Providing Home Visiting to High-Risk Pregnant and Postpartum Families: The Development and Evaluation of the MOMobile® Program

Barbara Hadley
Maternity Care Coalition, Philadelphia, Pennsylvania

Kara E. Rudolph
Johns Hopkins Bloomberg School of Public Health

Marjie Mogul
Maternity Care Coalition, Philadelphia, Pennsylvania

Deborah F. Perry
Georgetown University Center for Child and Human Development

ABSTRACT:

Maternal, Infant, and Early Childhood Home Visiting legislation permits states to fund "promising practices"—with the understanding that these models will have a rigorous evaluation component. This article describes an innovative, low cost paraprofessional home visiting model developed in Pennsylvania by the Maternity Care Coalition. In collaboration with academic partners, the program examined several important outcome measures: Clients experienced a significant reduction in depressive symptoms over the course of their participation, as measured by the Edinburgh Postnatal Depression Scale; and clients adopted target health behaviors more often than did women in comparable community samples.

A nurturing caregiver is critical to every child's cognitive, social, and emotional development. Love and care conveyed by consistent routines, a gentle response to a cry, and opportunities to safely explore all contribute to the development of a child who has the confidence and security to learn and grow. For the last 20 years, the MOMobile® home visiting program has provided low-income women in Philadelphia with critical resources and support in order to achieve these important outcomes. MOMobile is a direct service arm of Maternity Care Coalition (MCC), a community-based agency founded in 1980 by professionals and community members concerned with the appalling rate of infant mortality in Philadelphia, PA. The agency focuses on pregnant and newly parenting women, drawing advantage from the unique window of opportunity that exists during this period, biologically and behaviorally, to protect and nurture a growing baby.

The MOMobile program is MCC's original, homegrown direct service program. At its initial launch in 1989, the program consisted of a small fleet of brightly colored vans that delivered baby formula and other emergency supplies to low-income neighborhoods. Since then, MOMobile has evolved to deliver a flexible menu of services to clients in their homes, each designed to support the most critical health and psychosocial support needs of young families. Today's MOMobile is the product of substantial investment in program development over more than 20 years, incorporating best practices from maternal and child health research, social work case management, and public health management. This article describes the essential features of the MOMobile program—with a special emphasis on how the program affects maternal well-being and addresses maternal depression. We also include recent data that suggest that a low-dose, paraprofessional model of home visiting may impact depression for participating mothers.

Who Participates in MOMobile?

Philadelphia's population health statistics are staggering. In comparison to the ten largest urban centers in the U.S., Philadelphia is number one in the incidence of almost every serious chronic disease, including adult obesity (32%), hypertension (35%) and diabetes (32%; City of Philadelphia Department of Public Health, 2011). Philadelphia's maternal and child health outcomes are

similarly well below U.S. averages. Infant mortality is 10.5 per 1,000 live births in Philadelphia, which is more than 50% higher than the U.S. average and rivals rates of many economically struggling countries such as Botswana and Fiji (Central Intelligence Agency, 2013; City of Philadelphia Department of Public Health, 2010). Philadelphia's demographic and health data reveal an alarming level of early developmental risk:

- More than 21,000 infants and toddlers live below the federal poverty line in Philadelphia. This represents 35% of children under 2 years old, as compared to 22% nationally (Annie E. Casey Foundation, 2013).
- A stunning 72%, or 45,000 babies under 2 years old, live in families with incomes below the 2010 self-sufficiency standard for Philadelphia (Annie E. Casey Foundation, 2013; Pearce, 2010).
- In 2010, 65% of Philadelphia infants lived in single-mother households, versus 34% across the state and nationally (Annie E. Casey Foundation, 2013).
- Almost one quarter (24%) of Philadelphia's children are born to mothers without a high school diploma, versus 15% across the state (Annie E. Casey Foundation, 2013).
- The U.S. Census Bureau reports 44% of the city's children are Black and 12% Hispanic, versus 11% and 6% respectively across the state. Since 1990, the White population in Philadelphia declined by more than 30%, while the Hispanic population more than doubled (Pew Charitable Trusts, 2011).

