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Synthesis

How important is it?

Home visiting programs are designed to support families in providing an environment that promotes the healthy growth and development of their children. Although programs differ in their approach, populations served and intended outcomes, high-quality home visiting programs can reduce risk and increase protective factors. Visits are conducted by a trained service provider and generally seek to alter the knowledge, beliefs and/or behaviour of children and caregivers, promote positive parenting practices and offer social support to pregnant women or parents of young children. Home visiting may include case management and referrals to community services.

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 and young children. Home visiting programs are implemented in large scale across 46 countries and in limited scope among 55 countries, reflecting increasing global efforts to optimize child development, maternal health and family well-being over the life course. 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.

In the United States, home visiting programs operate in all 50 states, the District of Columbia, 5 territories, and 22 tribal communities, with an estimated 335,000 families receiving more than 3.7 home visits. Over the past decade, the US government has substantially increased funding for evidence-based home visiting models. In 2010, the US Congress included the Maternal, Infant and Early Childhood Home Visiting Program (MIECHV) in the Patient Protecting and Affordable Care Act as a national strategy for improving the health and well-being of families with pregnant women and children ages birth to 5.

What do we know?

Research confirms generally positive overall home visiting effects on many outcomes. Some studies show small average effects but more significant effects for specific outcomes or subsets of participants.

Although program approaches and quality may vary, there are common positive effects on parenting knowledge, beliefs and/or behaviour, and on child cognitive, language and social-emotional development. An increasing number of programs have demonstrated effectiveness in outcomes such as parenting, maternal and child health, child development and school readiness, as well as family economic self-sufficiency. However, fewer programs have improved pregnancy outcomes and parental life-course. Reductions in child maltreatment have been found for some models, but not for others.

The efficacy of home visiting programs is dependent upon the population targeted, providers and home visit content. Programs designed and implemented with greater rigour seem to provide better results. Home visiting programs that are successful with families at increased risk for poor child development outcomes tend to be those that offer a comprehensive focus, targeting

families' multiple needs. Benefits appear greatest when services are provided to subgroups of the population who are most in need (e.g., teen mothers, low-income parents, parents with psychological difficulties or children with disabilities) and when participants are fully involved in the intervention. Larger positive effects on pregnancy outcomes, parental life-course, child maltreatment and compromised caregiving have been found when nurses and/or other professionals deliver services to families instead of paraprofessionals.

Over the past decade, researchers have also studied the impact of home visiting programs on maternal depression and other significant mental health risks and challenges, including substance abuse and intimate partner violence. Quality improvement collaborations can help maximize application of mental health screening, referral and services, while new approaches such as in-home cognitive behavioural therapy (IH-CBT), interpersonal psychotherapy (IPT), Listening Visits, and an adapted Mothers and Babies intervention have shown positive results, helping to reduce maternal depression.

What can be done?

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 context and populations. 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. In recent years there has been increased attention to a precision-based approach to home visiting research, which aims to identify what aspects of home visiting work for which families in what circumstance. This can lead to services that are more closely aligned with family preference and needs, resulting in greater benefits.

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 of programs over time. Training for home visitors should include guidance on balancing conversations about family-identified needs with discussion about mental health and other psychosocial risk factors that can impair effective parenting, child development and family well-being.

In the wake of the Covid-19 pandemic, programs have had to innovate to creatively maintain outreach to families, including virtual methods of service delivery. The pandemic also brought to light the disparities and inequities of our early childhood service systems. Research and evaluation that includes various stakeholders promises to provide insights and perspectives that can strengthen the impact of home visiting programs. Policymakers and practitioners should recognize the importance of program evolution to meet the changing needs of families and communities.

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Evidence for the Role of Home Visiting in Child Maltreatment Prevention

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Introduction

In 2019, 4.4 million referrals of alleged acts of maltreatment involving 7.9 million children were made to child protective services agencies in the United States. Almost 2.4 million reports moved forward to receive an investigation or alternative response. Of those, reports for 656,000 children were substantiated. An estimated 1,840 children died because of maltreatment, with the highest rates of victimization in the first year of life – 22.9 per 100,000 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 $428 billion in lifetime costs incurred annually in the U.S.[5] 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 adopted by many countries to prevent 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 government and communities encourage participation by families living in situations associated with risk for maltreatment (for example, those experiencing intergenerational trauma caused by racism and ongoing economic disenfranchisement). Over the past 50 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.[6,7] 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 families and effective in preventing child maltreatment. Public officials and decision makers 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.[7,8]

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.

Research Context

Research on child maltreatment has increased over the past 25 years and influential meta-analyses and reviews of the literature on the effectiveness of home visiting programs to prevent child maltreatment and inform national and local policy.[9,10,11] However, until 2009 there was not a wide-ranging systematic review of the evidence on home visiting. The U.S. Department of Health and Human Services (HHS) 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 annual reviews (the Home Visiting Evidence of Effectiveness or HomVEE), was to assess the literature using pre-specified and periodically updated methodologies to identify and assess its quality.[12] 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, the Maternal, Infant and

Early Childhood Home Visiting Program (MIECHV) is targeted at improving child and family outcomes, including decreasing rates of child maltreatment and improving parenting practices that may decrease risk for maltreatment.

By July 2012, nine national models met HHS evidence review requirements. As of November 2021, nineteen of fifty models reviewed met the HHS requirements and were eligible for state use as an "evidence-based model."[7] As summarized below for the 19 models that met HHS criteria and have full reviews available, not all demonstrated evidence of effectiveness in reducing child maltreatment and improving parenting practices.[7] In addition, a 12-state, legislatively mandated longitudinal impact and implementation evaluation of the MIECHV program (the Maternal and Infant Home Visiting Program Evaluation; MIHOPE), found few statistically significant impacts on child maltreatment and parenting practices among four of the most widely implemented models in the United States (Early Head Start-Home-based Option, Healthy Families America, Nurse-Family Partnership, and Parents as Teachers).[13]

Key Research Questions

This review is designed to address two research questions using findings from both the 2021 HomVEE systematic review and MIHOPE:

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 2021 HomVEE systematic review of evidence found that of the eleven models with high or moderate quality studies that met the HHS review criteria, only five had favorable impacts on reducing child maltreatment (Early Start New Zealand, Healthy Access Nurturing Development Services Program [HANDS], Healthy Families America [HFA], Nurse-Family Partnership [NFP], and SafeCare Augmented).[14] Overall, only a few studies included measures of substantiated reports of child abuse and neglect or emergency room or doctor visits for injuries or ingestions. These included studies of Early Start New Zealand, HANDS, HFA, and NFP that found favorable impacts in

some, but not all, of these outcomes primarily collected from child protection service or medical records. Studies of NFP tended to include these measures and found some significant favorable impacts on substantiated reports hospitalizations, emergency department visits for accidents or poisoning, and number of injuries or ingestions, but the impacts were not consistent within and across different longitudinal follow-up periods. For example, one article on an NFP 15-year follow-up study reported favorable impacts on the incidence of substantiated reports of abuse and neglect[15] but another reported no impacts on the percentage of substantiated abuse and the percentage of substantiated neglect.[16] Across a number of HFA studies there was no evidence of near-term effects on substantiated reports, but there was one study from Oregon that found a favorable impact on substantiated physical or sexual abuse reports after two years.[17] One study of Early Start New Zealand and a few studies of NFP showed positive effects on emergency room or doctor visits for injuries or ingestions.[18,19,20]

