelder, E., & Sandler, I. N. (2010). Putting the pieces together: An integrated model of program implementation. *Prevention Science*, 12, 23-33.
16. Kitzman HJ. Effective early childhood development programs for low-income families: Home visiting interventions during pregnancy and early childhood. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2004:1-7. Available at: http://www.childencyclopedia.com/documents/KitzmanANGxp-Home.pdf. Accessed July 30. 2012.
17. Riley, S., Brady, A. E., Goldberg, J., Jacobs, F., & Easterbrooks, M. A. (2008). Once the door closes: Understanding the parent-provider relationship. *Children and Youth Services Review*, 30, 597-612.
18. Personal communication from Dr. David Olds to Dr. Kimberly Boller, January 25, 2012.
19. Love, J. M., Kisker, E. E., Ross, C. M., Schochet, P. Z., Brooks-Gunn, J., Paulsell, D., Brady-Smith, C. (2002). *Making a difference in the lives of infants and toddlers and their families: The impacts of Early Head Start*. Princeton, NJ: Mathematica Policy Research.
20. Duggan, A., Windham, A., McFarlane, E., Fuddy, L., Rohde, C., Buchbinder, S., & Sia, C. (2000). Hawaii's healthy start program of home visiting for at-risk families: Evaluation of family identification, family engagement, and service delivery. *Pediatrics*. 105, 250-259.
21. DePanfilis, D., & Dubowtiz, H. (2005). Family connections: A program for preventing child neglect. *Child Maltreatment*, 10, 108-123.
22. Peterson, C. A., Luze, G. J., Eshbaugh, E. M., Jeon, H. J., & Kantz, K. R. (2007). Enhancing parent-child interactions through home visiting: Promising practice or unfulfilled promise? *Journal of Early Intervention*, 29, 199-140.
23. Hebbeler, K. M., & Gerlach-Downie, S. G. (2002). Inside the black box of home visiting: A qualitative analysis of why intended outcomes were not achieved. *Early Childhood Research Quarterly*, 17, 28-51.
24. Vogel, C. A., Boller, K., Xue, Y., Blair, R., Aikens, N., Burwick, A., Stein, J. (2011). Learning as we go: A first snapshot of Early Head Start programs, staff, families, and children (OPRE Report #2011-7). Washington, DC: Department of Health and Human Services.
25. Korfmacher, J., Green, B., Spellmann, M., & Thornburg, K. R. (2007). The helping relationship and program participation in early childhood home visiting. *Infant Mental Health Journal*, 28, 459-480.
26. Korfmacher, J., Green, B., Staerkel, F., Peterson, C., Cook, G., Roggman, L., . . . Schiffman, R. (2008). Parent involvement in early childhood home visiting. *Child Youth Care Forum*, 37(4), 171-196.
27. Peterson, C. A., Roggman, L. A., Stearkel, F., Cook, G., Jeon, H. J., & Thornburg, K. (2006). Understanding the dimensions of family involvement in home-based Early Head Start. Unpublished manuscript. Iowa State University, Ames, Iowa.
28. Roggman, L. A., Christiansen, K., Cook, G. A., Jump, V. K., Boyce, L. K., & Peterson, C. A. (2006) *Home visits: Measuring how they work.* Logan, UT: Early Intervention Research Institute Mini-Conference.

29. Aarons, G. A., & Palinkas, I. A. (2007). Implementation of evidence-based practice in child welfare: Service provider perspectives. *Administration and Policy in Mental Health and Mental Health Services Research*, 34, 411-419.

30. Aarons, G. A., Sommerfeld, D., Hecht, D., Silovsky, J., & Chaffin, M. (2009). The impact of evidence-based practice implementation and fidelity monitoring on staff turnover: Evidence for a protective effect. *Journal of Consulting and Clinical Psychology*, 77, 270-280.

31. Aarons, G. A., Fettes, D. L., Flores, L. E., Jr., & Sommerfled, D. (2009). Evidence-based practice implementation and staff emotional exhaustion in children's services. *Behaviour Research and Therapy*, 47, 954-960.

32. Aarons, G. A., & Sawitzky, A. C., (2006). Organizational culture and climate and mental health provider attitudes toward evidence-based practice. *Psychological Services*, 3, 61-72.

33. Paulsell, D., Boller, K, Hallgren, K., & Esposito, A. M. (2010). Assessing home visit quality: Dosage, content, and relationships. *Zero To Three*, 30, 16-21.