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Development and implementation of a screen-and-refer approach to addressing maternal depression, substance use, and intimate partner violence in home visiting clients*

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Abstract

Perinatal maternal depression (MD), substance use (SU), and intimate partner violence (IPV) are critical public health concerns with significant negative impacts on child development. Bolstering the capacity of home visiting (HV) programs to address these significant risk factors has potential to improve child and family outcomes. This study presents a description and mixed-methods feasibility evaluation of the “Home Visitation Enhancing Linkages Project (HELP),” a screen-and-refer approach to addressing MD, SU, and IPV within HV aimed at improving risk identification and linkage to treatment among HV clients. HELP was a three-phase intervention that included three evidence-based interventions: screening, motivational interviewing (MI), and case management (CM). This study presents quantitative fidelity data from 21 home visitors reporting on 116 clients in 4 HV programs, as well as qualitative data from structured interviews with 14 home visitors. Nearly all clients were screened and 22% screened positive on at least one risk domain. Rates of MI and CM implementation were lower than expected, however home visitors implemented general supportive interventions at high rates. Home visitor interviews revealed the following factors that may have impacted HELP implementation: client disclosure of risk, barriers to treatment access, systems integration, home visitor role perception, and integration of HELP into the broader HV curriculum. Implications of study findings for the design of future attempts to address maternal risk within HV are discussed.

Keywords

Home visiting; Maternal risk; Substance use; Maternal depression; Intimate partner violence

1. Introduction

Perinatal substance use (SU), maternal depression (MD), and intimate partner violence (IPV) are critical public health concerns that confer significant risk to maternal and infant health (National Scientific Council on the Developing Child, 2014). While effective

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treatments exist, rates of access among low-income minority pregnant and post-partum women are distressingly low (Terplan, McNamara, & Chisolm, 2012). Early childhood home visiting (HV) is one of the primary supportive interventions provided to high-risk families during the perinatal period, and thus represents a promising avenue for improving access to treatment for pregnant and postpartum women experiencing SU, MD, and IPV. Due to increased federal investment under the Affordable Care Act (ACA), HV programs currently operate in all 50 states, serve more than 160,000 families annually nationwide, and increasingly serve families with complex behavioral health needs (Health Resources and Services Administration, 2016). In a national sample, 26% of HV clients reported prior binge drinking, 13% reported past illicit drug use, 34% reported clinically significant depression symptoms, and 17% reported past-year physical or psychological IPV (Michalopoulos et al., 2015). Despite the potential of HV to improve access to behavioral health treatment, studies have demonstrated low rates of identification of SU, MD, and IPV and referral to treatment within HV (Dauber et al., 2017; Duggan et al., 2004; Tandon, Parillo, Jenkins, & Duggan, 2005), and more difficult engagement and poorer outcomes for families with complex risk profiles (Azzi-Lessing, 2013; Damashek, Doughty, Ware, & Silovsky, 2011; Eckenrode et al., 2000).

Several factors may explain this discrepancy between client need and service provision. First, few HV models provide home visitor staff with intensive skills-based training in behavioral health or standardized protocols for addressing client SU, MD, and IPV. Second, the HV workforce comprises a broad spectrum of professionals, many of whom lack the advanced training and clinical skill needed to effectively address complex behavioral health problems (Paulsell, Del Grosso, & Supplee, 2014). Home visitors themselves have reported that they generally feel ill-equipped to effectively address client behavioral health concerns, desire more training and supervision specifically targeted at these issues, and rate inability to connect families with needed services for MH, SU, and IPV as among the most difficult situations encountered in HV (Eddy et al., 2008; Jones-Harden, Denmark, & Saul, 2010; LeCroy & Whitaker, 2005; Tandon, Mercer, Saylor, & Duggan, 2008). Lack of home visitor training and skill is compounded by client reluctance to disclose MD, SU, and IPV for fear of child removal and other repercussions, as well as logistical barriers and fragmented service systems making access to treatment difficult (Leis, Mendelson, Perry, & Tandon, 2011; O'Mahen & Flynn, 2008).

Bolstering HV capacity to address SU, MD, and IPV is critical to improving the continuum of care for high-risk pregnant and postpartum women, with potential for broad impacts on maternal and child health. Moreover, HV represents an ideal context for addressing behavioral health and improving access to needed treatment in this population for several reasons. First, HV programs aim to enroll women prenatally or shortly after birth, providing an opportunity to intervene early to prevent negative child and family outcomes. Relatedly, HV programs are long-term, often providing services into a child's second or third year of life, allowing for greater continuity of care. Second, pregnancy and the postpartum period are times when many women are especially motivated to change behaviors and life circumstances that may negatively impact their baby (Kuo et al., 2013; Lee King, Duan, & Amaro, 2015). HV programs are inherently voluntary and strength-based, and thus provide a natural framework for capitalizing on this motivation to change. Third, a core component of

successful HV services is the strong working relationship built between the home visitor and the client (Schaefer, 2016), which can serve as a foundation for home visitors to assist clients with sensitive topics that they may be reluctant to discuss with other professionals. Finally, HV is broadly aimed at promoting healthy child development through minimizing exposure to adverse events and building parental capacity for responsive caregiving (Minkovitz, O'Neill, & Duggan, 2016). Thus, addressing maternal behavioral health risks that diminish parental capacity fits well within the broader goals of HV and is arguably essential to successfully attaining those goals.

With increased awareness of the need for HV programs to systematically address maternal behavioral health combined with increased funding from the ACA, attempts to improve HV capacity to address maternal behavioral health risks have begun to proliferate. The most well-researched efforts to date have involved the delivery of cognitive behavioral interventions for depression by trained mental health professionals during home visits (Ammerman et al., 2005) or as an adjunct to home visiting (Tandon, Leis, Mendelson, Perry, & Kemp, 2014). Accumulating results from these initiatives are highly promising, suggesting that enhancing HV with research-supported mental health interventions can be effective in reducing client symptoms of depression (Ammerman et al., 2013; McFarlane, Burrell, Duggan, & Tandon, 2016; Segre, Brock, & O'Hara, 2015; Tandon et al., 2014). However, approaches that integrate psychotherapy into HV require highly trained therapists to provide the intervention, a resource that may be beyond the reach of some state HV systems and local programs. Additionally, existing efforts to integrate behavioral health treatment into HV have focused on a single risk domain, without addressing the high rates of comorbidity among MD, SU, and IPV in the perinatal period (Connelly, Hazen, Baker-Ericzen, Landsverk, & McCue Horwitz, 2013).

Screen-and-refer models, which include screening followed by a brief intervention aimed at linking clients with external treatment providers, represent a potential lower cost strategy for addressing multiple co-occurring behavioral health risks within HV that can complement the more intensive therapeutic approaches described above. The most prominent example of a screen-and-refer approach is the Screening, Brief Intervention, and Referral to Treatment (SBIRT) model originally developed to facilitate linkage to substance use treatment for primary care patients (Substance Abuse and Mental Health Services Administration, 2013). SBIRT has demonstrated notable success in improving access to treatment and reducing alcohol use for adult substance users, including pregnant women, in certain contexts (Agerwala & McCance-Katz, 2012; Aldridge, Linford, & Bray, 2017; Babor et al., 2007; Chang et al., 2005; O'Connor & Whaley, 2007), though results are not definitive, particularly for illicit drugs (Hingson & Compton, 2014). While there are no published studies testing SBIRT within HV, this approach has great potential for application within state HV systems for the following reasons. First, by design, screen-and-refer approaches do not necessarily require extensive clinical training or advanced clinical skills, and thus could potentially be effectively delivered by home visitors during routine HV. Second, home visitors already implement standardized assessments as part of their monitoring of child developmental progress, and are beginning to incorporate behavioral health screening in response to federal mandates. Finally, home visitors routinely provide clients with referrals to a range of external care providers, including public assistance agencies, early intervention providers,

pediatric and other medical care providers, and behavioral health treatment providers. Thus, the process of linking clients to outside agencies to meet their needs in areas not directly addressed by the HV program is familiar territory for home visitors, and increasing the standardization and systematization of home visitors' screen-and-refer activities regarding maternal behavioral health is potentially feasible.

Screen-and-refer models often include motivational interviewing (MI) and case management (CM) interventions aimed at maximizing the likelihood of a successful referral. The potential applicability of MI for enhancing client engagement and retention in HV as well as for enabling home visitors to more effectively address challenging behavioral health risks has been recognized, and MI training and implementation resources for HV are being developed and tested (University of Maryland Baltimore County, 2016). As this is a newly emerging area in HV, empirical studies are lacking, however the few that exist demonstrate the success of MI for improving engagement and retention in HV (Ingoldsby et al., 2013; Silovsky et al., 2011), but not for decreasing maternal psychosocial risk (Silovsky et al., 2011). Case management in the form of care coordination and referrals to services to meet families' needs in various domains has always been a core component of HV (Minkovitz et al., 2016). Linkages and referrals to community resources is one of the primary outcome domains specified by the federal government for defining evidence-based HV programs, and is also one of the federal HV benchmark outcomes (Administration for Children and Families; HRSA Maternal and Child Health, 2016). Studies have shown that integrating individualized assessment of family needs and care coordination activities aimed at linking families with needed services into HV has resulted in improved rates of receipt of needed services among HV clients in multiple domains (Dodge et al., 2013; Lowell, Carter, Godoy, Paulicin, & Briggs-Gowan, 2011). However, we know of no HV studies to date of an evidence-based case management intervention specifically aimed at linking clients to behavioral health services.