Without intervention, many of these infants will spend their formative years at a critical disadvantage. A family's income level is the single best predictor of a child's failure to thrive in school in the United States. After poverty, the next most reliable predictors of school failure are: living in a single-parent household, having a mother with a low level of education, or belonging to a minority group (Fantuzzo & Del Gaudio Weiss, 2001; Steurle, Reischauer, Simms, Golden, Reuben, & Dubay, 2011).

Children at developmental risk are concentrated geographically in Philadelphia, in poor, mostly African American neighborhoods. Families living in a number of zip codes associated with these neighborhoods are eligible for MOMobile services. MOMobile currently operates in five low-income regions of the city: Northeast, North Central, Central, and West Philadelphia; and nearby suburban Upper Darby. MOMobile also operates at Riverside, the Philadelphia Women's Correctional facility. (The prison program data are not included in this article.) In these neighborhoods, services are stretched thin by poverty and its concomitants: poor health care, food insecurity, trauma, high rates of obesity, smoking and other significant behavioral health challenges. Almost 50% of households in MOMobile's service areas live below 200% of the federal poverty level. Many residents are unemployed (14.8%), have a high school or lower level of education (63%), and are single mothers (48%). According to U.S. Census data, in the communities MOMobile serves, the prevalence of each of these risk factors is more than double national averages (U.S. Census Bureau, 2011). Most MOMobile communities face additional strains due to immigration. The MOMobile employs bilingual community health workers (CHWs) at each location to serve the approximately 10% of its clients who are Latina.

The risk factors listed above are associated with poor health and wellness outcomes, among them lower rates of breastfeeding and safe sleep, and higher rates of depression. One study found that "women with four SES [socio-economic status] risk factors (low income, less than a college education, unmarried, unemployed) were 11 times more likely than women with no SES risk factors to be clinically depressed at three months postpartum" (Goyal, Gay, & Lee, 2010). MOMobile helps women gain the resources, information, and support they need to address these challenges. MOMobile primarily serves low-income pregnant women at risk for poor birth outcomes. Low-income mothers with children less than 1 year old are also eligible to receive services. In 2012, it served 513 women who enrolled prenatally and an additional 148 women who enrolled after delivery. The vast majority of its clientele is African-American (73%) and unmarried (83%).

In each of its service areas, MOMobile encounters alarmingly high rates of maternal depression, trauma, and other behavioral health issues. In 2012, MOMobile screened more than 650 women for depression at enrollment. Nearly half of new pregnant clients scored over the risk threshold for depression (27% for major depression and 18% for minor depression). Low-income women often need supportive case management services in order to treat depression successfully through medication and therapy (Golden, Hawkins, & Beardslee, 2011). Currently, local evidence-based home visiting programs—programs that could significantly and positively impact these challenges—serve fewer than 10% of the poorest mothers and babies in Philadelphia (Maternity Care Coalition, 2012).

Essential Features of MOMobile

MOMobile shares major elements with many paraprofessional home visiting models. Broadly, its mission is to ensure that all women and children have the opportunity to reach their full potential. MOMobile's guiding operating principle is to develop a trusting and nurturing relationship with its clients. The relationship between a CHW and her client is a keystone in the model. The program's holistic, grassroots approach to perinatal care recognizes that maternal and child health needs are best addressed by stable, nurturing families. MOMobile's core features include: use of CHWs, a minimum number of expected home visits, the use of the *Partners for a Healthy Baby* (PHB) curriculum (Chiricos, Graham, & Powell, 2010; Graham, Chiricos, & Powell, 2011), staff supervision and training requirements, standardized data collection and case management tools, and a commitment to continuous improvement and evaluation. All of these features contribute directly to the program's ability to address clients' behavioral health needs. In addition, MOMobile offers a range of pragmatic services for clients, ranging from supportive case management to specific health care referrals to accurate information about child development and parenting skills to links to public benefits or emergency supplies such as food, clothing, or cribs.