Studies of HFA showed mixed but mostly no impacts on a parent-reported measure of a range of abusive parenting behaviors over follow-up periods ranging from one to seven years in four different jurisdictions. 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 punishment and abuse.[21,22,23,24] Studies of Early Start New Zealand and SafeCare Augmented found impacts on the same parent report measure in the areas of severe or very severe physical assault and nonviolent discipline, respectively.[18,25]

MIHOPE's findings on maltreatment are consistent with the overall pattern of the evaluation's findings of few small impacts and little variation across models and family characteristics. Among the 12 primary outcome measures assessed when the children were 15 months old, only four were statistically significant. Two of the four were frequency of psychological aggression toward the child and the number of emergency department visits paid for by Medicaid. However, after controlling for the large number of statistical tests, none of the observed impacts were found to be significant.[13]

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

Thirteen of the nineteen models meeting the HHS evidence criteria and eligible for implementation as "evidence-based" 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.[26] Four of the thirteen with positive impacts (Family Check-Up for Children, HFA, PAT, and Play and Learn Strategies Infant) also have at least one unfavorable or ambiguous impact.

MIHOPE's findings on increasing protective factors include one positive impact on the quality of the home environment when the children were 15 months old. However, after controlling for the large number of statistical tests, none of the observed impacts were found to be significant.[13]

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 and measures that support drawing causal inferences about effectiveness. In fact, many studies of home visiting models that focus primarily on childhood education 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.

Much 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, a 2011 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.[27] Since then, a few additional studies have been contributed to the evidence needed to guide Tribal home visiting programs and policy.[28,29]

The rapid shift to providing virtual services in 2020 as a result of COVID-19 precautions has the potential to revolutionize home visiting. However, there is scant evidence to guide policy and programmatic decisions about alternative modes of service delivery ranging from all virtual to hybrid versions of in-home and virtual visits. PAT is one model that has some information available about implementation of virtual visits from a feasibility study with 84 parents and children. The study found an increase in parent engagement compared to previous program data, but the

research design did not support include a study of effectiveness.[30] Essentially, decision makers in 2022 and beyond are proceeding with delivering services using “evidence-based” models in modes that do not have any evidence of effectiveness. As research proceeds, policy makers, program managers, and families have an opportunity to revisit home visiting’s fundamental assumptions about how services that support parents can best meet the needs of communities and be informed by evidence.

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 some 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, but in light of COVID-19 and the racial reckoning that swelled in 2020, a number of issues need to be addressed, including the lack of access to virtual services for many most affected by the digital divide.

Overall, the research on home visiting to prevent child maltreatment could be improved with use of rigorous methods, appropriate measures, longer follow-up periods, inclusion of and reporting on important subgroups, and incorporation of family and community participation in identifying outcomes of relevance to guide local decision making. New studies of modifications to the existing “evidence-based” models and those focused on providing virtual or hybrid services should be funded to take advantage of the natural experiments that have happened in response to COVID-19. They should be resourced to be large enough to improve our understanding of what modes of service delivery work for which populations. Evidence-based decision-making and implementation of services that appeal to and reach all families requires high-quality evidence and an investment in the research-practice-community pipeline.[31]

Implications for Parents, Services and Policy

The approach taken by HHS in using the HomVEE systematic review process to attach state funding to the quality of the evidence, has increased 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 HomVEE and HHS evidence requirements and the resulting information about effectiveness are public, researchers are using them to increase the rigor of their evaluations.

In light of the dearth of evidence, of effectiveness, approaches emphasizing innovation and improvement that center families and communities are needed. These include expanding the reach and research on existing Collaborative Improvement and Innovation Networks and learning more about how universal home visiting systems can help engage families in home visiting and improve child and family well-being.

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Parent and Child Mental Health and Home Visiting

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Introduction

Maternal and paternal depression are prevalent among 20% of women[1-4] and 10% of men[5,6] during the perinatal period. Mental health problems (of which depression is the most common) are even more prevalent in nearly half of low-income families, given the elevated risk due to factors such as traumatic life events, low social support, adolescent or single parenthood, systemic racism, and health, economic, and education inequities.[4,7-9] Children of parents with depression may experience a range of negative outcomes including developmental delays, cognitive impairments, and attachment insecurity, along with increased risk for developing mental health issues.[10,11] Given the vast and growing number of perinatal families they serve, home visiting programs are in a unique position to address parental depression and substance abuse as well as issues that impact mental health and family well-being, including intimate partner violence. In this chapter, we focus on research related to home visiting programs' identification and responses to impact parent mental health, identify gaps in existing research, and provide recommendations for research, practice and policy communities to effectively address parental depression, substance abuse, and experiences of intimate partner violence, through home visiting.

Subject

Home visiting focuses on fostering healthy child development by supporting positive parenting practices, including supports for parents' socioemotional and socioeconomic well-being, through direct services and referrals to other professional services in their communities. Home visiting programs are implemented in large scale across 46 countries and in limited scope among 55 countries, reflecting increasing global efforts to optimize child development, maternal health, and family well-being over the life course.[12] Research has demonstrated that up to 50% of parents served by home visiting have experienced clinically elevated levels of depression during the critical first years of their child's development.[13] In a recent U.S. population survey, 1 in 4 women

and 1 in 10 men identified having experienced intimate partner violence,[14] with nearly 1 in 10 identifying reproductive coercion.[15] In a national telephone survey, 1 in 5 children ages 17 and under had witnessed family violence in their lifetime, with one-third of those children ages 0 to 5.[16] In a recent National Survey on Drug Use and Health, 1 in 10 pregnant women surveyed reported drinking alcohol, and among that subset, 40% reported using one or more other substances in addition to alcohol.[17] Furthermore, the impact of depression, substance abuse, and intimate partner violence can have multigenerational impacts on developmental, social, education, economic, health and mental health outcomes.[10,11,21,22] Identifying parents with, or at risk for, depression and substance abuse, and those experiencing intimate partner violence, can improve family outcomes and foster healthy child development, improving multi-generation outcomes.