In partnership with state-level administrators, HV staff, and HV training and technical assistance providers, we developed the "Home Visitation Enhancing Linkages Project (HELP)." HELP includes informational and skills-based training in MD, SU, and IPV for home visitors and supervisors, plus integration of evidence-based screening, MI, and CM interventions aimed at improving client linkage to treatment. In contrast to traditional SBIRT models, HELP did not include a specific structured brief intervention to be delivered in a standardized manner to all clients; rather, home visitors were trained in a menu of MI and CM techniques to apply as needed with a particular client. HELP was specifically designed for delivery within routine HV services by the HV workforce. This work is aligned with the national HV research priorities of supporting the development of a competent workforce and strengthening HV effectiveness (Home Visiting Research Network, 2013), and is directly targeted at key HV performance benchmarks required by the federal HV program (HRSA Maternal and Child Health, 2016).

This study presents the HELP development and implementation framework and core intervention components, followed by a mixed-methods evaluation of the feasibility and acceptability of HELP within four home visiting programs implementing the Healthy Families America model. Data were collected during a two-year pilot evaluation of HELP

aimed at assessing the initial feasibility of the protocol to inform its refinement for further testing in a larger sample. The following research questions were examined: (1) To what extent were the core HELP interventions implemented with fidelity by home visitors? and (2) What factors influenced successful implementation of HELP? Specific factors examined included home visitor and supervisor readiness to implement evidence-based practices, and home visitor perspectives on risk identification, barriers to treatment access, systems integration, home visitor role definition, and integration of HELP into the broader HV curriculum.

2. Methods

2.1. HELP description

2.1.1. HELP development and implementation framework—HELP development and implementation followed the four stages of the Active Implementation Framework (AIF) (Metz & Bartley, 2012), with three core implementation elements—Implementation Teams, Implementation Drivers, and Data and Feedback Loops—applied at each stage (Metz, Naoom, Halle, & Bartley, 2015) (See Fig. 1). The AIF has been applied to other implementation efforts within child welfare (e.g., (Metz et al., 2015)), and has been recommended as a framework for implementation of innovations within early childhood systems (Metz et al., 2015). Fig. 1 presents the goals of each of the four phases of the AIF (Exploration, Installation, Initial Implementation, and Full Implementation), along with specific details of the implementation teams, drivers, and data and feedback loops applied at each phase during HELP development and implementation. The current study did not reach the Full Implementation stage.

2.1.2. HELP core components—HELP is comprised of three core evidence-based interventions, *Screening*, *MI*, and *CM*, which are designed to be implemented in three distinct phases named *Identify*, *Connect*, and *Support*. Phase one, *Identify*, is focused on enhancing identification of SU, MD, and IPV treatment needs in HV clients. The core intervention in this phase is *Screening*. Home visitors administer standardized validated screening tools for SU, MD, and IPV to all clients within the first three months of HFA services and again six months later. Universal screening for all three risk domains has been widely recommended for pregnant and parenting women ((ACOG), 2012; Moyer, 2013a, 2013b; Rowan, Duckett, & Wang, 2015), though rigorous evaluations of the efficacy of screening in HV programs have been limited. The few existing studies support the feasibility of training home visitors to screen for depression and IPV (Jack, Jamieson, Wathen, & MacMillan, 2008; Segre, O'Hara, Brock, & Taylor, 2012; Yonkers et al., 2009) and suggest that screening may increase disclosures (Vanderburg, Wright, Boston, & Zimmerman, 2010).

HELP screening tools included the Edinburgh Postnatal Depression Scale (EPDS: (Cox, Holden, & Sagovsky, 1987)), the UNCOPE for SU (Campbell, Hoffman, Hoffmann, & Gillasp, 2005), and the Relationship Assessment Tool (RAT) for IPV (Smith, Earp, & DeVellis, 1995). All tools have been validated for use with a variety of populations, including those served by home visiting programs (Hoffman, Hunt, Rhodes, & Riley, 2003;

Schaper, Rooney, Nay, & Silva, 1994; Smith, Thorton, DeVellis, Earp, & Coker, 2002; Tully, Watson, & Abrams, 1998).

Phase two, *Connect*, is focused on linking clients who screened positive or endorsed significant symptoms to an appropriate treatment provider. The core interventions of this phase are *MI* and *CM*. *MI* is a collaborative, patient-centered approach designed to strengthen a person's motivation and commitment to change by exploring and resolving ambivalence (Miller & Rollnick, 2013). This approach is both a philosophy and a set of techniques that has been used by a variety of professionals and paraprofessionals (Hettema, Steele, & Miller, 2005; Lundahl & Burke, 2009) in a range of settings (Barwick, Bennett, Johnson, McGowan, & Moore, 2012). *MI* has been shown to be effective in promoting behavior change in several areas, with the strongest evidence for alcohol and drug use (Burke, Arkowitz, & Menchola, 2003). *MI* has also been shown to improve engagement and retention in treatment for parents (Nock & Kazdin, 2005; Sterrett, Jones, Zalot, & Shook, 2010) and for women who are depressed and economically disadvantaged (Grote, Bledsoe, Swartz, & Frank, 2004). As part of *HELP*, home visitors were trained in the following menu of *MI* interventions: assessing and discussing client's readiness for change, encouraging client to seek help in the form of treatment, discussing barriers to treatment, and providing information about what to expect in treatment and correcting misconceptions.

CM is a coordinated and integrated approach to service delivery that includes assessment, planning, linking, monitoring and advocacy (Center for Substance Abuse Treatment, 2015). *CM* is associated with increased access to needed services for substance using caregivers in child welfare (Ryan, Victor, Moore, Mowbray, & Perron, 2016), as well as for low-income high-risk pregnant women (Roman, Raffo, Zhu, & Meghea, 2014; Slaughter, Issel, Kane, & Stayner, 2013). The following *CM* interventions, adapted from a model of intensive case management for drug-dependent women on welfare (Morgenstern et al., 2006), were applied as needed in the *Connect* phase to link clients to treatment: providing information regarding treatment options, assisting the client in scheduling an appointment, troubleshooting barriers, and following up to ensure client attendance.

Phase three, *Support*, is a maintenance phase aimed at facilitating retention in treatment, resolving ongoing barriers to treatment attendance, and supporting clients' needs throughout treatment. Home visitors were trained to continually discuss and monitor clients' experiences in treatment during home visits and to provide ongoing support and practical assistance in addressing barriers, as well as to support clients through crisis events and relapse. Finally, home visitors were trained to assist clients in accessing self-help groups or other supportive services needed to maintain treatment gains.

2.1.3. *HELP* training—*HELP* training included a mix of written, web-based and in-person training experiences that integrated didactic information delivery with interactive, skills-based activities including role-playing (Cucciare, Weingardt, & Villafranca, 2008). Training for home visitors and supervisors included viewing of three hour-long webinars on *SU*, *MD* and *IPV*, designed to introduce core concepts and increase knowledge and understanding of each risk domain. Webinar viewing was followed by a three-day in-person workshop on *HELP*'s phases and core interventions that included training in administration and scoring of

the screening tools, and training in the core MI and CM interventions. Other training topics included barriers to treatment in vulnerable populations, procedures for making referrals to treatment agencies, calling child protective services (CPS), and the aftermath of making a CPS referral. Skills practice during training was conducted via 10 role-play exercises focused on the following topics: introducing the screening tools to clients (1 exercise); applying MI strategies with clients (3 sample scenarios); and making referrals (3 sample scenarios). On the final training day, home visitors were presented with three additional sample scenarios to practice introducing the screening, completing screening, and connecting the family to services. Training participants received a HELP Handbook, which included all materials reviewed during the trainings, county-specific resources, scripts and procedures for administering and scoring screening tools and for implementing the core HELP interventions. Supervisors attended one additional day of training focused on supervision of HELP implementation. Annual booster trainings were offered for participating home visitors. All home visitors who enrolled in the HELP implementation study met the study's training requirements.

2.2. Pilot study design and procedures

The study was approved by the governing Institutional Review Boards and all participants provided informed consent. HELP was piloted within the Healthy Families America (HFA) program in four counties of a statewide HV system. Home visitors were recruited for participation by study investigators following completion of the initial HELP training. All home visitors delivering the HFA model at one of the pilot sites who completed the study training requirements were eligible to participate.

Home visitors recruited their HFA clients who met study eligibility criteria (age 18 years or older, biological mother of target child, and newly enrolling in HFA) into the HELP research evaluation from November 2013 through May 2015. Home visitors introduced and explained the study to prospective participants using a script provided by study investigators, and obtained informed consent from those clients who elected to participate.