USE OF CHWS

MCC made a strategic choice early in its development of the MOMobile model to employ paraprofessionals, rather than degreed social workers or nurses. MOMobile uses CHWs from the communities it serves, in large part because CHWs have a unique advantage to create and sustain productive relationships with clients. They are familiar with community norms and local culture, which accelerates their understanding of the nuances of a situation or conversation, helping them to build trust with clients and stay responsive to needs. They often are more comfortable than medical professionals in addressing sensitive topics with clients such as sexually transmitted infections or domestic violence. They are also more likely to know how to appropriately challenge a client's belief, for example, that "any walking is sufficient activity," or pick up signs that a client is concerned about eating more fruits and vegetables rather than trying to switch to organic foods or avoid caffeine. The relationship between a client and her MOMobile worker directly supports the mother's emotional well-being and also serves as a conduit (a) to enhance parenting knowledge, parenting skills, and maternal self-efficacy; and (b) to help families access a broad range of community health and social services and public benefits, as needed.

VISIT FREQUENCY

One of the program's core components is home visits from pregnancy through the baby's first birthday. There is a minimum of three visits, supplemented by monthly telephone calls. However, MOMobile workers can make additional visits as needed, and this frequency of visits is driven in large part by the needs of the client. When analyzing the data collected on implementation, we learned that:

- The average client is in the MOMobile program for 9 months.
- She receives an average of six home visits and two monthly phone conversations with her CHW.
- She attends at least one parenting event at one of our sites.
- Women with higher depression scores at program entry receive more visits.

CORE CURRICULUM

MOMobile's developers have substantial experience translating maternal and child research into supportive client services. Their knowledge of community beliefs and norms shape the psychosocial supports MOMobile uses to help change health behaviors. In addition, the experience that MOMobile CHWs have in the community facilitates good communication between workers and clients, allowing parents to ultimately access a wide range of educational information. The MOMobile program communicates accurate and relevant information to clients, including information on parenting skills, maternal depression, infant development, public benefits, and prenatal care. The MOMobile program also routinely provides information about sensitive and personal health issues to clients, including child abuse, using drugs and alcohol during pregnancy, and domestic violence.

In addition to the expertise that the CHWs bring to the program's implementation, MOMobile has been using the PHB curriculum (Chiricos et al., 2010; Graham et al., 2011) for more than 13 years. The PHB series was selected because it provides user-friendly, evidence-based guidance without prescribing a sequence of specific activities or topics that should be covered, allowing CHWs to customize the content according to the needs of the client. The PHB series includes five books that cover the perinatal period from pregnancy through the baby's third birthday. The content includes current research and practical tips for pregnant and newly parenting families on a comprehensive set of health and behavioral health topics for both mother and baby, including fetal and baby development, prenatal care, labor and delivery, breastfeeding, and maternal emotional well-being, among many others. Through illustrations and easy-to-understand language, the PHB curriculum addresses complex medical, developmental, and psychosocial health issues for mother and baby, supporting parents to make healthy decisions about prenatal care, smoking during pregnancy, labor and delivery, breastfeeding, and immunizations.

Each topic is addressed in multiple ways. First, the curriculum provides background information geared for the MOMobile worker, including the latest research-based information available on the topic. Second, the curriculum provides scripts that can be used with clients with specific wording and phrasing choices to help guide the conversation with mothers and families. Third, and most popular among MOMobile workers, are the colorful one-page handouts that are designed to be shared and left with clients. There are from 67 to 171 handouts in each volume of the curriculum that summarize key messages or suggest activities to promote positive behaviors related to the topic. These handouts are indexed to the topical areas in the curriculum—easily linking these components of the PHB curriculum.

For example, the curriculum supports maternal well-being in several distinct ways. The highly accessible information helps CHWs find a way into meaningful conversations with clients, helping them achieve their primary goal of building emotionally supportive relationships. The curriculum also provides clients with accurate information about "baby blues" and perinatal mood changes. In its pages, including the handouts, it offers pragmatic tips for managing mood such as "deep breathing exercises" and "finding time for yourself to do activities you enjoy." The curriculum's strengths-based approach to health includes education and suggestions for activities that promote well-being through setting and achieving goals, self-care, and developing supportive relationships. Although the choice of topics is flexible to client needs, more than 80% of clients enrolled in 2013 received education from the curriculum around the agency's top health behavior priorities: maternal emotional well-being, breastfeeding, and practices for preventing sudden infant death syndrome.