Problems

Depression in new parents has profound and often long-term negative effects on parenting and child development. Depression can impair positive parenting practices, such as difficulty reading infant cues, struggles to meet the social and emotional needs of their children, and less tolerance of child misbehaviour.[20] Children of parents with depression, particularly if they are exposed in their first year, 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 in childhood and adulthood.[22] Symptoms of depression and substance abuse, and experiences of intimate partner violence, can negatively impact engagement with home visits and connecting with referrals for parent and child services to address health, development, education and economic stability.[23-25] Furthermore, even when they are successfully identified and referred to mental health providers, few parents receive effective treatment.[23,24] A majority of surveyed home visitors perceived barriers and limited access for families to receive needed services,[25] with only 1 in 5 parents connecting with designated mental health, substance abuse, and intimate partner violence referrals for needed services.[26]

Research Context

Recommendations for systematic depression screening and preventive interventions for perinatal women at risk for depression,[27-29] have guided standards of care across healthcare and human service systems, providing increased opportunities for identification and service coordination to provide appropriate, successful referrals and services. Furthermore, federally funded home visiting programs are required to meet performance measures to assess all clients for depression,

to provide referrals to services for parents who screen positive for depression, as well as screening for experiences of intimate partner violence and providing referrals and IPV resources as needed.[30]

With home visiting's increased responsibility to effectively identify, refer, and provide enhanced services for families with mental health issues and family violence, systematic evaluation and improvement of coordinated services to optimize referrals are critical.[24-26] Systemic supports for mental health consultation and mental health-related training for home visiting programs and staff improve knowledge, effectiveness, well-being and retention, all of which promote sustainability and community impact.[31,32] Quality improvement collaborations have provided a clearer understanding of the necessary supports, policies, procedures, and training to maximize the impact of home visiting on parent and child mental health, along with the opportunity to promote strategy implementation, adaptation, and sustainment of effective home visiting practices.[24]

Longitudinal studies have shown the efficacy of home visiting on maternal and child health outcomes, with maternal depression and other mental health issues remaining one of the most challenging areas of impact.[25] Even with commendably high rates of depression screening in home visiting, significant challenges remain to successfully connect those in need with effective mental health services.[24] In recognition of the prevalence of mental health challenges parents in home visiting experience, interventions aimed at preventing and treating maternal depression have been developed and tested within home visiting settings,[33-40] along with interventions to address substance misuse,[41-43] and to address intimate partner violence experiences and parent and child safety.[44-48] Alongside intervention development, models of trauma-informed approaches to assess adverse childhood experiences (ACEs)[49] and traumatic events have been developed and tested, within the context of targeted, universal approaches to brief home visiting services.[39,40]

Key Research Questions

There are three key research questions:

- What is the best approach to preventing and treating depression in new parents participating in home visiting programs?
- How can home visiting have the greatest impact through systematic screening and service coordination for families experiencing mental illness, substance abuse, and intimate partner

violence?

- What are the most effective approaches for home visiting programs to effectively screen, refer, and provide effective interventions for parents with mental health issues?

Recent Research Results

Home visiting and parental mental health

Over the past decade, as home visiting has been increasingly implemented, funded and evaluated, researchers have studied the impact of home visiting programs' screening, referral, and intervention efforts on maternal depression and other significant mental health risks and challenges, including substance abuse and intimate partner violence.[23-26] Results from the Mother and Infant Home Visiting Program Evaluation, which evaluated 88 home visiting programs from 12 states, showed that over 75% of home visitors rated their self-efficacy and levels of implementation support for parenting and child development outcomes highly, while less than 60% endorsed adequate implementation support to address mental health issues.[25] Correspondingly, home visitors who had received training to assess mental health with families were more likely to discuss these issues within home visiting practice than those who had not received specialized mental health training.[25]

There is evidence that parental depression can have a negative impact on the effects of home visiting programs.[50] Depression has been associated with negative views of parenting and limited knowledge of child development.[51] In the Early Head Start Research and Evaluation Project, compared with non-depressed mothers, mothers with depression showed deficits in mother-child interaction and in obtaining education and job-related goals.[23] However, mothers with depression also showed gains in some aspects of engaging with their children during structured tasks. Duggan et al.[50] found that mothers with depression and lower levels of attachment anxiety showed improved sensitivity to child cues relative to those with higher levels of attachment anxiety and those who did not receive home visiting. The Nurse-Family Partnership model research has consistently found that mothers with low psychological resources, a construct that includes some symptoms of depression, benefit most from home visiting.[52] Taken together, it is evident that depression affects home visiting and family outcomes in complex ways.

Identification and response to parent mental health challenges

The U.S. federal Maternal, Infant and Early Childhood Home Visiting program has developed performance indicators and outcome measures for funded home visiting programs to screen home visiting clients for depression within three months of enrollment or birth, and to screen for intimate partner violence within six months of enrollment, using validated tools.[30] Furthermore, caregivers who screen positive for depression should receive a referral for mental health services, which can include mental health interventions within the home visiting program as well as external service referrals. Parents who screen positive for intimate partner violence should receive referral information for IPV resources and services. Although not a requirement, the majority of home visiting programs surveyed also screen for substance and tobacco use, and provide referrals for appropriate services and interventions,[26] with research guiding practice in effective service coordination, including engaging with community partners in other health and human services settings.[53,54] These revised standards of home visiting care in the U.S. have driven nationally scaled implementation evaluation and collaborative quality improvement efforts to support the goals of improving parent and child mental health to advance multi-generational family and community health, educational, and economic outcomes.[24,25]

Service coordination

Effective service coordination is crucial in home visiting to meet both child and parent needs, and is driven by four key components—screening, referral, linkage, and follow-up—necessitating participation by home visitors, caregivers, and service organizations, to ensure successful receipt of services for families dealing with depression, substance abuse, and intimate partner violence.[24,26] Home visiting researchers have developed service coordination models and guidance for building strong partnerships between home visiting, health care, and other community-based agencies to facilitate successful referral connections and receipt of effective interventions.[53,54] Recommendations to address family mental health needs through home visiting service coordination include: (1) assessing current screening, referral and coordination processes, using an evidence-based approach (e.g. the Home Visiting Applied Research Collaborative Coordination Toolkit[55]); (2) professional development and supports for home visitors to conduct mental health-focused services with families, including training, reflective supervision, and mental health consultation; (3) participation in a collaborative home visiting quality improvement and innovation network;[24] and (4) partnering with researchers to identify, develop, and evaluate strategies to address needs specific to the families and communities served.[56] To effectively complete screening, referral, and linkage with services for home visiting families with mental health needs,

health systems and community agencies should also assess service coordination, capacity, and opportunities to improve access and outreach.[24,25]

Mental Health Consultation

To support the expanding roles and responsibilities of home visiting programs to identify and support families experiencing depression, substance abuse, and intimate partner violence, home visiting programs are integrating Mental Health Consultation into program operations and teams. Mental health consultant supports include staff training on mental health topics, reflective group and individual supervision, and accompaniment on home visits for individual families with identified mental health needs.[32,57-59] The federally-funded Project Launch program promotes preventive behavioral health through integration with primary care to better meet the needs of children and their families.[32,60] Many home visiting grantees have incorporated Infant Mental Health Consultants to support home visitor learning and efficacy in assessing and addressing mental health with parents and children. The vast majority (90%) of home visitors from programs with mental health consultation reported increased professional growth, knowledge about children's mental health, identification of appropriate follow-up services to meet specific parent and child mental health needs, and reduced compassion fatigue. Further innovation and evaluation in promoting partnerships between home visiting, pediatric, and community services is needed to achieve optimal outcomes for parent and child mental health.[32]