2.3. Participants

2.3.1. HELP home visitors—Home visitors ($N = 21$) were all female, ranging in age from 23 to 67 ($M = 36.39$; $SD = 11.41$), with a range of 1 to 19 years of HV experience ($M = 5.12$; $SD = 4.72$). Home visitors were 26% White, 42% Hispanic, and 32% African American, and 58% had greater than a high school education. The 21 home visitors who participated in the study represent 84% of the home visitors who were trained ($N = 25$).

2.3.2. HELP clients—A total of 121 HFA clients consented to enroll in the HELP evaluation. Of these, 116 had at least one fidelity checklist and comprise the sample for the current study. HELP clients in the current study ($N = 116$) were 19% Hispanic ethnicity, and 38% White, 45% Black, 4% Multiracial and 13% other race. Most were single (66%), with a high-school education or less (64%), and unemployed (78%). About half (48%) were receiving public assistance and 20% were child welfare involved. Nearly half (47%) were pregnant at HFA enrollment, and 30% lived with at least one child under 5 in addition to the target child.

2.4. Measures

2.4.1. HELP fidelity checklist—A fidelity checklist was developed to track administration and review of the screening tools (*Identify*), as well as specific MI and CM interventions that home visitors implemented during the *Connect* and *Support* phases. Home visitors were instructed to complete a fidelity checklist after every home visit with study clients. Checklists were submitted for 2080 visits across the 116 clients, representing 47% of all home visits documented in the HFA MIS as occurring during the HELP implementation period. Of the 2391 home visits documented in the MIS that did not have corresponding fidelity checklists, home visit logs (completed by home visitors after every home visit and logged in the HFA MIS to track HFA curriculum activity) indicated that only 2% included discussion of IPV, 6% included discussion of mental health (not necessarily specific to MD), and 2% included discussion of SU. Thus, we are confident that the majority of visits for which we did not obtain checklists included low to no HELP activity. Of the 2080 HELP fidelity checklists submitted, 25% (representing 106 clients) indicated the occurrence of some HELP activity. Home visitors submitted an average of 18 checklists per client (range 1 to 53; $SD = 11.96$) in total, and an average of 5 checklists per client documenting HELP activity (range 1 to 33; $SD = 6.73$). Preliminary examination of item distribution revealed significant skew for most items, with most items never endorsed on close to 80% of the checklists. Thus, items were dichotomized to indicate whether they were ever endorsed for each client across all of their submitted checklists (yes/no). Fidelity data are presented as the percent of clients who ever received each HELP intervention during the HELP implementation period.

2.4.2. Evidence-based practice attitude scale—Home visitors and supervisors completed the *Evidence Based Practice Attitude Scale* (EBPAS; (Aarons et al., 2010)) prior to the initial HELP training and at the conclusion of the HELP enrollment period to assess their attitudes towards adoption of research-based interventions into their routine practice. EBPAS items cluster into four subscales that have been validated in a national sample of child and family service providers (Aarons et al., 2010): “Appeal” (would providers adopt a new practice if it was intuitively appealing); “Requirement” (would providers adopt a new practice if it was required by an authority); “Openness” (general openness to trying new interventions); and “Divergence” (do providers experience research-based interventions as less important/useful than clinical experience). A total score reflecting general attitude towards research-based interventions is also provided. The EBPAS has been widely used in both mental health and child welfare settings, including among in-home service providers (Aarons, 2004; Aarons & Sommerfeld, 2012).

2.4.3. Qualitative home visitor interviews—Semi-structured interviews (approximately 45 min) were conducted with 14 (68%) of the home visitors enrolled in the HELP implementation sample during the final year of HELP implementation. The 14 home visitors who were interviewed collectively saw 100 out of the 116 clients in the implementation sample. Interviews were designed based on published guidelines for assessing feasibility and acceptability of new interventions in field settings and existing research that has used similar procedures for assessing provider and administrator perspectives on incorporating evidence-based practices into child mental health and child

welfare settings (Aarons & Palinkas, 2007; Bowen et al., 2009; Palinkas et al., 2008; Proctor et al., 2011). Home visitor interviews were designed to capture judgments about the feasibility and acceptability of integrating HELP into their current practice, its perceived short and long-term utility, and facilitators and barriers to successful implementation. All interviews were audio-recorded and transcribed verbatim.

2.5. Data analysis

Quantitative data (screening tools, fidelity checklists, and EBPAS) were analyzed descriptively in SPSS version 22. Home visitor interviews were analyzed using thematic content analysis, a widely used approach in qualitative evaluation studies that applies inductive coding to identify themes within the data (Braun & Clarke, 2006; Burnard, 1991; Hsieh & Shannon, 2005; Thomas, 2006). This approach has been used in other qualitative studies examining the implementation of evidence-based practices in child welfare settings (Akin, 2016; Kerns et al., 2014). All interview transcripts were coded by two independent raters, and final categories, themes, and sub-themes were determined by consensus. The final thematic analysis revealed 5 broad categories, 19 themes, and 52 sub-themes. In this paper, we present only those that are most relevant to the research question regarding factors impacting the successful implementation of HELP. The full analysis of the home visitor interviews is available from the first author upon request.

3. Results

3.1. Identification of maternal risk: HELP screen results

Of the total implementation sample ($N = 116$), 113 clients were screened at baseline (within 3 months of HFA enrollment) and 60 were screened at follow-up (6 months after baseline). Reasons for clients not completing the follow-up screen included: client refused (4%), client dropped from HV prior to completing the screen (59%), and screen was not collected prior to the follow-up screen time-out date, which was 9 months after the baseline screen (37%).

Of the 113 clients screened at baseline, 25 (22%) screened positive on at least one risk domain. Fifteen clients (13%) screened positive for MD (scored 10 or higher on the EPDS), 6 clients (5%) screened positive for SU (scored 2 or higher on the UNCOPE), and 12 clients (11%) screened positive for IPV (scored 20 or higher on the RAT or responded “yes” to either question on physical or sexual abuse). Rates of positive screens at follow-up were similar.

3.2. Fidelity to core HELP interventions: connect and support phases

Fidelity to core HELP interventions in the Connect and Support phases was examined separately for clients screening positive and negative, as well as for clients who were treatment-naïve and treatment-engaged. Due to very low numbers within each group, formal significance tests for group differences were not conducted, and results are presented descriptively. For all comparisons, the positive screen group is defined as clients who screened positive on at least one risk domain at baseline and the negative screen group is defined as clients who screened negative on all three risk domains at baseline. The treatment-engaged group is defined as clients who were already engaged in treatment at the

time of the baseline screen (as indicated by their home visitor on the checklist). The treatment-naïve group is defined as clients who were not already engaged in treatment at the baseline screen.

Table 1 compares positive and negative screening clients on each item in the Connect and Support phases. Overall, a greater proportion of clients screening positive received HELP interventions in the Connect and Support phases compared to those screening negative. However, even among positive screening clients, rates of HELP interventions were substantially lower than expected, with only 44% of positive screening clients receiving any MI intervention, only 44% receiving a referral, and only 32% receiving any CM intervention. Notably, only 35% of positive screening clients received the signature MI intervention, “assessed and discussed client's readiness for change.”

Table 2 further breaks down the positive and negative screen groups into treatment-engaged and treatment-naïve clients. The positive screening treatment-naïve clients represent the core HELP target group. Among positive screening clients, little difference in receipt of MI interventions was found between treatment-naïve and treatment-engaged clients, with low rates of receipt overall. Only three clients in the primary HELP target group received a referral. While the very low numbers make interpretation difficult, these findings do suggest the possibility of unmet need, with the majority of clients who likely needed a referral (those who screened positive but were not in treatment) not receiving one. Unfortunately, the reasons that referrals were not provided for these clients were not reliably captured in the data. Among positive screening clients, very few clients in both the treatment-naïve and treatment-engaged groups received any CM intervention. As expected, Support interventions were received only by those in the treatment-engaged group, and notably 100% of the positive screening treatment-engaged clients received at least one intervention in the Support phase.

Among clients screening negative, those who were already in treatment received more of every single intervention compared to those who were not in treatment. Moreover, negative screening clients who were treatment-engaged had higher rates of every MI and CM intervention than positive screening clients in both treatment groups. Nearly 70% of negative screening treatment-engaged clients received a referral compared to only 16% of negative-screening treatment-naïve clients. Similar to findings for positive-screening clients, 92% of negative-screening clients received any Support intervention.

Two sources of data were examined to provide potential explanations for the low level of implementation of core HELP interventions: (1) a quantitative assessment of home visitors' and supervisors' attitudes towards integrating evidence-based practices into their routine delivery of HV services; and (2) qualitative interviews with home visitors regarding their perception of facilitators and barriers to HELP implementation.

3.3. Attitudes towards evidence-based practice

Home visitors and supervisors completed the EBPAS prior to the initial HELP training (in 2013, pre-HELP; N = 18 home visitors and 4 supervisors) and again at the conclusion of the HELP enrollment period (in 2015, post-HELP; N = 17 home visitors and 4 supervisors).

Table 3 depicts pre-HELP and post-HELP EBPAS scores compared to national provider norms. Pre-HELP, scores on all subscales and the total score corresponded to the anchor “To a Great Extent,” on the response scale, and exceeded national norms, suggesting highly positive attitudes to introducing evidence-based interventions into routine HV services prior to the initiation of HELP. Post-HELP scores also exceeded national norms for all but two subscales (Openness and Divergence; note that for Divergence, lower scores represent more positive attitudes), however all scale scores and the total score declined from the pre-HELP averages. Independent samples *t*-tests comparing mean scores at pre- and post-HELP revealed no significant differences.