STAFF SUPERVISION AND TRAINING REQUIREMENTS

MOMobile provides ongoing and structured supervision and training for all staff. All direct service staff receive scheduled

supervision monthly. Supervision is one-on-one and includes administrative and reflective components in addition to clinical case reviews. A mental health clinician on staff provides CHWs with individualized consultation on every case that involves major depression risk or other serious behavioral health risks. Each site is also supported by a seasoned senior management team: MCC's executive director, deputy director, and the directors of direct services, public policy, research, and finance.

MOMobile's CHWs have, at a minimum, a high school diploma and are generally quite adept at developing and negotiating relationships, anticipating crisis situations, and communicating the importance of health education. In addition, MCC recognizes that effective, thorough training is necessary to empower staff members to believe in themselves and to function as skilled community educators and leaders. As a result, the agency developed and institutionalized comprehensive training for all CHWs to become knowledgeable and comfortable with the scientific and technical information concerning pregnancy and fetal development and related anatomy and physiology, reproductive and sexual health, sexually transmitted diseases, and HIV prevention. Every newly hired worker receives an initial 6-day "Core Competency Skills" training (see box Core Competency Training for New MOMobile Community Health Workers). Designed by a representative group of CHWs, program managers, and MOMobile directors, the core competency training program has been in use since 2002. MOMobile also offers monthly training for staff on an array of job-related topics, recently including healthy infant attachment, oral health, staff boundaries, and public benefits (see box MOMobile Training Sessions).

Core Competency Training for New MOMobile Community Health Workers

Training is held as full-day, weekly sessions for 6 weeks. The Morning and Afternoon sessions are each 3 hours long.

The following topics are covered:

SESSION I	
Morning Session	Home visiting
Afternoon Session	Effective communication
SESSION II	
Morning Session	Pregnancy (Reproduction, prenatal development, preterm labor)
Afternoon Session	Substance abuse
SESSION III	
Morning Session	Pregnancy (Health during pregnancy, labor and delivery)
Afternoon Session	Postpartum issues (perinatal depression, newborn care)
SESSION IV	
Morning Session	Family violence
Afternoon Session	Baby's health in the first year
SESSION V	
Morning Session	Child development in the first year
Afternoon Session	Infant feeding
SESSION VI	
Morning Session	Public benefits
Afternoon Session	Sexually transmitted infections and HIV

STANDARDIZED DATA COLLECTION AND CASE MANAGEMENT TOOLS

MOMobile collects a substantial amount of information about clients' health and health behaviors, including nutrition, smoking, prenatal care, mental health care, breastfeeding, work and public benefits status, and family planning. This information is collected at the first visit—to identify pressing referral and education needs for a family—and again later to monitor progress.

MOMobile® TRAINING Sessions

MOMobile supports staff by offering an ongoing series of training sessions. In 2012, training included:

- Adverse Childhood Experience for Educators
- Autism
- Bed Bugs
- Boundaries
- Breastfeeding (3 sessions)
- Child Abuse (2 sessions)
- Child Development (3 sessions)
- Childhood Illnesses
- Client Outcomes
- Community-Based Interpreter Training
- Cultural Sensitivity
- Disabilities
- Early Intervention
- Early Literacy Skills
- Effective Communication With Children, Staff and Families
- Emergency Preparedness
- Establishing Goals: Strategies and Plans
- Excel/Outlook (2 sessions)
- Facts on Adoption
- Fetal Diagnosis and Treatment
- Fire Safety
- First Aid/CPR (3 sessions)
- Food Safety
- HIV Prevention Summit
- Home Visiting Documentation
- Housing
- Human Trafficking
- Immigrant Access to Healthcare
- Immunizations
- Incident Reporting
- Infant Safe Sleep/Sudden Infant Death Syndrome (6 sessions)
- Infant-Toddler Safety
- Nutrition
- Oral Health
- Partners for a Healthy Baby Curriculum (Chiricos, Graham, & Powell, 2010; Graham, Chiricos, & Powell, 2011) (2 sessions)
- Performance Management
- Philabundance Symposium
- Renters Program
- Reproductive Life Plan
- School Readiness
- Social Media to Encourage Safe Sleep Environments
- Social Solutions Efforts to Outcomes–Data Entry Training and Quality Assurance (7 sessions)
- Trauma Informed Services; Understanding Sanctuary (2 sessions)
- When Survivors Give Birth

The program also administers a validated depression screen three times during the program (Edinburgh Depression Scale, EPDS, Eberhard-Gran, Tambs, Opjordsmoen, & Samuelsen, 2001), and a validated maternal bonding screen postpartum (Postpartum Bonding Instrument; Brockington, Fraser, & Wilson, 2006). MOMobile workers also administer a parenting knowledge and an HIV knowledge test. (See Table 1 for a description of the routine screening tools and the timing of their administration.)