Quality improvement

Quality improvement collaborations among home visiting programs provide the opportunity to maximize the effective application and impact of mental health screening, referral, service provision, and follow-up for caregivers in need of interventions and resources to address their mental health needs. In a recent cohort of 14 home visiting programs from 8 states, the home visiting collaborative improvement and innovation network (HV-CoIIN)[61] created a community of practice, support, and evaluation, to increase depression screening and connection with evidence-based services for those who screen positive for depression risk. In its first cohort, results showed increased rates of depression screening (from 84% to 96%), increased receipt of evidence-based mental health services (from 42% to 66%) and improvements in depression symptoms (from 51% to 60%) among women who accessed mental health services, including referrals to behavioral healthcare providers as well as home visitor provision of mental health interventions.[24] In the current, HV-CoIIN cohort, intimate partner violence has been added to the focal topics for

innovation and quality improvement, with 21 states, 136 home visiting programs, and one tribal nation participating, cumulatively, since 2013.[61]

Treatment and prevention of depression in home visiting

Because pregnant and new parents with depression rarely obtain effective treatment in the community, several approaches have been developed that provide treatment in the home. Ammerman and colleagues created In-Home Cognitive Behavioral Therapy (IH-CBT).[62] 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[63] found that mothers with major depressive disorder receiving IH-CBT alongside home visiting, relative to those receiving home visiting alone, had lower levels of diagnosed major depressive disorder at post-treatment (29.3% vs. 69.0%) and at three-month follow-up (21.0% vs. 52.6%). They also reported larger drops in self-reported depressive symptoms, increased social support, lower levels of other psychiatric symptoms and increased functional capacity. This intervention has been found to be cost-effective[64] and is now being disseminated as "Moving Beyond Depression."[65]

Beeber et al.[66] conducted a clinical trial of interpersonal psychotherapy (IPT) with 80 newly immigrated Latina mothers ages 15 years or older who were participating in Early Head Start. Participants with depression were randomly assigned to IPT 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 IPT relative to the usual care group that were maintained at one-month post-treatment. Furthermore, IPT delivered to parents of Early Head Start-enrolled infants and young children showed a significant impact on positive parenting practices among low-income mothers experiencing depression symptoms, compared with mothers who did not receive IPT from a nurse home visitor.[67]

Segre, Brock and O'Hara[68] implemented six Listening Visits, either during home visits or during prenatal healthcare office visits, delivered by home visitors or obstetric clinic staff. Listening Visits focused on empathic listening, collaborative problem solving, and assessment of need for additional mental health treatment. Results indicated that women receiving the Listening Visit

intervention experienced significantly reduced depression symptom severity and improved quality of life compared to women receiving standard home visiting or prenatal services, including a clinically significant reduction in depression symptoms.[68] Delivery of Listening Visits by non-mental health professionals at the point of care, in the participant's primary language (in this case English or Spanish), can navigate the barrier of stigma related to engaging in mental health services.

Tandon and colleagues have adapted the Mothers and Babies (MB) intervention[69] for use in home visiting as a depression prevention intervention. MB is a cognitive-behavioural, attachment-based intervention that can be implemented as a group or individual modality. Findings from the first RCT of Mothers and Babies groups in home visiting[70,71] showed depressive symptoms declined at a greater rate for intervention participants than usual care participants, with the strongest effects found at six months post-intervention, including less likelihood than usual care participants to develop a depressive episode (14.6% vs. 32.4%). Another study of MB groups in home visiting showed improvements in depression, stress, and coping, but the long-term effects waned at the 6-month post-intervention time point, indicating the need for supports to sustain positive gains.[72] In both of these studies, the group facilitator was a master's-level clinician. In comparison, a recent cluster RCT of MB groups in home visiting, delivered by mental health clinicians compared with paraprofessional home visitors, found that home visitor facilitators were equally effective in achieving depression symptom reduction among prenatal group participants as their mental health clinician counterparts, further supporting the efficacy of the intervention when delivered by home visitors.[73]

Given the predominance of individual home visits as the primary modality, MB has been adapted into a series of brief individual sessions for delivery alongside a usual home visit by home visitors, [74] and has shown to have a significant effect in reducing depression and anxiety symptoms at an increasing rate over time at 3 and 6 months postpartum compared with usual home visiting services.[75] Scaling is in progress across U.S. home visiting programs. A Fathers and Babies (FAB) intervention has been developed and pilot tested, and is ready to scale to expanded implementation and effectiveness trials.[76,77]

Interventions to address intimate partner violence in home visiting

In a systematic review of home visiting effectiveness in reducing partner violence (IPV), six home visiting studies met inclusion criteria of measuring IPV as an outcome while testing interventions for women and children exposed to IPV.[78] Three studies showed statistically significant reductions

of IPV, wherein their protocols directly addressed the partner violence and supported the abused partner.[19,79-81] Successful approaches included providing safety strategies, parenting support, and referral to community services, with a dual focus on preventing child abuse and further abuse to the abused parent.[78]

Interventions to address substance abuse in home visiting

A systematic review of 12 qualitative and three mixed methods studies assessing family-focused practices with families experiencing parent mental illness and substance abuse, emphasizes the importance of assessing need and offering services for the family as a whole, indicating that in both research and practice there are limited examples with both parents, or the whole family unit, whose perspectives and participation are included.[20] The TIES model (Team for Infants Exposed to Substance abuse) provides a trauma-informed approach to supporting families dealing with substance abuse, to improve child and parent outcomes, and interrupt intergenerational transmission of trauma, substance abuse, toxic stress, and other health disparities.[43] This two-role model pairs a master's-level social worker with the parent, in a therapeutic alliance, and an expert parenting specialist to support the mother-child relationship and promote bonding and positive parenting practices, using a strengths-based framework. In addition, the home visiting team works with participants to develop goals and support with socioeconomic stability for the family.

Research Gaps

Further examination of how evidence-based practices are adapted and sustained in home visiting should identify key factors that inform best practices in scaling and sustaining effective interventions to support parent and child mental health. More research is needed on home visiting approaches and interventions that engage the family system, including both parents and other significant caregivers, to maximize positive multigenerational outcomes. Coordinated community-level strategies and partnerships across family-serving systems are needed to have the greatest population health impact, especially among families and communities with the greatest health inequities. Finally, there is a need to better understand the long-term impacts of home visiting on parental and child mental health, and the potential for long-term quality improvement collaborations between home visiting systems and community partners to support parent and child mental health.

Conclusions

The scope of work and responsibility of home visiting programs and home visitors has grown significantly over the last decade. Staff need mental health training and supports for a service system that is often under-resourced. They also need up-to-date training on advances in evidence-based screening, service coordination, and interventions to support parent and child mental health within a flexible delivery system. Opportunities for population health and health equity impacts are within reach, with strong evidence supporting the impact of universal home visiting with targeted assessment, referral, and interventions to address mental health challenges. By expanding the scope of home visiting services to the whole family, home visiting can have greater impact on family mental health and well-being, as well as socioeconomic stability and health equity.