3.4. Home visitor perspectives on factors impacting HELP implementation

Five broad themes that emerged from the home visitor qualitative interviews were relevant to the research question regarding factors impacting the successful implementation of HELP. These themes include: client disclosure of risk; barriers to treatment access; systems integration; home visitor role perception; and integration of HELP into the broader HV curriculum. Key points that emerged within each theme, as well as exemplar statements from the home visitor interviews, are presented in Table 4. Implications for understanding HELP implementation are described in the Discussion.

4. Discussion

This study presents findings from a mixed-methods feasibility evaluation of HELP, a screen-and-refer approach to identifying and addressing MD, SU, and IPV within HV. Findings revealed lower than expected rates of positive screens and overall low levels of implementation of the core HELP MI and CM interventions. Potential facilitators and barriers to HELP implementation were examined and are discussed below.

4.1. Screening and fidelity to core HELP interventions

The low rate of positive screens was surprising given current national data on HV clients that report rates of depression symptoms around 30% at HV entry, rates of binge drinking and drug use prior to pregnancy at 26% and 13% respectively, and rates of IPV in the prior year of 17% (Michalopoulos et al., 2015). Overall implementation of HELP core interventions was low, with signature MI and CM interventions delivered to less than half the sample. Interestingly, clients who screened negative and were already engaged in treatment received the most MI and CM interventions and the most referrals. Providing MI and CM interventions to clients who did not screen positive is not inconsistent with the HELP protocol, as home visitors were trained to utilize the HELP interventions with any clients who demonstrated significant symptoms, regardless of whether they screened positive. Clients already in treatment had previously revealed their psychosocial risks to professionals, and were thus likely easier for home visitors to engage in conversation about sensitive topics without requiring more intensive interventions.

In general, home visitors reported higher rates of implementation of the general supportive interventions, such as checking in with clients about their experiences with services, and lower rates of the more clinically complex MI and CM interventions. Providing support and

encouragement around treatment attendance is consistent with home visitors' perceptions of their role as supportive and strength-based, as described in the qualitative interviews and in prior research (Schaefer, 2016). Because MI and CM were not part of the HFA core home visitor training, the HELP training was likely the first exposure to these interventions for most home visitors and thus may have been insufficient to promote full integration into routine practice. Additionally, the HELP protocol provided home visitors with general strategies to apply as needed to clients, but did not prescribe a particular number or sequence of HELP interventions. Whereas this structure was selected to allow home visitors maximum flexibility in tailoring the intervention to client needs, a more highly scripted protocol may be a better fit for addressing complex behavioral health concerns by a non-clinical workforce.

4.2. HELP implementation facilitators and barriers

One of the primary goals of the current pilot study was to gain understanding of facilitators and barriers impacting HELP implementation to guide further development and refinement of the protocol. We examined home visitors' and supervisors attitudes towards evidence-based practices as well as the following themes that emerged from the home visitor qualitative interviews as potential impacts on HELP implementation: client disclosure of risk, barriers to treatment access, system integration, home visitor role perception, and integration of HELP into the broader HV curriculum. Home visitors and supervisors generally reported positive attitudes towards evidence-based practices, falling above national provider norms both prior to and following HELP implementation, suggesting that home visitor attitudes were not a barrier to successful HELP implementation. On the contrary, home visitors maintained a relatively high level of buy-in, as suggested by their EBPAS scores, despite experiencing the many barriers to successful HELP implementation described in the qualitative interviews. Of note, attitudes towards evidence-based practice did decline somewhat following HELP implementation, possibly due to home visitors and supervisors realizing the challenges associated with systematic implementation of an evidence-based practice.

The qualitative interviews revealed several client-level and system-level factors that may have impacted the successful implementation of HELP, as well as factors related to home visitor role perception and integration of HELP into HV. Client reluctance to disclose risk due to perceived stigma and fears associated with child protective service involvement and loss of child custody is a possible explanation for the lower than expected rate of positive screens. Stigma and fear associated with mental health, SU and IPV and resulting reluctance to seek help from professionals have been documented in prior studies with this population (Fugate, Landis, Riordan, Naureckas, & Engel, 2005; Gerbert et al., 1997; Grekin et al., 2010; Rodriguez, Quiroga, & Bauer, 1996). Home visitors reported perceiving high levels of personal, logistic, and systemic barriers to accessing treatment among their clients. These findings are consistent with prior studies that have documented specific barriers to treatment access in similar populations including client reluctance to attend treatment, client denial of the problem, client prior negative experiences with treatment, lack of transportation and child care, long waiting lists, payment difficulties, and cultural or language barriers (Abrams, Dornig, & Curran, 2009; O'Mahen & Flynn, 2008; Rosen, Tolman, & Warner,

2004; Sherbourne, Dwight-Johnson, & Klap, 2001). Additionally, a lack of adequate coordination between the HV systems and treatment systems prevented successful linkages to treatment in many cases, according to home visitors' perceptions. Prior efforts at connecting clients from one system to services within another system, including a recent review of a large multi-state SBIRT demonstration program (Vendetti et al., 2017) and a statewide collaboration between child welfare and mental health (He, Lim, Lecklitner, Olson, & Traube, 2015), have demonstrated the importance of cross-system coordination and collaboration to achieve success. While the HELP protocol included guidelines for initiating collaborative relationships with local treatment providers, building intensive cross-system collaborations is generally beyond the scope of screen-and-refer models such as HELP.

Home visitor role perception was another significant theme that emerged and may have impacted HELP implementation. Home visitors perceived their role as supportive, caring, and, in particular, non-judgmental. Other studies have found that home visitors describe their role similarly, and have argued that these qualities are essential to earning the client's trust (Mills et al., 2012; Schaefer, 2016). Despite the supportive trusting relationship that they generally work to establish, home visitors expressed helplessness and frustration regarding the perceived limits of their ability to help clients with challenging behavioral health concerns. More research is needed on the best ways to establish trust and develop the home visitor-client relationship with families experiencing complex psychosocial risks. Improving home visitors' capacity to engage these complex families is of high priority and is critical to the successful implementation of HV enhancements such as HELP (Azzi-Lessing, 2013).

Home visitors expressed general satisfaction with the HELP protocol and success integrating it into the HV curriculum. However, the low level of implementation of core HELP interventions demonstrated by the quantitative fidelity data suggests that home visitors did not actually fully integrate HELP into their delivery of HV services. Despite expressing overall satisfaction with HELP, home visitors also noted an increased paperwork burden and difficulties knowing how to balance and prioritize HELP content with the required HV model curriculum within the time limits of a home visit. Prior surveys of home visitors have reported similar difficulties balancing strict adherence to the program curriculum with responding to client needs as they arise, especially those pertaining to behavioral health (Tandon et al., 2008). It has been suggested that in order to effectively address maternal psychosocial risk within HV, clear definitions and guidelines for home visitors and supervisors are needed and must be embedded into the broader HV implementation system (Duggan et al., 2007; McFarlane et al., 2016). Collaboration with HV national model developers in the next iteration of HELP will be critical to promoting its more effective implementation. Specifically, guidelines for integrating the HELP screening and intervention protocols into the model curriculum regarding when to implement, how much time it should take, and how to balance HELP content with curriculum content, particularly in complex cases that may require more time should be developed. Additionally, integrating HELP screening and fidelity monitoring into the HV model MIS would likely promote more streamlined HELP implementation and tracking.

4.3. Study limitations

This study has several significant limitations that must be considered when interpreting the findings. First, fidelity checklists were received on only about half of all documented visits for the HELP implementation sample. Based on the home visit logs documented in the state's HFA MIS, the vast majority of documented visits for which no checklist was submitted contained no discussion of the three risk domains. Thus, it is unlikely that the missing checklists represent visits in which a significant amount of HELP activity occurred. Second, fidelity data were provided by home visitor self-report only. Although we attempted to collect audio-recordings of home visits to allow for observer corroboration of home visitor report of fidelity, the vast majority of clients refused to consent to audio-recording. Third, the lower than anticipated number of positive screens led to very small numbers in analyzed subgroups, limiting our ability to draw conclusions from these data. Fourth, due to the small sample size and particularly the small number of positive-screening clients, we were not able to examine site differences in HELP implementation. Finally, qualitative interviews were conducted with home visitors only and thus the perspectives of other key stakeholders including clients, program and state-level administrators, and treatment providers are not represented and should be examined in future studies. Client perspectives on the nature of the client-home visitor relationship and how that relates to their comfort disclosing experiences with SU, MD, and IPV are especially important to examine, as prior studies have shown discrepancies between client and home visitor perspectives on components of an effective home visiting relationship (Riley, Brady, Goldberg, Jacobs, & Easterbrooks, 2008).

4.4. Implications and future directions

This study presents one attempt to develop and implement an enhanced screen-and-refer approach within a state HV system to improve risk identification and access to treatment for SU, MD, and IPV in pregnant and postpartum women. A notable strength of the study is its ecological validity. The HELP protocol was developed and tested within front-line HV programs, allowing for a more accurate assessment of implementation feasibility within the context of the complexities and challenges encountered in routine HV services.