CHWs and clients create a family service plan (Maternity Care Coalition, 2011), based on needs identified in the assessments. The plan lists each client's goals for the work to be completed with her MOMobile worker. Progress against the plan is reviewed during home visits and recorded in their case file. In addition, MOMobile has protocols in place to support high-risk clients and to manage clients' emergencies. For example, when a client screens at risk for depression or in the event of a client mental health emergency, it is mandatory for CHWs to consult with MOMobile's mental health clinician within 24 hours. The

Photo: Courtesy of Merck for Mothers

At its initial launch in 1989, the MOMobile program consisted of a small fleet of brightly colored vans that delivered baby formula and other emergency supplies to low-income neighborhoods.

TABLE 1. **MOMobile Data Collection**

Timing	Assessment Tool	Purpose
Intake (Pregnancy)	Edinburgh Depression Scale (Eberhard-Gran, Tambs, Opjordsmoen, & Samuelsen, 2001)	Prenatal depression screen
	Client Leveling Tool (Maternity Care Coalition, 2011)	Client risk assessment to identify those clients who might benefit from advocate consultation with a staff mental health clinician and more intensive follow up.
	Prenatal Registration Assessment (Maternity Care Coalition, 2011)	Comprehensive needs assessment related to prenatal health status and health care; social determinants of health; and key health behaviors such as smoking, diet, breastfeeding plans, safe sleep plans
	Parenting Knowledge Test (Maternity Care Coalition, 2011)	Assess parenting knowledge to identify education needs
	HIV Knowledge Test (Maternity Care Coalition, 2011)	Assess HIV knowledge to identify education needs
First New Baby Home Visit (2–4 weeks Postpartum)	Edinburgh Depression Scale (Eberhard-Gran et al., 2001)	Postpartum depression screen
	New Baby Visit Assessment (Maternity Care Coalition, 2011)	Comprehensive needs assessment related to new baby and mother's health status and health care; social determinants of health; and key health behaviors such as breastfeeding, safe sleep practices for baby, mom's attendance at 6-week postpartum visit, medical home for baby, and family planning
	Postpartum Bonding Instrument (Brockington et al., 2001)	Maternal bonding disorder screen
4 Months Postpartum	Edinburgh Depression Scale (Eberhard-Gran et al., 2001)	Postpartum depression screen
	Four Month Postpartum Assessment (Maternity Care Coalition, 2011)	Comprehensive needs assessment related to infant and mother's health status and health care; social determinants of health; and key health behaviors such as breastfeeding, safe sleep practices for baby, mom's attendance at 6 week postpartum visit, medical home for baby, family planning
	Parenting Knowledge Post-Test (Maternity Care Coalition, 2011)	Assess parenting knowledge
	Postpartum Bonding Instrument (Brockington et al., 2001)	Maternal bonding disorder screen