Implications for Parents, Services and Policy

Systematic screening for depression, substance abuse, intimate partner violence, and trauma history should take place in health and human service settings where pregnant women and parents with infants and young children interact. However, there are challenges to achieving this systemic change in screening procedures, along with challenges to making effective linkages to appropriate resources, once client needs are identified. Strengthening community partnerships across systems can provide a pathway and capacity for improved service coordination and outcomes for families. To support improved service coordination within home visiting, the Home Visiting Applied Research Collaborative (HARC) provides a service coordination toolkit,[55] guided by the following principles: that service coordination collaborations be family centered, equitable, adaptable, interdisciplinary, and focused on population health. Home visiting programs need to provide training and support for home visitors to effectively address mental health during home visits. Training should provide guidance on balancing conversations about family-identified needs with discussions about mental health and other psychosocial risk factors that can impair effective parenting, child development, and family well-being. The use of reflective supervision, coaching, and infant mental health consultation are approaches that can be used effectively to develop and maintain staff skills, while helping to better meet the mental health needs of families.[32,59] Research efforts to augment home visiting services with mental health interventions aimed at preventing depression, substance abuse, and intimate partner violence, need to examine mechanisms that impact intervention effectiveness and contextual factors that impact implementation and sustainability, as mental health interventions within home visiting are scaled.

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Prenatal/Postnatal Home Visiting Programs and Their Impact on Children's Social and Emotional Development

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Introduction

Social and emotional problems in young children can be traced to mothers' prenatal health,[1-4] parents' caregiving[5,6] and their life-course (timing of subsequent pregnancies, employment, welfare dependence).[7,8] In addition, qualities of early parenting serve as a protective factor against adverse experiences such as poverty.[9] Home visiting programs that address these antecedent risks and protective factors may reduce social and emotional problems in children and youth.

Subject

Over the past several decades, carefully designed randomized trials of preventive home-visiting programs support the premise that promoting prenatal health, competent caregiving and families' living circumstances can improve children's health and development. Based on this evidence, investment in evidence-based home visiting programs has been made in the United States.[10] A US federal agency determined that 21 programs out of 50 evaluated met their criteria for evidence-based home visiting programs.[10,11] Not all of these programs were evaluated in randomized trials, however, and reviews of home visiting programs find mixed results.[10-14]

Problems

Prenatal exposure to tobacco and other toxic substances, as well as obstetric complications have been implicated in the development of behaviour problems in children;[1-4,15,16] and there is now evidence that the impact of prenatal tobacco exposure is greatest in the presence of a specific genetic vulnerability.[17,18]

Child abuse, neglect, and excessively harsh treatment of children are associated with internalizing and externalizing behaviour problems, cognitive impairments, and later violent behaviour;[5,6,19,20]

again, the impact of child maltreatment on severe antisocial behaviour appears to be greatest in the presence of genetic vulnerability.[21]

Family dependence on welfare, large families with closely spaced births, and single parenthood are all associated with compromised social and emotional development in children.[7,8,22,23] In addition, sensitive responsive caregiving serves as a protective factor against early adversity.[9]

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,[12,24,25] meta-analyses can produce misleading results if there are insufficient numbers of trials of programs represented in the cross-classification of home visiting program models, target populations, and visitors' backgrounds.

Home visiting programs share a common commitment to improve parents' early care of their children and most operate on the assumption that parents' prenatal health behaviours, care of their children, and life-course affect their children's social and emotional development.[26] However, other program features differ substantially, including families served, program content, visitors' backgrounds, and timing and duration of services. One review of home visiting and maltreatment-prevention concluded that programs delivered by paraprofessional home visitors were not effective in reducing child protection reports or associated impairments whereas those delivered by nurses reduced maltreatment.[27]

Key Research Questions

Understanding the effects of home visiting programs on children's social and emotional development begins with identifying programs that have affected antecedent risk and protective factors in addition to specific social and emotional outcomes. Specifically, what home visiting program models show the greatest promise for improving pregnancy outcomes, reducing child maltreatment, 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.[13,14,28,29] One program of prenatal and infancy home

visiting by nurses, Nurse Family Partnership (NFP), has reduced prenatal tobacco use in two US trials[30,31] and two international trials,[32,33] marijuana use in one international trial,[33] and pregnancy-induced hypertension with a large sample of Black women.[31] Effects on preterm birth and low birthweight in one NFP trial were found for women identified as smokers and those who were very young (< 17) at registration.[30]

Improving positive parenting and reducing child abuse, neglect, and injuries

Several trials of home visiting programs have found favorable effects on parenting, based upon direct observations of caregiver-child interactions, evaluations of the home environment, and standardized reports of parenting attitudes and practices.[34-36]

One trial of NFP, tested with a primarily white sample, found a 48 percent treatment-control difference in rates of substantiated rates of child abuse and neglect and an 80 percent difference for families in which the mothers were low-income and unmarried at registration.[37] With a large sample of urban Blacks, an NFP trial found program effects on children's days hospitalized for serious injuries and ingestions at child age 2,[31] and reductions in preventable mortality[38,39] decades later, findings consistent with the prevention of abuse and neglect and dysregulated behaviour. A trial of the program in the Netherlands found reductions in child abuse and neglect reports.[40] A trial of NFP in England found no effects on child maltreatment reports,[41,42] but questions have been raised about the design of this study, including the validity of such reports.[43]

Early Intervention Program for Adolescent Mothers (EIP) employs nurse home visitors and has found that compared to infants assigned to usual care, EIP infants had fewer days in the hospital and fewer total episodes of hospitalizations involving injuries, with program effects continuing to child aged 24 months.[44,45]

Maternal life-course

The effect of home visiting programs on mothers' life-course is disappointing overall.[26,46] In multiple trials of NFP, there were replicated effects on interpregnancy intervals,[31,37,47] use of welfare,[31,37] behavioural problems due to women's use of drugs and alcohol,[37,48] and, in one trial, arrests among women who were low-income and unmarried at registration.[37]

Children's social and emotional problems

NFP produced treatment-control differences in 15-year-olds' arrests and among 19-year-old females.[49,50] The effect on female convictions by age 18 was replicated as a trend in a second trial with urban Blacks; there earlier effects of the program on 12-year-olds'use of substances and internalizing disorders[51] and on working memory and ability to accurately read others' emotions at age 18.[52] In the third US trial of NFP, 6-month-old infants born to mothers with low psychological resources displayed fewer aberrant emotional expressions associated with child maltreatment,[53] and nurse-visited children were less likely to be classified as having total emotional/behavioural problems at age 6 years, internalizing problems at age 9 years, and dysfunctional attention at age 9 years.[54] NFP effects on reductions in internalizing and externalizing behavioural problems have been found in the Dutch trial.[40]

Additionally, two US programs implemented by Master's-level mental health or developmental clinicians (The Family Check-Up[55-57] and Child FIRST[58]), have found significant effects on a number of important child behavioural problems.

Conclusions

While home visiting programs hold promise for improving the social and emotional health of children, few have improved antecedent risks such as pregnancy outcomes, parental life-course, child maltreatment, compromised caregiving, and in turn reduced 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 nurse-visiting programs. In a trial that included separate treatment groups of nurse and paraprofessional home visitors, nurses produced effects that were twice as large as paraprofessionals.[53,54]

NFP has produced consistent effects on clinically significant outcomes in three separate trials in the US and in two international replications with different populations living in different contexts and at different points in social and economic history. A third international trial was exquisitely conducted but has produced limited replication of findings,[41,42] and has been challenged with questions regarding design.[43] Overall, these findings increase the likelihood that NFP will have applicability to a wide range of different populations. To date, NFP is the only prenatal or early childhood program that meets the "Top Tier" of evidence established by Evidence-Based Programs (Social Programs That Work, 2020, https://evidencebasedprograms.org/).