Findings suggest several directions for future refinement and expansion of HELP. The HELP protocol developed in this study was targeted at a single level of the implementation context: home visitors as the primary agents of service delivery within HV. Thus, study resources were largely devoted to intervention development, training, and pilot evaluation at the home visitor level, leaving few resources available for instituting implementation supports at other levels, such as supervisor, agency, and system. Future versions of HELP should include provisions for systematically addressing multiple contextual levels, including regular coaching and reinforcing of specific MI and CM techniques, and structured supervision guidelines for supporting home visitors in HELP implementation (Damschroder et al., 2009; Powell et al., 2012). The importance of reflective supervision for early childhood professionals such as home visitors is being increasingly promoted for increasing competence and developing new skills, and is especially critical for supporting home visitor work with the highest-risk families, such as those targeted by HELP (Tomlin, Hines, & Sturm, 2016). Specific guidelines for reflective supervision to address SU, MH, and IPV

may promote more successful implementation of HELP and should be integrated into its next iteration. The HELP intervention featured MI and CM as the core evidence-based interventions for addressing maternal behavioral health risks due to their considerable track record of success with similar populations (Grote et al., 2004; Roman et al., 2014). However, it is possible that an alternative intervention approach may provide a better fit for the HV context; further research is needed to address this question. Additionally, findings suggest the need to consider alternative training models that provide more opportunity for role-play and skills practice, as well as ongoing coaching and feedback provided throughout implementation, all of which have been associated with the transfer of training into practice (Burke & Hutchins, 2007). Finally, expanding HELP to include enhanced coordination between the home visiting and treatment systems has potential to promote greater success in facilitating client referral to and engagement in treatment. A recently published framework for the successful implementation of SBIRT programs in primary medical and other community care settings includes many of these components and may have potential for adaptation to guide implementation of similar screen-and-refer efforts within HV (Del Boca, McRee, Vendetti, & Damon, 2017).

Despite the low implementation of core HELP interventions, findings of high buy-in from home visitors and supervisors combined with high satisfaction expressed in the qualitative interviews are encouraging that a screen-and-refer approach to addressing maternal psychosocial risk may be successfully implemented within HV, with the added implementation supports described above. The initial HELP protocol presented in this study represents a good start in developing this approach that can be built upon in future efforts, applying the lessons learned in this study. If successful, such an approach has the potential to improve the continuum of care for maternal and child health by bridging the gaps between the early childhood prevention and adult treatment systems. Since HELP began, the state has instituted a continuous quality improvement system for maternal and early childhood programs, which is focused on quality assurance and on aligning systems to promote more integrated and effective services for families. This type of infrastructure is being constructed within state HV systems across the country as part of the federal home visiting program (Mackrain, 2015). Thus, the stage is well-set for more effective integration of screen-and-refer approaches such as HELP within maternal and early childhood systems of care to bridge gaps across systems and improve access to needed treatment to address psychosocial risks.

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References

- Aarons G. Mental health provider attitudes toward adoption of evidence-based practice: The Evidence-Based Practice Attitude Scale (EBPAS). *Mental Health Services Research*. 2004; 6(2):61–74. [PubMed: 15224451]

- Aarons G, Glisson C, Hoagwood K, Kelleher K, Landsverk J, Cafri G. Psychometric properties and U.S. national norms of the Evidence-Based Practice Attitude Scale (EBPAS). *Psychological Assessment*. 2010; 22(2):356–365. <http://dx.doi.org/10.1037/a0019188>. [PubMed: 20528063]
- Aarons G, Palinkas L. Implementation of evidence-based practice in child welfare: Service provider perspectives. *Administration and Policy in Mental Health*. 2007; 34:411–419. [PubMed: 17410420]
- Aarons G, Sommerfeld D. Leadership, innovation climate, and attitudes toward evidence-based practice during a statewide implementation. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2012; 51(4):423–431. [PubMed: 22449648]
- Abrams L, Dornig K, Curran L. Barriers to service use for postpartum depression symptoms among low-income ethnic minority mothers in the United States. *Qualitative Health Research*. 2009; 19:535–551. [PubMed: 19299758]
- Administration for Children and Families Home visiting evidence of effectiveness. Retrieved July 15, 2017 from www.homvee.acf.hhs.gov
- Agerwala S, McCance-Katz E. Integrating Screening, Brief Intervention, and Referral to Treatment (SBIRT) into clinical practice settings: A brief review. *Journal of Psychoactive Drugs*. 2012; 44(4): 307–317. <http://dx.doi.org/10.1080/02791072.2012.720169>. [PubMed: 23210379]
- Akin B. Practitioner views on the core functions of coaching in the implementation of an evidence-based intervention in child welfare. *Children and Youth Services Review*. 2016; 68:159–168. <http://dx.doi.org/10.1016/j.childyouth.2016.07.010>.
- Aldridge A, Linford R, Bray J. Substance use outcomes of patients served by a large U.S. implementation of Screening, Brief Intervention and Referral to Treatment (SBIRT). *Addiction*. 2017; 112(Suppl. 2):43–53. <http://dx.doi.org/10.1111/add.13651>. [PubMed: 28074561]
- American College of Obstetricians and Gynecologists. Committee opinion: Opioid abuse, dependence, and addiction in pregnancy. *Obstetrics and Gynecology*. 2012; 119(5):1070–1076. [PubMed: 22525931]
- Ammerman R, Putnam F, Altaye M, Teeters A, Stevens J, Van Ginkel J. Treatment of depressed mothers in home visiting: Impact on psychological distress and social functioning. *Child Abuse and Neglect*. 2013; 37:544–554. <http://dx.doi.org/10.1016/j.chiabu.2013.03.003>. [PubMed: 23623623]
- Ammerman R, Putnam F, Stevens J, Holleb L, Novak A, Van Ginkel J. In-home cognitive-behavior therapy for depression: An adapted treatment for first-time mothers in home visitation. *Best Practices in Mental Health*. 2005; 1(1):1–14.
- Azzi-Lessing L. Serving highly vulnerable families in home visitation programs. *Infant Mental Health Journal*. 2013; 34(5):376–390. <http://dx.doi.org/10.1002/imjh.21399>.
- Babor T, McRee B, Kassebaum P, Grimaldi P, Ahmed K, Bray J. Screening, Brief Intervention, and Referral to Treatment (SBIRT): Toward a public health approach to the management of substance abuse. *Substance Abuse*. 2007; 28:7–30. http://dx.doi.org/10.1300/J465v28n03_03. [PubMed: 18077300]
- Barwick M, Bennett L, Johnson S, McGowan J, Moore J. Training health and mental health professionals in motivational interviewing: A systematic review. *Children and Youth Services Review*. 2012; 34(9):1786–1795. <http://dx.doi.org/10.1016/j.childyouth.2012.04.012>.
- Bowen D, Kreuter M, Spring B, Cofta-Woerpel L, Linnan L, Weiner D, Fernandez M. How we design feasibility studies. *American Journal of Preventive Medicine*. 2009; 36(5):452–457. [PubMed: 19362699]
- Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006; 3:77–101.
- Burke B, Arkowitz H, Menchola M. The efficacy of motivational interviewing: A meta-analysis of controlled clinical trials. *Journal of Consulting and Clinical Psychology*. 2003; 71(5):843–861. <http://dx.doi.org/10.1037/0022-006X.71.5.843>. [PubMed: 14516234]
- Burke L, Hutchins H. Training transfer: An integrative literature review. *Human Resources Development*. 2007; 6(3):263–296.
- Burnard P. A method of analyzing interview transcripts in qualitative research. *Nurse Education Today*. 1991; 11:461–466. [PubMed: 1775125]