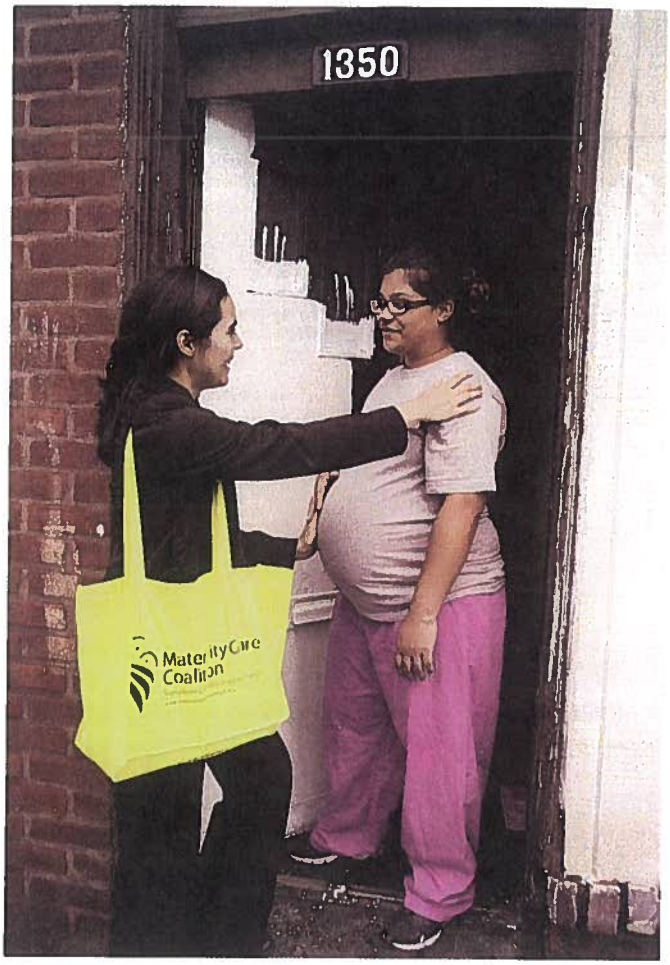

Photo: Courtesy of Merck for Mothers

MOMobile's guiding operating principle is to develop a trusting and nurturing relationship with its clients. The program's holistic, grassroots approach to perinatal care recognizes that maternal and child health needs are best addressed by stable, nurturing families.

mental health clinician is also available upon request to help CHWs address a client's mental health concerns or behavioral health issues.

COMMITMENT TO CONTINUOUS IMPROVEMENT AND EVALUATION

As an agency, MCC is committed to evaluating the impact of its programs. In collaboration with senior management and members of relevant board of directors' committees, each program develops an annual strategic plan, outlining the impact and outcomes to be achieved that year. Progress against this plan is monitored and reported to the board every 6 months. Strengths and weaknesses are identified and used to determine necessary program improvements. Client-level information is tracked using Social Solutions Efforts to Outcomes (ETO®) software, an electronic case management system used by other outcomes-driven programs, including Harlem Children's Zone and Annie E. Casey Foundation. Efforts to Outcomes tracks every contact and makes performance information available at the program, site, staff, and client levels. CHWs enter client data on a continuous basis. Data are routinely analyzed under the guidance of MCC's director of program evaluation. Results are used to inform and improve the effectiveness of MCC's services for families.

As described earlier, MOMobile collects a substantial amount of information about clients' health and health behaviors during the program. The program tracks attitudes and behaviors related to the pregnancy, nutrition, smoking, prenatal care, mental health care, breastfeeding, work and public benefits status, and family planning, among others. Positive parenting and family health are complex, multifaceted outcomes that are difficult to measure. Therefore MOMobile uses the following indicators to measure impact: changes in level of depressive symptoms reported by clients, breastfeeding initiation rates, safe sleep practices, and changes in parenting knowledge. In fiscal year (FY) 2014, MCC added three additional indicators: the presence of a medical home for the baby, completion of the 6-week postpartum visit for the mother, and percent of eligible clients connected to the Women, Infants, and Children nutrition program.

Demonstrating Impact Through a Research Partnership

While MCC has a high level of internal capacity to track and analyze program performance indicators, senior staff also see the value of strategic partnerships with university-based researchers to extend the agency's capacity to demonstrate the impact of its programs. (See Table 2.) One such opportunity is a partnership with the Florida State University Center for Prevention and Early Intervention Policy and Georgetown University which began in October 2012. This project was designed to determine if there are improvements in maternal and child outcomes as a result of using the PHB curriculum with high fidelity. The project's baseline and follow up analyses permitted us to examine the impact

TABLE 2. **Maternity Care Coalition Current Research Partnerships (2014)**

Study Topic	Partner Institution
Postpartum weight management (RCT)	University of Pennsylvania
Parent engagement and school readiness in Early Head Start	Temple University
Facilitating effective referrals for perinatal mood disorders through home visiting	Children's Hospital of Pennsylvania
Mothers' re-entry after incarceration	LaSalle University and University of Pennsylvania
Impact of using the *Partners for a Healthy Baby* curriculum with fidelity on client outcomes	Florida State University Center for Prevention and Early Intervention Policy and Georgetown University

Note: RCT = randomized controlled trial. In addition, Maternal Care Coalition established and leads the Maternal and Child Health Research Consortium, comprised of 40 academic researchers from more than 10 institutions in the Philadelphia area. Its purpose is to facilitate the translation and dissemination of effective strategies to address maternal and child health issues to the local community.

the MOMobile program has on three important outcomes: maternal depression, breastfeeding, and safe sleep practices. For each analysis, we used client data recorded in the data system.