Implications

As programs are implemented in community practice, they are likely to serve more diverse populations, than those originally sampled, and with greater diversity in service provider backgrounds and experience. Therefore, on-going evaluation of evidence-based programs, such as HomVEE in the US, is vital.[11]

Programs with strong evidentiary foundations, and effective community replication standards, can reduce risks and adverse outcomes for fetal, infant, and child health and development. In deciding which home visiting programs policymakers should support, careful consideration should be given to the evidentiary foundations of candidate programs.

Finally, policymakers and practitioners should recognize the importance of program evolution to meet the changing needs of families and communities. One model for program augmentations starts with identifications of program challenges and moves on to formative development, rigorous testing, and then translation into practice.[59] Program evolution, grounded in adherence to good evidentiary standards, holds great promise for such programs, increasing the likelihood of improving the lives of vulnerable children and families.

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

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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. In the US, home visiting programs for families with pregnant women and young children operate in all 50 states, the District of Columbia, 5 territories, and 22 tribal communities, with an estimated 335,000 families receiving more than 3.7 home visits.[1] The majority of these programs implement home visiting models that are evidence-based, meaning that they have interventions based on rigorous evaluation; some programs also implement emerging models that do not yet have rigorous evidence to support their implementation.[1]

Over the past decade, the US government has substantially increased funding for evidence-based home visiting models. In 2010, the US Congress included the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV) in the Patient Protection and Affordable Care Act (ACA) as a national strategy for improving the health and well-being of families with pregnant women and children ages birth to 5. The ACA provided grants to states and stipulated that at least 75 percent of the funds must be spent on home visiting models with evidence of effectiveness based on rigorous evaluation. In 2019, the US Congress reauthorized MIECHV at $400 million a year for an additional 5 years. 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.[2,3,4,5] As of 2020, the US Department of Health and Human Services identified 21 home visiting programs with rigorous evidence of effectiveness.[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.[12,13]

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.[10,14] Research reports and articles typically provide only minimal information about how programs are implemented and their fidelity to the program model.[10] 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.[15,16,17] 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.[12,18,19] Research also shows that many, perhaps most, families enrolled in home visiting programs drop out before their eligibility ends.[12,20,21] 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.[22]

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.[23,24] A 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.[25] 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.[12,20,26,27] Some research indicates that higher-quality relationships are associated with better outcomes for children.[28,29]

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.[20] The effect of these kinds of supports have 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.[30,31,32] 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.[20,33,34,35]

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.

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Impacts of Home Visiting Programs on Young Children's School Readiness

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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 target their services to families and caregivers in order to improve child development, enhance school readiness, and promote positive parent-child interactions. Although programs differ in their approach, populations served and intended outcomes, high-quality home visiting programs can provide child development and family support services that reduce risk and increase protective factors.

Home visiting programs addressing school readiness are most effective when delivered at the community level, through a comprehensive early childhood system that includes the supports and services that ensure a continuum of care for all family members across the early years. School readiness includes the readiness of the individual child, the school's readiness to support children, and the ability of the family and community to support early child development, health, and well being. In addition to home visiting services, appropriate referrals to community services, including to preschool programs, offer a low-cost universal approach that increases the chances of early school success. This comprehensive approach to home visiting as a part of a broad early childhood system has been identified as an effective strategy to help close the gap in school readiness and child well-being associated with poverty and early childhood adversity.[1,2]

Subject

Home visitation is a type of service-delivery model that can be used to provide many different kinds of interventions to target participants.[3,4] 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[a];
2. from a trained service provider;
3. in order to alter the knowledge, beliefs and/or behaviour of children and caregivers or others in the caregiving environment, and to provide parenting support.[5]

Home visits are often structured 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 and support for caregivers.[6] 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, ability to provide healthy meals, engage in prenatal health care)—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 including early intervention for those with delays and disabilities, or bring information to parents or caregivers to support their ability to provide a positive and healthy home environment for their children.[3,4,7]

Problems

Data about the efficacy of home visiting programs have been accumulating over the past several decades. The federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program launched in the U.S. in 2012 and its accompanying national Mother and Infant Home Visiting Program Evaluation (MIHOPE) (which included 4 models - Early Head Start's Home-based option, Healthy Families America, Nurse-Family Partnership, and Parents as Teachers), and the Home Visiting Evidence of Effectiveness (HoMVEE) reviews has contributed much new data about program features, implementation, and impacts.[8-12] More of the research has used randomized controlled trial (RCT) or quasi-experimental designs, with multiple data sources and outcome measures, and longitudinal follow-up. These studies, along with older reviews, and recent meta-analyses have generally found that home visiting programs produce a limited range of significant

effects and that the effects produced are often small.[4,13,14] Nevertheless, a review of seven evidence-based home visiting models showed all seven to have at least one study with positive impacts on child development and school readiness outcomes.[13] Detailed analyses, however, sometimes reveal important program effects. For example, certain subsets of participants may experience long-term positive outcomes on specific variables.[15,16] 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. Averaging effects across multiple studies is currently seen as an inadequate approach to understanding what works for whom.[17]

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),[18] 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),[19] 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. (See also chapter by Korfmacher and coll.) 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).[10]

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, but some of

the more recent studies have done follow up into elementary school. However, most of the available 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

Recent advances in program design, evaluation and funding have supported the implementation of home visiting as a practical intervention to improve the health, safety and education of children and families, mitigating the impact of poverty and adverse early childhood experiences.[3] Although program approaches and quality may vary, there are common positive effects found on parenting knowledge, beliefs, and/or behaviour and child cognitive, language, and social-emotional development. In order to achieve the intended outcomes, programs need to have clearly defined interventions and outcome measures, with a process to monitor quality.[20] Recent research has begun to focus on how measures to assess quality can be used to monitor programs and program improvement efforts.[21,22]

A review of seven home visiting program models across 16 studies conducted over a decade ago 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).[23] Only studies with outcomes using direct observation, direct assessment, or administrative records were included. More recent reviews also show relatively small effects on developmental outcomes, but authors noted that "modest effect sizes in studies concerning developmental delay can result in important

population-level effects given the high proportion of children in low-income families (nearly 20%) meeting criteria for early intervention services".[3] A rigorous review conducted more recently in 2018 identified 21 home visiting models that met criteria of being an evidence-based model.[11] That review concluded that 12 of the models had evidence for favorable impacts on child development and school readiness outcomes. Recent and continuing research has been focusing on families with infants and toddlers living in poverty who are at higher risk for adverse early childhood experiences (ACES) that can lead to lifelong negative effects on physical and emotional health, and educational success.[3,24] For example, the Adverse Childhood Experiences study indicates that traumatic experiences in early childhood can have lifelong impacts on physical and mental health. Data from this study indicate that children with 2 or more adverse experiences are more likely to repeat a grade. Home visiting programs can mitigate the effects of toxic stress, enhancing parenting skills and creating more positive early childhood experiences.[24,25] This research points to the importance of targeted home visiting programs to families who are experiencing stress and a recent meta-analysis of home visiting with such families indeed shows decreases in both social-emotional problems and stressful experiences.[26]

Problems identified in earlier reviews completed in the 1990s still plague this field, however, including that many models have limited rigorous research studies. In many of the studies described in previous and more recent reviews and meta-analyses, 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.[27] The generally small effects on outcomes averaged across studies have led researchers to call for precision home visiting research to look at what works for whom.[17,28] (Also see chapter by Korfmacher and coll.).