- Campbell T, Hoffman N, Hoffmann T, Gillaspay J. UNCOPE: A screen for substance dependence among state prison inmates. *The Prison Journal*. 2005; 85(1):7–17.
- Center for Substance Abuse Treatment. *Comprehensive Case Management for Substance Abuse Treatment*. Rockville, MD: Center for Substance Abuse Treatment; 2015.
- Chang G, McNamara T, Orav E, Koby D, Lavigne A, Ludman B, Wilkins-Haug L. Brief intervention for prenatal alcohol use: A randomized trial. *Obstetrics and Gynecology*. 2005; 105:991–998. <http://dx.doi.org/10.1097/01.AOG.0000157109.05453.84>. [PubMed: 15863535]
- Connelly C, Hazen A, Baker-Ericzen M, Landsverk J, McCue Horwitz S. Is screening for depression in the perinatal period enough? The co-occurrence of depression, substance abuse, and intimate partner violence in culturally diverse pregnant women. *Journal of Women's Health*. 2013; 22(10): 844–852. <http://dx.doi.org/10.1089/jwh.2012.4121>.
- Cox J, Holden J, Sagovsky R. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*. 1987; 150:782–786. [PubMed: 3651732]
- Cucciare M, Weingardt K, Villafranca S. Using blended learning to implement evidence-based psychotherapies. *Clinical Psychology: Science and Practice*. 2008; 15:299–307.
- Damashek A, Doughty D, Ware L, Silovsky J. Predictors of client engagement and attrition in home-based child maltreatment prevention services. *Child Maltreatment*. 2011; 16(1):9–20. <http://dx.doi.org/10.1177/1077559510388507>. [PubMed: 21148600]
- Damschroder L, Aron D, Keith R, Kirsh S, Alexander J, Lowery J. Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*. 2009; 4:50–65. [PubMed: 19664226]
- Dauber S, Ferayorni F, Henderson C, Hogue A, Nugent J, Alcantara J. Substance use and depression in home visiting clients: Home visitor perspectives on addressing clients' needs. *Journal of Community Psychology*. 2017; 45:396–412. <http://dx.doi.org/10.1002/jcop.21855>. [PubMed: 28408768]
- Del Boca F, McRee B, Vendetti J, Damon D. The SBIRT program matrix: A conceptual framework for program implementation and evaluation. *Addiction*. 2017; 112(Suppl. 2):12–22. <http://dx.doi.org/10.1111/add.13656>. [PubMed: 28074572]
- Dodge K, Goodman W, Murphy R, O'Donnell K, Sato J, Guptill S. Implementation and randomized controlled trial evaluation of universal postnatal nurse home visiting. *American Journal of Public Health*. 2013; 104:S136–S143. <http://dx.doi.org/10.2105/AJPH.2013.301361>. [PubMed: 24354833]
- Duggan A, Caldera D, Rodriguez K, Burrell L, Rohde C, Crowne S. Impact of a statewide home visiting program to prevent child abuse. *Child Abuse and Neglect*. 2007; 31:801–827. <http://dx.doi.org/10.1016/j.chiabu.2006.06.011>. [PubMed: 17822764]
- Duggan A, Fuddy L, Burrell L, Higman S, McFarlane E, Windham A, Sia C. Randomized trial of a statewide home visiting program to prevent child abuse: Impact in reducing parental risk factors. *Child Abuse and Neglect*. 2004; 28:623–643. <http://dx.doi.org/10.1016/j.chiabu.2003.08.008>. [PubMed: 15193852]
- Eckenrode J, Ganzel B, Henderson C, Smith E, Olds D, et al. Preventing child abuse and neglect with a program of nurse home visitation: The limiting effects of domestic violence. *Journal of the American Medical Association*. 2000; 284:1385–1391. <http://dx.doi.org/10.1001/jama.284.11.1385>. [PubMed: 10989400]
- Eddy T, Kilburn E, Chang C, Bullock L, Sharps P. Research Team, D. O. V. E. Facilitators and barriers for implementing home visit interventions to address intimate partner violence: Town and Gown partnerships. *Nursing Clinics of North America*. 2008; 43(3):419–435. <http://dx.doi.org/10.1016/j.cnur.2008.04.005>. [PubMed: 18674673]
- Fugate M, Landis L, Riordan K, Naureckas S, Engel B. Barriers to domestic violence help seeking: Implications for intervention. *Violence Against Women*. 2005; 11(3):290–310. <http://dx.doi.org/10.1177/1077801204271959>. [PubMed: 16043551]
- Gerbert B, Johnston K, Caspers N, Bleecker T, Woods A, Rosenbaum A. Experiences of battered women in health care settings: A qualitative study. *Women and Health*. 1997; 24(3):1–17. http://dx.doi.org/10.1300/J013v24n03_01.

- Grekin E, Svikis D, Lam P, Connors V, LeBreton J, Streiner D, Ondersma S. Drug use during pregnancy: Validating the Drug Abuse Screening Test against physiological measures. *Psychology of Addictive Behaviors*. 2010; 24(4):719–723. <http://dx.doi.org/10.1037/a0021741>. [PubMed: 21198230]
- Grote N, Bledsoe S, Swartz H, Frank E. Feasibility of providing culturally relevant, brief interpersonal psychotherapy for antenatal depression in an obstetrics clinic: A pilot study. *Research on Social Work Practice*. 2004; 14(6):397–407. <http://dx.doi.org/10.1177/1049731504265853>.
- He A, Lim C, Lecklitner G, Olson A, Traube D. Interagency collaboration and identifying mental health needs in child welfare: Findings from Los Angeles County. *Children and Youth Services Review*. 2015; 53:39–43. <http://dx.doi.org/10.1016/j.childyouth.2015.03.013>.
- Health Resources and Services Administration. The maternal infant and early childhood home visiting program: Partnering with parents to help children succeed. Washington, DC: HRSA; 2016.
- Hettema J, Steele J, Miller W. Motivational interviewing. *Annual Review of Clinical Psychology*. 2005; 1:91–111. <http://dx.doi.org/10.1146/annurev.clinpsy.1.102803.143833>.
- Hingson R, Compton W. Screening and brief intervention and referral to treatment for drug use in primary care: Back to the drawing board. *JAMA*. 2014; 312(5):488–489. [PubMed: 25096687]
- Hoffman N, Hunt D, Rhodes W, Riley K. UNCOPE: A brief screen for use with arrestees. *Journal of Drug Issues*. 2003; 33(1):29–44.
- Home Visiting Research Network. National home visiting research agenda. 2013. Retrieved from http://hvrn.org/uploads/3/2/1/0/3210553/home_visiting_research_agenda_2013_10_20_final.pdf
- HRSA Maternal and Child Health. Federal home visiting program: Performance indicators and systems outcome measures-summary. Washington, DC: HRSA; 2016.
- Hsieh H, Shannon S. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005; 15(9):1277–1288. <http://dx.doi.org/10.1177/1049732305276687>. [PubMed: 16204405]
- Ingoldsby E, Baca P, McClatchey M, Luckey D, Ramsey M, Loch J, Olds D. Quasi-experimental pilot study of intervention to increase participant retention and completed home visits in the nurse-family partnership. *Prevention Science*. 2013; 14:525–534. <http://dx.doi.org/10.1007/s11121-013-0410-x>. [PubMed: 23832657]
- Jack S, Jamieson E, Wathen C, MacMillan H. The feasibility of screening for intimate partner violence during postpartum home visits. *Canadian Journal of Nursing Research*. 2008; 40(2):150–170. [PubMed: 18714904]
- Jones-Harden B, Denmark N, Saul D. Understanding the needs of staff in head start programs: The characteristics, perceptions, and experiences of home visitors. *Children and Youth Services Review*. 2010; 32(3):371–379. <http://dx.doi.org/10.1016/j.childyouth.2009.10.008>.
- Kerns S, Pullmann M, Putnam B, Buher A, Holland S, Berliner L, Trupin E. Child welfare and mental health: Facilitators of and barriers to connecting children and youths in out-of-home care with effective mental health treatment. *Children and Youth Services Review*. 2014; 46:315–324. <http://dx.doi.org/10.1016/j.childyouth.2014.09.013>.
- Kuo C, Chatav Schonbrun Y, Zlotnick C, Bates N, Todorova R, Kao J, Johnson J. A qualitative study of treatment needs among pregnant and postpartum women with substance use and depression. *Substance Use and Misuse*. 2013; 48(14):1498–1508. <http://dx.doi.org/10.3109/10826084.2013.800116>. [PubMed: 23819737]
- LeCroy C, Whitaker K. Improving the quality of home visitation: An exploratory study of difficult situations. *Child Abuse and Neglect*. 2005; 29:1003–1013. <http://dx.doi.org/10.1016/j.chiabu.2005.04.003>. [PubMed: 16159664]
- Lee King P, Duan L, Amaro H. Clinical needs of in-treatment pregnant women with co-occurring disorders: Implications for primary care. *Maternal and Child Health Journal*. 2015; 19:180–187. <http://dx.doi.org/10.1007/s10995-014-1508-x>. [PubMed: 24770992]
- Leis J, Mendelson T, Perry D, Tandon S. Perceptions of mental health services among low-income perinatal African-American women. *Women's Health Issues*. 2011; 21(4):314–319. [PubMed: 21712144]
- Lowell D, Carter A, Godoy L, Paulicin B, Briggs-Gowan M. A randomized controlled trial of Child FIRST: A comprehensive home-based intervention translating research into early childhood practice. *Child Development*. 2011; 82(1):193–208. [PubMed: 21291437]