Across its five service sites, MOMobile served more than 500 clients at baseline who had entered the program during pregnancy in 2011–2012. The baseline analysis found that clients achieved favorable outcomes as measured by significant reductions in maternal despression risk over time, as well as higher than expected rates of breastfeeding initiation and safe sleep practices, which we will describe in more detail below. The analysis included an assessment of the impact of missing data on the positive trends that we had documented.

MATERNAL DEPRESSION

When we undertook our initial internal analyses for 2011–2012, we were encouraged to see that depressive symptoms for women enrolled in MOMobile declined during their participation in the program. Over the course of participation in MOMobile, the number of clients at risk for depression decreased by more than half (55%), as measured by the EPDS (Eberhard-Gran et al., 2001). We were cautiously optimistic that this decline was attributable to the MOMobile intervention. However, there was a sizable portion of mothers (187 women or 42%) for whom we did not have a postpartum EPDS score. The missing data left us vulnerable to criticism that the decline we saw was the result of differential attrition rather than the home visiting services MOMobile provided.

To address this concern, we added the expertise of a doctoral student from Johns Hopkins with specialized knowledge in techniques to address missing data. She assessed the sensitivity of our results to the presence of missing data. We used a statistical technique[1] to obtain multiple predictions of each missing postpartum depression score based on information we did have on clients, such as socio-demographic information (e.g., age, education) and MOMobile information (e.g., site, number of different types of contacts). (The technical details are omitted, but are available from the authors upon request.) We then repeated the above analyses including all 450 women with prenatal EPDS scores who were also eligible for postpartum EPDS scores, using the imputed values for mothers with missing outcome data. The results using this approach were similar to those from the complete case analyses, indicating that the declines were not attributable to differential attrition.

Specifically for the complete case analysis of mothers enrolled in MOMobile who had both prenatal and postpartum EPDS scores (n = 263), the percentage who scored 12 or higher during pregnancy, the risk threshold for major depression was 29.28%. This result is similar to the incidence of depression risk in other published studies of low-income women from urban communities of color served in home visiting programs (Tandon, Cluxton-Keller, Leis, Le, & Perry, 2012). After receiving services from MOMobile for 6 months on average, only 13.31% of enrolled mothers were still above that cut-off score postpartum. This decline was statistically significant (p value < .001). In addition, scores among mothers declined by an average of 3.719 points (from 8.677 to 4.958) from prenatal to postpartum. This decline was also statistically significant (two-sided p value < .001).

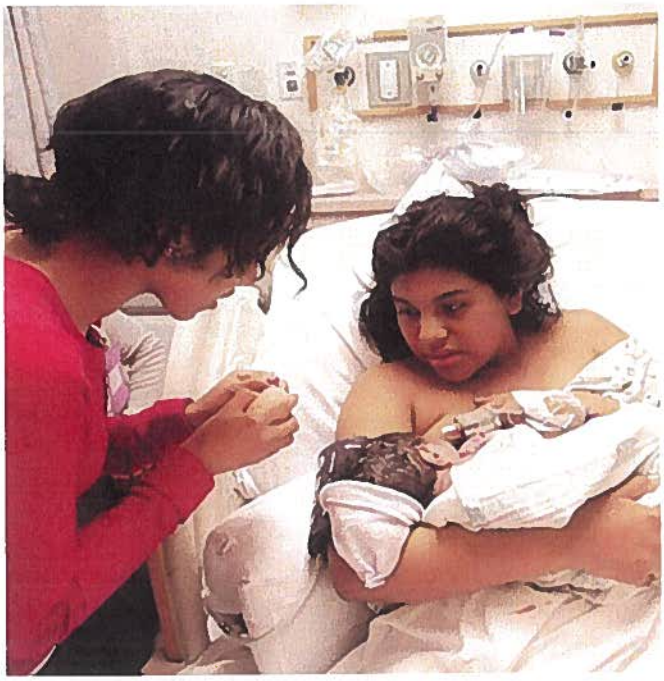

Photo: courtesy of Maternity Care Coalition

A nurturing caregiver is critical to every child's cognitive, social, and emotional development.