Research into the implementation of home visiting programs has documented a common set of difficulties across programs in delivering services as intended. (See also Paulsell chapter) 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.[29,30] In another study, 20 percent of families that agreed to participate did not begin the program by receiving an initial visit.[19] 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.[31] 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.[29,32] 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.[33,34] Recent research has begun to examine how technical assistance and training supports delivered to home visiting program supervisors and home visitors can improve model fidelity.[35] (See Paulsell chapter.) In a review of home visiting research in the 1990s, Gomby, Culross, and Berman[27] found that between 20 percent and 67 percent of enrolled families left home visitation programs before the scheduled termination date. More recent studies continue to show a persistent problem with families leaving the program and not engaging in visits as intended by program developers. For example, in the MIHOPE evaluation, about 28% of families left MIHOPE home visiting programs within six months, while about 55% were still receiving about two visits per month after a year.[9] With only about half of families remaining after one year, many families were only receiving half of the intended number of visits.[8] Studies of Early Head Start also show that families with the greatest number of risk factors are the most likely to drop out which was also observed in the recent MIHOPE study.[36]

The assumed link between parent behaviour change and improved outcomes for children has received mixed research support. In other words, even when home visitation programs succeed in their goal of changing parent behaviour, these changes do not always appear to produce significantly better child outcomes in the short term, but in some cases appear to have an impact in the long term.[37,38] Examples include a study of the Home Instruction Program for Preschool Youngsters (HIPPY) model with low-income Latino families showing changes in parenting practices and better third-grade math achievement and positive impacts on both math and reading achievement in fifth grade.[39,40] 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.

Both older and more recent reviews of home visiting programs described above included only studies using rigorous designs and measurement and a number of models show significant impacts on child development and school readiness outcomes. The Early Head Start model used a RCT 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. More recent Early Head

Start evaluations find positive impacts at ages 2 and 3 on cognition, language, attention, behaviour problems, and health and on maternal parenting, mental health, and employment outcomes, with better attention and approaches toward learning and fewer behavior problems at age 5 than the control group, but no differences on early school achievement.[41] Nonexperimental follow-up showed, however, that those children who went on to attend preschool after EHS did have better early school achievement. 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 RCT study.[42] In addition, evaluations of Healthy Families America have shown small, but favourable effects on young children's development.[43,44]

Home visiting programs focusing on supporting parents' abilities to promote children's development explicitly appear to impact children's development positively. One meta-analysis found that programs that taught parent responsiveness and parenting practices found better cognitive outcomes for children.[4] A meta-analysis of RCTs found that the most pronounced effect for parent-child interactions and maternal sensitivity can be improved in a shorter period of time, where effects of interventions on child development may take longer to emerge.[45] Several studies find longer-term impacts on parenting and associated positive effects for child outcomes. In a RCT of a New York Healthy Families America program, the program reduced first grade retention rates and doubled the number of first graders demonstrating early academic skills for those participating in the program.[2] And at least one recent longitudinal study of Parents as Teachers found positive school achievement and reduced disciplinary problems in early elementary school along with increased scores on parent measures of interactions, knowledge of child development, and family support.[46]

Other studies 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.[43] However, program participation was associated with a reduction in the number of child abuse cases.

Other models show mixed impacts. A 1990's RCT 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.[32] Small positive differences were found for teen mothers and Latina mothers on some of these measures. However, another RCT study with the Parents as Teachers Born to Learn curriculum did find significant effects on cognitive development and mastery motivation at age 2 for the low socioeconomic families only.[47] Furthermore, a more recent RCT in Switzerland found that children receiving the PAT program had improved adaptive behavior and enhanced language skills at age 3 with the most high-risk children also having reductions in problem behaviours.[48] A randomized controlled trial of Family Check-Up demonstrated favourable impacts on at risk toddlers' behaviour and positive parenting practices.[49]

Randomized controlled trials (RCTs) 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).[50,51] (See also updated information in the Donelan-McCall & Olds chapter).

The largest RCT 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.[52] 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. In follow-up studies, improvements in cognitive and behavioural development were also found at age 8 and 18 years for those in the heavier weight group.[53] The Chicago Child-Parent 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 and impacts lasting into adulthood.[54-56] 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.[57] Early Head Start studies cited earlier also show that combining home visiting with later preschool attendance will yield better school readiness impacts than home visiting

alone. Finally, there is a need to look at how home visiting could be beneficial for improving school outcomes when combined with a preschool program as in a recent study with families in Head Start programs that found reduced need for educational and mental health services in third grade.[58] These studies suggest that a more intensive intervention involving the child directly may be required for larger effects on school readiness to be seen with home visiting as one part of a more comprehensive approach.

Conclusions

Research on home visitation programs has not been able to show that these programs alone 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.

These conclusions support recent attention to use of research designs that look at more differentiation of the program models and components to match the needs of the families aimed at improving child development and other outcomes. Precision home visiting uses research to identify what aspects of home visiting work for which families in what circumstance, resulting in programs that target interventions to the needs of particular families.[17]

Future research needs to examine the role of evidence-based home visiting within a more comprehensive system of services across the first five years of life. It can be an initial cost - effective strategy to build trusting relationships and support early positive parenting that will improve children's development over the long run because families will have increased likelihood of enrolling their children in preschool programs and use other needed child and family supports.

Furthermore, efficacy research needs to include longitudinal designs and simultaneously include cost-benefit studies to demonstrate the long-term cost savings that will build public support for both early home visiting programs and a more comprehensive early childhood system.

The recent Covid-19 pandemic brought to light the disparities and inequities of our early childhood service systems (as well as our later education systems). This state of affairs also has reinforced the benefit of more authentic participatory approaches in research and evaluation to identify what

works and for whom. Research and evaluation that includes various stakeholders, from those who are affected by an issue to those that fund the programs, promises to provide insights and perspectives that can strengthen the impact of home visiting programs.

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 alone do not appear to represent the low-cost solution to child health and developmental problems that policymakers and the public have hoped for for decades. However, as the field continues to research more precision approaches that match program components to child and family needs, add the needed assistance and professional development supports to ensure model fidelity, and incorporate home visiting programs within a comprehensive early childhood system across the first five years of life, more consistent and positive results for participating target families are to be expected.

For high risk families with multiple challenges and levels of adversity, home visiting programs can serve to encourage families to take advantage of preschool programs available to them and their children and increase their participation in other family support programs during the preschool through 3rd grade years[59] to further support school readiness outcomes.