- Lundahl B, Burke B. The effectiveness and applicability of motivational interviewing: A practice-friendly review of four meta-analyses. *Journal of Clinical Psychology*. 2009; 65(11):1232–1245. <http://dx.doi.org/10.1002/jclp.20638>. [PubMed: 19739205]
- Mackrain, M. Home Visiting Collaborative Improvement and Innovation Network (HV CoIIN): Welcome packet, September 2015. Washington, DC: U.S. Department of Health and Human Services; 2015.
- McFarlane E, Burrell L, Duggan A, Tandon D. Outcomes of a randomized trial of a cognitive behavioral enhancement to address maternal distress in home visited mothers. *Maternal and Child Health Journal*. 2016; 21(3):475–484. <http://dx.doi.org/10.1007/s10995-016-2125-7>.
- Metz A, Bartley L. Active implementation frameworks for program success: How to use implementation science to improve outcomes for children. *Zero to Three*. 2012; 32(4):11–18.
- Metz A, Bartley L, Ball H, Wilson D, Naom S, Redmond P. Active implementation frameworks for successful service delivery: Catawba County Child Wellbeing Project. *Research on Social Work Practice*. 2015; 25(4):415–422. <http://dx.doi.org/10.1177/1049731514543667>.
- Metz, A., Naom, S., Halle, T., Bartley, L. An integrated stage-based framework for implementation of early childhood programs and systems (OPRE research brief OPRE 2015-48). Washington DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services; 2015.
- Michalopoulos, C., Lee, H., Duggan, A., Lundquist, E., Tso, A., Crowne, S., Knox, V. The mother and infant home visiting program evaluation: Early findings on the maternal, infant, and early childhood home visiting program. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services; 2015.
- Miller, W., Rollnick, S. *Motivational interviewing: Helping people change*. New York, NY: Guilford; 2013.
- Mills A, Schmied V, Taylor C, Dahlen H, Schuiringa W, Hudson M. Connecting, learning, leaving: Supporting young parents in the community. *Health & Social Care in the Community*. 2012; 20(6): 663–672. <http://dx.doi.org/10.1111/j.1365-2524.2012.01084.x>. [PubMed: 22978634]
- Minkovitz C, O'Neill K, Duggan A. Home visiting: A service strategy to reduce poverty and mitigate its consequences. *Academic Pediatrics*. 2016; 16(3S):S105–S111. [PubMed: 27044687]
- Morgenstern J, Blanchard K, McCrady B, McVeigh K, Morgan T, Pandina R. Effectiveness of intensive case management for substance-dependent women receiving temporary assistance for needy families. *American Journal of Public Health*. 2006; 96(11):2016–2023. [PubMed: 17018819]
- Moyer V. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. preventive services task force recommendation statement. *Annals of Internal Medicine*. 2013a; 159(3):210–218. [PubMed: 23698791]
- Moyer V. Screening for intimate partner violence and abuse of elderly and vulnerable adults: U.S. Preventive Services Task Force recommendation statement. *Annals of Internal Medicine*. 2013b; 158(6):478–486. [PubMed: 23338828]
- National Scientific Council on the Developing Child. Excessive stress disrupts the architecture of the developing brain: Working paper 3. 2014. (Updated Edition). MA: Retrieved from Boston. <http://www.developingchild.harvard.edu>
- Nock M, Kazdin A. Randomized controlled trial of a brief intervention for increasing participation in parent management training. *Journal of Consulting and Clinical Psychology*. 2005; 73(5):872–879. <http://dx.doi.org/10.1037/0022-006X.73.5.872>. [PubMed: 16287387]
- O'Connor M, Whaley S. Brief intervention for alcohol use by pregnant women. *American Journal of Public Health*. 2007; 97(252–258) <http://dx.doi.org/10.2105/AJPH.2005.077222>.
- O'Mahen H, Flynn H. Preferences and perceived barriers to treatment for depression during the perinatal period. *Journal of Women's Health*. 2008; 17(8):1301–1309.
- Palinkas L, Schoenwald S, Hoagwood K, Landsverk J, Chorpita B, Weisz J. Research Network on Youth Mental Health. An ethnographic study of implementation of evidence-based treatments in child mental health: First steps. *Psychiatric Services*. 2008; 59(7):738–746. [PubMed: 18586990]

- Paulsell D, Del Grosso P, Supplee L. Supporting replication and scale-up of evidence-based home visiting programs: Assessing the implementation knowledge base. *American Journal of Public Health*. 2014; 104(9):1624–1632. <http://dx.doi.org/10.2105/AJPH.2014.301962>. [PubMed: 25033117]
- Powell B, McMillen C, Proctor E, Carpenter C, Griffey R, Bunker A, York J. A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review*. 2012; 69:123–157. [PubMed: 22203646]
- Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunker A, Hensley M. Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health*. 2011; 38:65–76. [PubMed: 20957426]
- Riley S, Brady A, Goldberg J, Jacobs F, Easterbrooks M. Once the door closes: Understanding the parent-provider relationship. *Children and Youth Services Review*. 2008; 30:597–612. <http://dx.doi.org/10.1016/j.childyouth.2007.11.011>.
- Rodriguez M, Quiroga S, Bauer H. Breaking the silence: Battered women's perspectives on medical care. *Archives of Family Medicine*. 1996; 5:153–158. [PubMed: 8620256]
- Roman L, Raffo J, Zhu L, Meghea C. A statewide Medicaid enhanced prenatal care program: Impact on birth outcomes. *JAMA Pediatrics*. 2014; 168(3):220–227. <http://dx.doi.org/10.1001/jamapediatrics.2013.4347>. [PubMed: 24394980]
- Rosen D, Tolman R, Warner L. Low-income women's use of substance abuse and mental health services. *Journal of Health Care for the Poor and Underserved*. 2004; 15(2):206–219. [PubMed: 15253374]
- Rowan P, Duckett S, Wang J. State mandates regarding postpartum depression. *Psychiatric Services*. 2015; 66(3):324–328. <http://dx.doi.org/10.1176/appi.ps.201300505>. [PubMed: 25727124]
- Ryan J, Victor B, Moore A, Mowbray O, Perron B. Recovery coaches and the stability of reunification for substance abusing families in child welfare. *Children and Youth Services Review*. 2016; 70:357–363.
- Schaefer J. Personal characteristics of effective home visitors. *Journal of Social Service Research*. 2016; 42(1):84–95. <http://dx.doi.org/10.1080/01488376.2015.1078868>.
- Schaper A, Rooney B, Nay N, Silva P. Use of the Edinburgh Postnatal Depression Scale to identify post-partum depression in a clinical setting. *Journal of Reproductive Medicine*. 1994; 39:620–624. [PubMed: 7996526]
- Segre L, Brock R, O'Hara M. Depression treatment for impoverished mothers by point-of-care providers: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*. 2015; 83(2):314–324. <http://dx.doi.org/10.1037/a0038495>. [PubMed: 25486371]
- Segre L, O'Hara M, Brock R, Taylor D. Depression screening of perinatal women by the Des Moines Healthy Start project: Program description and evaluation. *Psychiatric Services*. 2012; 63(3):250–255. <http://dx.doi.org/10.1176/appi.ps.201100247>. [PubMed: 22388530]
- Sherbourne C, Dwight-Johnson M, Klap R. Psychological distress, unmet need, and barriers to mental health care for women. *Women's Health Issues*. 2001; 11(3):231–243. [PubMed: 11336863]
- Silovsky J, Bard D, Chaffin M, Hecht D, Burris L, Owora A, Lutzker J. Prevention of child maltreatment in high-risk rural families: A randomized clinical trial with child welfare outcomes. *Children and Youth Services Review*. 2011; 33:1435–1444.
- Slaughter J, Issel L, Kane D, Stayner L. Measuring dosage: A key factor when assessing the relationship between prenatal case management and birth outcomes. *Maternal and Child Health Journal*. 2013; 17(8):1414–1423. [PubMed: 23010864]
- Smith P, Earp J, DeVellis R. Measuring battering: Development of the Women's Experience with Battering (WEB) scale. *Women's Health: Research on Gender, Behavior, and Policy*. 1995; 1(4): 273–288.
- Smith P, Thornton G, DeVellis R, Earp J, Coker A. A population-based study of the prevalence and distinctness of battering, physical assault, and sexual assault in intimate relationships. *Violence Against Women*. 2002; 8(10):1208–1232.
- Sterrett E, Jones D, Zalot A, Shook S. A pilot study of a brief motivational intervention to enhance parental engagement: A brief report. *Journal of Child and Family Studies*. 2010; 19(6):697–701. <http://dx.doi.org/10.1007/s10826-010-9356-9>.