A significant reduction in depressive symptoms was replicated in FY2014 among the 178 new clients enrolled in MOMobile during pregnancy. Over the course of participation in MOMobile in FY2014, the number of clients at risk for depression decreased by almost two thirds (64%), as measured by the EPDS. Specifically, the percentage who scored 12 or higher during pregnancy was 29%. After receiving services from MOMobile, only 10.3% of enrolled mothers were still above that cut-off score postpartum. This decline was statistically significant.

As a result of continuous improvement efforts at MCC, there were significantly fewer women with missing data in FY2014 (17% compared to 42% in the prior year). When we adjusted the results to account for missing data, we still found a 63% reduction in depression risk from prenatal intake to the first new baby visit. The percentage who scored 12 or higher during pregnancy was 27.5%. After participation in the MOMobile program, the percentage who scored 12 or higher decreased to 10.1% at the first new baby visit.

Other longitudinal studies of depressive symptoms over the perinatal period do not document a similar decline over time (Evans, Heron, Francomb, Oke, & Golding, 2001; Josefsson, Berg, Nordin, & Sydsjö, 2001; Luoma et al., 2001).

[1] Multiple imputation (Honaker, King, & Blackwell, 2011)

BREASTFEEDING AND SAFE SLEEP

In addition to reductions in depression risk scores over the course of the program, MOMobile clients had higher than expected breastfeeding initiation rates and rates of safe sleep practices. Among all MOMobile participants with breastfeeding data, 73.2% initiated breastfeeding in 2011–2012 (n = 313), and 82% in FY2014 (n = 150). This result is substantially higher than the rates of 42% and 49% found in two comparable community samples of Philadelphia low-income women (Pennsylvania Department of Health, 2013; Robbins, Thomas, Torcato, Lisi, & Robbins, 2011). Among the MOMobile mothers who have safe sleep data, 90.4% lay their babies to sleep on their backs in 2011–2012 (n = 304) and 97.4% did so in FY2014 (n = 152). This result is higher than 65%, the percentage of mothers who practice safe sleep (back sleeping) in a Pennsylvania sample of mothers matched for ethnicity and race with MOMobile mothers (Pennsylvania Department of Health, 2008).

We believe these positive outcomes are a result of MOMobile's success in developing trusting and productive relationships with its clients. They also reflect MCC's ability to translate maternal and child research—including the materials provided in the PHB curriculum—along with community, staff, and client feedback into programs that help women change target health behaviors. Finally, MOMobile is affordable. The program costs $1,500 per mother–baby pair served. Moreover, there is a persistent waiting list for services at all of MOMobile sites and satisfactory client retention rates. In summary, we believe that the MOMobile approach is a promising practice for reducing the risk of perinatal depression and improving maternal and child health.

Barbara Hadley, MBA, MSSP, is a researcher and project manager at Maternity Care Coalition, leading the agency's recent program evaluation effort. Barbara has focused on continuous improvement in operations and management practices throughout her career. She has a bachelor's degree in environmental engineering from M.I.T., an MBA from Stanford, and a master's degree in social policy from University of Pennsylvania.

Kara E. Rudolph, PhD, MHS, MPH, is a postdoctoral fellow at the Johns Hopkins Bloomberg School of Public Health. Her research focuses on the social determinants of mental health and substance use. She is particularly interested in how sources of stress at the neighborhood level are embodied to influence stress biomarkers and mental health outcomes.

Marjie Mogul, PhD, MBA, is the director of research at Maternity Care Coalition (MCC). She uses a community-based participatory research approach to studying issues related to the health and well-being of mothers and children. Dr. Mogul has a doctorate in social work from Bryn Mawr College, an MBA from Pennsylvania State University, and a bachelor's degree in economics from The George Washington University.

Deborah F. Perry, PhD, is an associate professor at the Georgetown University Center for Child and Human Development. Dr. Perry's research focuses on approaches to designing and testing preventive interventions for low-income young children and their caregivers. She has a doctorate in maternal and child health from Johns Hopkins and a master's degree in psychology.

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