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Note:

[a] Services are brought to the family and settings may include the family's home, or another mutually agreed upon location such as community center, park, or public library. More recently, due to the pandemic, programs have relied on virtual methods or conducting a home visit remotely via digital devices.

New Directions in Home Visiting Research: The Precision Paradigm

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Introduction

Early childhood home visiting has policy and programmatic support for the past fifty years as a strategy to promote child health and well-being. During this time, the traditional research paradigm has been to conduct randomized trials to estimate the average effects of full home visiting models.

This research has produced enough positive findings to form an evidence base that supports investment in the scale up of home visiting and for designating specific models in which to invest.[1] Such an evidence-based approach has been used for many initiatives, including the U.S. federally funded Maternal Infant and Early Childhood Home Visiting program (MIECHV) and the Family First Prevention Services Act (FFPSA) initiative. But in all fields, research methods must evolve to meet needs for new knowledge.

Subject

In the United States (as well as other contexts), home visiting has largely existed in the form of overall *program models* comprising a package of supports to parents. Home visiting models attempt to cover many different aspects of family and child functioning that can ultimately impact health, development, and well-being. These models typically articulate elements of program infrastructure, home visitor qualifications, program content and curricula, and visiting schedules.

Problems

Empirical research confirms generally positive overall home visiting effects on many outcomes, but also reveals enduring challenges. One challenge is the persistently small average effect sizes seen in many different randomized trials. The most recent national evaluation of MIECHV-funded

home visiting models is an example of this, with effect sizes ranging from 0.01 to 0.09.[2] Another challenge is engaging and keeping families in services. Many families leave services after relatively short periods of time, which can be problematic for models with expectations of working with families over a number of years.[3]

As a result, enrolled families vary considerably in their exposure to home visiting services, which themselves cover many different elements of child and family functioning and serve heterogenous populations and communities. But our research has not done well in unpacking this variability nor in comparing the effectiveness of specific interventions *within* models and *across* diverse subgroups of families and communities. We have not yet identified which interventions within multi-faceted home visiting services are effective and whether effectiveness of specific intervention components generalize across models.[4]

Research Context

Shifting this paradigm requires building the field's capacity to test the mediators and moderators of interventions within home visiting. The Home Visiting Precision Paradigm, illustrated in the figure below, provides a framework for such research. The Home Visiting Applied Research Collaborative (HARC), a national research and development platform to improve the practice of early childhood home visiting,[5] has developed this paradigm, based on frameworks created to categorize efforts at human behaviour change.[6]

Figure. Precision Paradigm

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The Precision Paradigm specifies *how* change is expected to occur by first defining intended program outcomes, mechanisms of action and target behaviours to improve those outcomes. It promotes designs to test the effects of specific intervention techniques and methods of delivery on these mechanisms of action and through these, on target behaviours. Beyond this, it incorporates the effects of context and intervention usage as moderators of intended impacts. A primary interest is on the mediators of impacts on outcomes. For example, if a home visitor provides information on the importance of early development, this may shift the parent’s knowledge in a way that promotes positive parent-child interaction and, ultimately, positive child development. But if this information is not relevant to the parent (e.g., a parent’s stress level does not allow them to attend to this information), then increased child development knowledge will

not lead to improved parenting behaviour. The Paradigm drills down to the specifics of what home visitors do and how their actions are intended to lead to short-term changes that prior research has demonstrated will lead to achieving intended outcomes.

Key Research Questions

In simple terms, the new paradigm is designed to answer the question, *What interventions within home visiting work best, for which families, in which contexts, why and how?*[7] It is a useful framework for addressing many related questions, including:

1. How clearly defined are the interventions that home visitors are expected to implement?
2. How well do implementation systems support home visitors in their interventions?
3. How are home visitors expected to modify interventions in light of family and community factors, and how well does actual practice align with these expectations?

Recent Research Results

Emerging studies include a precision-based approach. One recent study focused on how home visiting program models aim to promote positive birth outcomes.[8] Representatives of five evidence-based models defined their models' target behaviours to promote good birth outcomes and their expectations for home visitors' use of 23 categories of behaviour change techniques to promote parent's engagement in these target behaviours. Model representatives defined many different pathways and saw most as compatible with their model, but varied in the number required or recommended, as well as in the relative emphasis given to specific home visitor techniques. The short answer from this study emphasizes variability, but it also suggests common ground for more sophisticated cross-model analyses of how home visitors provide support in prenatal home visiting.

Other precision-based research has examined how home visitors using the Family Spirit program model select different modules when working with different sub-populations of families. The modular approach was developed in collaboration with local tribal stakeholders and program implementers to ensure relevance,[9] with a trial is currently in progress comparing this approach against a conventional delivery of the program model that does not tailor services.[10]

Research Gaps

Shifting from a focus on comprehensive home visiting models to their underlying components is not an easy task. Defining active ingredients in specific, testable ways will be an ongoing challenge. Implementation has valued fidelity to models deemed evidence-based by previous examinations, and we have not yet determined the best way understand tailoring in the context of fidelity efforts, nor has traditional reporting of program implementation in efficacy trials been of much help.[11] Much previous work looking at moderating factors has relied on post-hoc subgroup analyses and correlational examinations within a treatment group, not systematic comparisons of different combinations of techniques or delivery mechanisms. Modern analytic techniques, such as the multiphase optimization strategy (MOST), are just beginning to make their way into home visiting research.[12]

Conclusions

Precision home visiting — evidence-based tailoring of services — a granular approach in the design and testing of interventions within home visiting. It requires a solid understanding of how features of interventions influence usage, and how context moderates this usage and the intended links from intervention to outcomes. Early research using the Precision Paradigm is demonstrating proof of concept: home visiting stakeholders can focus on interventions within models and can define intended pathways from intervention to mechanisms of action to target behaviours. Thus, the Precision Paradigm provides a framework for research to specifically test whether and how variation in contextual factors influences usage and impacts on mediators. This knowledge can be used to refine interventions to broaden and strengthen impacts across diverse families and communities. This in turn can accelerate achievement of population-level improvements in outcomes and health equity and can further address disparities in social determinants of health.

Implications for Parents, Services and Policy

In the wake of the COVID-19 pandemic, programs have had to innovate to creatively maintain outreach to families, including virtual methods of service delivery. This further highlights the importance of attending to what home visitors are expected to do and how they might broaden and strengthen home visiting impacts through evidence-based tailoring of what they do. Because of these constantly changing circumstances, understanding the lived experiences and perspectives of stakeholders is essential in order to develop equitable, effective programs. Researchers must create partnerships with programs in order to design more precise evaluations, but also strive to capture the voices of the communities (including families) at each phase of the

evaluations.[13]

In short, precision home visiting can lead to services that are more closely aligned with family preferences and needs, resulting in greater benefit in intended outcomes most relevant to them. Precision will lead to more clarity in job expectations for home visitors and to more coherent implementation systems. This precision can be felt at the policy level as well, as we shift from a focus on evidence-based models to the evidence-based components within them.

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