- Substance Abuse and Mental Health Services Administration. Systems-level implementation of screening, brief intervention, and referral to treatment. Rockville, MD: SAMHSA; 2013.
- Tandon S, Leis J, Mendelson T, Perry D, Kemp K. Six-month outcomes from a randomized controlled trial to prevent perinatal depression in low-income home visiting clients. *Maternal and Child Health Journal*. 2014; 18:873–881. <http://dx.doi.org/10.1007/S10995-013-1313-y>. [PubMed: 23793487]
- Tandon S, Mercer C, Saylor E, Duggan A. Paraprofessional home visitors' perspectives on addressing poor mental health, substance abuse, and domestic violence: A qualitative study. *Early Childhood Research Quarterly*. 2008; 23:419–428. <http://dx.doi.org/10.1016/j.ecresq.2008.02.002>.
- Tandon S, Parillo K, Jenkins M, Duggan A. Formative evaluation of home visitors' role in addressing poor mental health, domestic violence, and substance abuse among low-income pregnant and parenting women. *Maternal and Child Health Journal*. 2005; 9(3):273–283. <http://dx.doi.org/10.1007/S10995-005-0012-8>. [PubMed: 16240078]
- Terplan M, McNamara E, Chisolm M. Pregnant and non-pregnant women with substance use disorders: The gap between treatment need and receipt. *Journal of Addictive Diseases*. 2012; 31(4):342–349. <http://dx.doi.org/10.1080/10550887.2012.735566>. [PubMed: 23244553]
- Thomas D. A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*. 2006; 27(2):237–246. <http://dx.doi.org/10.1177/1098214005283748>.
- Tomlin A, Hines E, Sturm L. Reflection in home visiting: The what, why, and a beginning step toward how. *Infant Mental Health Journal*. 2016; 37(6):617–627. <http://dx.doi.org/10.1002/imhj.21610>. [PubMed: 27870193]
- Tully C, Watson C, Abrams A. Postnatal depression: Training health visitors to use the EPDS. *Community Practitioner*. 1998; 71:213–215.
- University of Maryland Baltimore County. Home visitor training and certificate program. 2016. Retrieved July 15, 2017 from www.homevisitingtraining.umbc.edu
- Vanderburg S, Wright L, Boston S, Zimmerman G. Maternal child home visiting program improves nursing practice for screening of woman abuse. *Public Health Nursing*. 2010; 27(4):347–352. <http://dx.doi.org/10.1111/j.1525-1446.2010.00865x>. [PubMed: 20626835]
- Vendetti J, Gmyrek A, Damon D, Singh M, McRee B, Del Boca F. Screening, brief intervention, and referral to treatment (SBIRT): Implementation barriers, facilitators and model migration. *Addiction*. 2017; 112(Suppl. 2):23–33. <http://dx.doi.org/10.1111/add.13652>. [PubMed: 28074571]
- Yonkers K, Smith M, Lin H, Howell H, Shao L, Rosenheck R. Depression screening of perinatal women: An evaluation of the Healthy Start Depression Initiative. *Psychiatric Services*. 2009; 60:322–328. [PubMed: 19252044]

Fig 1.
 HELP Implementation Framework based on the Active Implementation Frameworks model.
 Note. The current study did not reach the Full Implementation phase.

Table 1

Comparing implementation of Connect and Support activities for clients with positive and negative screens.

	Positive screens N = 25	Negative screens N = 88
Connect:		
MI activity		
Any MI activity	11 (44%)	19 (22%)
Assessed/discussed readiness for change	9 (35%)	17 (19%)
Encouraged client to seek help in the form of services	8 (32%)	18 (21%)
Discussed available service options with client	10 (40%)	15 (17%)
Used change ruler to assess motivation for engaging in services	3 (12%)	8 (9%)
Discussed barriers to engaging in services with client	7 (28%)	14 (16%)
Discussed what to expect in treatment/helped correct misconceptions	5 (20%)	11 (13%)
Referral (provided client with contact information for services)	11 (44%)	21 (24%)
CM Activity		
Any CM activity	8 (32%)	11 (13%)
Assisted client in making initial call to services	3 (12%)	5 (6%)
Helped client troubleshoot barriers to attending initial appointment	5 (20%)	8 (9%)
Followed up to make sure client attended initial appointment	7 (28%)	7 (8%)
Support		
Any Support activity	13 (52%)	18 (21%)
Encouraged client to continue attending services	11 (44%)	18 (21%)
Helped client troubleshoot barriers to continuing services	6 (24%)	11 (13%)
Helped connect client to local self-help groups or other support services	4 (16%)	8 (9%)
Checked in with client regarding their experiences at services	13 (52%)	17 (19%)
Helped re-connect client to services if dropped out	2 (8%)	5 (6%)

Table 2

Comparing implementation of Connect and Support activities for clients with positive and negative screens by treatment status (treatment-naïve vs. treatment-engaged).

	Positive screens N = 25		Negative screens N = 88	
	Treatment-naïve N = 12	Treatment-engaged N = 13	Treatment-naïve N = 75	Treatment-engaged N = 13
Connect:				
MI activity				
Any MI activity	5 (42%)	6 (46%)	11 (15%)	8 (62%)
Assessed/discussed readiness for change	5 (42%)	4 (31%)	10 (13%)	7 (54%)
Encouraged client to seek help in the form of services	5 (42%)	3 (23%)	10 (13%)	8 (62%)
Discussed available service options with client	5 (42%)	5 (39%)	9 (12%)	6 (46%)
Used change ruler to assess motivation for engaging in services	2 (17%)	1 (8%)	4 (5%)	4 (31%)
Discussed barriers to engaging in services with client	3 (25%)	4 (31%)	7 (9%)	7 (54%)
Discussed what to expect in treatment/helped correct misconceptions	2 (17%)	3 (23%)	6 (8%)	5 (39%)
Referral (provided client with contact information for services)	3 (25%)	8 (62%)	12 (16%)	9 (69%)
CM Activity				
Any CM activity	3 (25%)	5 (39%)	5 (7%)	6 (46%)
Assisted client in making initial call to services	2 (17%)	1 (8%)	2 (3%)	3 (23%)
Helped client troubleshoot barriers to attending initial appointment	2 (17%)	3 (23%)	4 (5%)	4 (31%)
Followed up to make sure client attended initial appointment	3 (25%)	4 (31%)	1 (1%)	6 (46%)
Support:				
Any Support activity	0	13 (100%)	6 (8%)	12 (92%)
Encouraged client to continue attending services	0	11 (85%)	6 (8%)	12 (92%)
Helped client troubleshoot barriers to continuing services	0	6 (46%)	3 (4%)	8 (62%)
Helped connect client to local self-help groups or other support services	0	4 (31%)	3 (4%)	5 (39%)
Checked in with client regarding their experiences at services	0	13 (100%)	5 (7%)	12 (92%)
Helped re-connect client to services if dropped out	0	2 (15%)	1 (1%)	4 (31%)

Table 3

Home visitor and supervisor scores on the EBPAS pre-HELP and post-HELP compared to national provider norms.

	Pre-HELP N = 22	Post-HELP N =21	National provider norms
	Mean (SD)	Mean (SD)	Mean (SD)
Appeal	3.31 (0.66)	3.06 (0.88)	2.91 (0.68)
Openness	3.03 (0.70)	2.68 (0.59)	2.76 (0.75)
Requirement	3.42 (0.58)	3.17 (0.97)	2.41 (0.99)
Divergence	1.16 (0.56)	2.50 (1.45)	1.25 (0.70)
Total Score	3.13 (0.50)	2.85 (0.48)	2.33 (0.45)

Note. Higher scores indicate more positive attitudes towards evidence-based practice for the total score and all subscales except for Divergence.

Table 4

Home visitor perspectives on factors implementing HELP implementation: Key themes from qualitative interviews.

Theme	Key points	Exemplar statements
Client disclosure of risk	<ul style="list-style-type: none"> Client suspicion and fear lead to dishonest responding to screen questions. Importance of establishing trusting relationship prior to screening. Screening was helpful in opening up the conversation about risk with clients. Screening increased home visitor awareness and understanding of client risk. 	<p><i>"If you don't have a rapport with your clients then they are more likely to not open up."</i></p> <p><i>"From knowing her history, I know she didn't answer the questions like what they probably should have been...she should have scored higher on certain things."</i></p> <p><i>"For me, it opened doors...it was just kind of an excuse to talk about these things."</i></p>
Barriers to treatment	<ul style="list-style-type: none"> Long waiting lists Insufficient treatment capacity logistical barriers (transportation, child care, lack of insurance) Client resistance, denial, failure to follow through, prior negative experiences. Cultural/familial influences in opposition to treatment. Client competing priorities 	<p><i>"Sometimes you have to wait. But sometimes people can't wait so they give up."</i></p> <p><i>"She wants to get better, she wants the help, she knows she needs it, but now I'm homeless with my two kids so I don't have time to focus on that now, I have to focus on where I'm going to go, I need transportation, I have to find a job."</i></p>
Systems integration	<ul style="list-style-type: none"> Need for increased collaboration between HV programs and treatment providers. Treatment providers did not return calls, and did not understand barriers facing clients. In many cases, home visitors were able to work cooperatively with treatment providers and clients had positive experiences in treatment. 	<p><i>"I feel they don't know their community enough, they don't know their clients."</i></p> <p><i>"She is very positive when she speaks about [treatment], like she knows it's been helping her."</i></p>
Home visitor role perception	<ul style="list-style-type: none"> Home visitor as supportive, caring, non-judgmental. Importance of developing bond with clients. HV has family focus and includes mother's needs in addition to baby's. Home visitors felt helpless and limited in their ability to help clients with psychosocial risks, but did see this as part of their job. 	<p><i>"You can trust me, I'm not here to make you do things. I'm going to tell you the risks, but I'm not going to scold you for not doing something you don't want to do."</i></p> <p><i>"Some people feel like our visits are just about the baby, but it's about mom too."</i></p> <p><i>"They feel comfortable with me but I'm not their therapist...I can listen all day long and I can make suggestions all day long, but I'm not licensed."</i></p>
Integration of HELP into HV curriculum	<ul style="list-style-type: none"> HELP was easy to incorporate into the HV curriculum and fit well with HV goals. Challenges included completing HELP plus the required HV curriculum elements in the allotted time and paperwork burden. 	<p><i>"Sometimes it's a little time consuming but a day that I know I'm doing [HELP], I try not to do as much. Or I bring something to the home that's really easy and simple."</i></p> <p><i>"I'll always use [HELP]. I will. I think it's very helpful."</i></p>