Research Report

The Welcome Baby Program

An Implementation and Outcomes Evaluation

Sarah B. Hunter, M. Rebecca Kilburn, Teryn Mattox, Jill S. Cannon, Terry Marsh, Melissa Felician, Maya Buenaventura, Lauren Davis, Matthew Cefalu

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Preface

Welcome Baby is a universal home visitation program offered to families at birth in participating hospitals across Los Angeles County. First 5 LA (F5LA) supported the development of the program and its implementation across 14 traditionally underserved "Best Start" communities. In 2015, F5LA selected the RAND Corporation to conduct an implementation and outcomes evaluation to address seven research questions related to the fidelity of Welcome Baby delivery and the outcomes achieved during the program across the different sites. The contract also specified a need for the evaluation efforts to inform ongoing monitoring of the Welcome Baby program.

This report provides the results from the seven evaluation questions posed by F5LA. We also provide recommendations regarding ongoing monitoring of the Welcome Baby program based on the evaluation findings. This report will be of interest to entities providing home visitation programming, including states, counties, and health care organizations. The research was conducted in the Social and Behavioral Policy Program within RAND Social and Economic Well-Being. The program focuses on such topics as risk factors and prevention programs, social safety net programs and other social supports, poverty, aging, disability, child and youth health and well-being, and quality of life, as well as other policy concerns that are influenced by social and behavioral actions and systems that affect well-being. For more information, email sbp@rand.org.

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Contents

Preface iii
Figures v
Tables vi
Summary viii
Acknowledgments xvii
Abbreviations xviii
1. Introduction 1
Welcome Baby's Research-Informed Program Development 2
Implementation and Outcomes Evaluation 5
Outline of the Report 5
2. Overview of the Welcome Baby Program 6
Oversight 8
Staff 8
Training 10
Fidelity 10
3. Data Sources 12
4. Methods and Findings by Evaluation Question 19
Evaluation Question 1: To What Extent Are Sites Implementing Welcome Baby to Fidelity? 19
Evaluation Question 2: Is There Variability in Sites' Ability to Reach Fidelity to Welcome Baby? 23
Evaluation Question 3: How Are Sites Maintaining Community Resource and Referral Networks? What, If Any, Gaps Exist in These Networks? 36
Evaluation Question 4: What Are Participant Perceptions of and Experiences with the Program and Welcome Baby Service Providers? 45
Evaluation Question 5: What Factors Contribute to Participants Leaving the Program Early? 50
Evaluation Question 6: To What Extent Do Participants Achieve Short- and Intermediate-Term Outcomes? 55
Evaluation Question 7: What Are the Relationships Between Program Fidelity Outcomes and Participant Outcomes? 71
Overall Summary of Findings 75
5. Summary, Recommendations, and Limitations 77
Strengths of the Welcome Baby Program 77
Recommendations for Improving the Welcome Baby Program 78
Study Limitations 82
Conclusions 84
References 85

Figures

Figure S.1. Timeline of Welcome Baby Visits....x
Figure 1.1. Welcome Baby Logic Model: Family & Child Level....3
Figure 2.1. Timeline of Welcome Baby Visits....7
Figure 2.2. Typical Welcome Baby Site Organizational Chart for Postpartum Services....9
Figure 4.1. Percentage of Sites with Valid English and Spanish Contact Information, by Primary/Secondary Referral Type....40
Figure 4.2. Percentage of Primary and Secondary Referral Types for Which Each Site Has Valid Contact Information....41
Figure 4.3. Average Score Across Sites, by Referral Type....43
Figure 4.4. HOME Pass Rates, by Visit Type....58
Figure 4.5. Welcome Baby HOME Pass Rates Compared to NLSY79....59
Figure 4.6. Average Percentage Correct on Parenting Knowledge of Child Development Questions....61
Figure 4.7. Percentage of Clients Using Any Form of Family Planning, by Visit....61
Figure 4.8. Percentage of Clients Using Any Form of Family Planning at the 3-month Visit, by Site with National Benchmarks....62
Figure 4.9. Exclusive and Nonexclusive Breastfeeding, by Visit Type, with County Benchmarks....64
Figure 4.10. Exclusive and Nonexclusive Breastfeeding by Site at the 72-Hour Home Visit, with County Benchmarks....65
Figure 4.11. Exclusive and Nonexclusive Breastfeeding by Site at the Three-to-Four-Month Home Visit, with County Benchmarks....65
Figure 4.12. Percentage of Clients Whose Infant Is Covered by Health Insurance, by Visit, with Los Angeles County Benchmark....66
Figure 4.13. Infant Immunizations and Well-Child Visit Status, by Visit....67
Figure 4.14. Well-Child Visit Status for Children With and Without Insurance at a Given Visit....67
Figure 4.15. Percentage of Clients for Whom No Home Safety Hazards Were Identified, by Visit....68
Figure 4.16. Safe Sleep Practices, by Visit....69
Figure 4.17. Percentage of Mothers Who Report That Their Children Have Never Co-Slept at the Two-to-Four-Week Visit, by Site, with Regional Benchmarks....70
Figure 4.18. Percentage of Infants with Passing Scores on Each of the ASQ-3 Domains....71

Tables

Table S.1. The Welcome Baby Fidelity Domains xi
Table S.2. Data Sources Used for Each Research Question xii
Table 2.1. Demographic Characteristics of Welcome Baby Clients 8
Table 2.2. New Staff Training Topics 10
Table 2.3. The Welcome Baby Fidelity Domains 11
Table 3.1. Data Sources Used for Each Research Question 13
Table 3.2. Quantitative Data Sources That Capture Each Fidelity Domain 14
Table 3.3. Quantitative Data Sources That Capture Each Outcome 15
Table 3.4. Data Source: Site Interviews 16
Table 3.5. Data Source: Client Focus Groups 16
Table 3.6. Data Source: Staff Survey 17
Table 3.7. Data Source: Referral Documentation 17
Table 3.8. Data Source: Client Survey 18
Table 3.9. Data Source: Stronger Families Database 18
Table 4.1. Fidelity Domain Data Sources, Site Threshold Standards, and Average Performance Across All Sites 20
Table 4.2. Summary of Fidelity Domain Achievement, by Site 22
Table 4.3. Staff Qualifications (Domain 1) Fidelity Threshold Achievement, by Staff Position 25
Table 4.4. Staff Training (Domain 2) Fidelity Threshold Achievement, by Staff Position 26
Table 4.5. Reflective Supervision (Domain 4) Fidelity Threshold Achievement, by Staff Position 28
Table 4.6. Home Visitor Workloads (Domain 5) Fidelity Threshold Achievement, by Staff Position 29
Table 4.7. Hospital Enrollment (Domain 7) Percentage Approached and Enrolled, by Site 31
Table 4.8. Service Dosage (Domain 8) Fidelity Threshold Achievement Percentage, by Site 32
Table 4.9. Timing of Service Delivery (Domain 9) Fidelity Threshold Achievement Percentage, by Site 33
Table 4.10. Timing of Service Delivery (Domain 9) Fidelity Threshold Achievement Percentage, by Visit Type 34
Table 4.11. Domain 10 Fidelity Threshold Achievement Percentage, by Site 35
Table 4.12. Primary and Secondary Referral Types 38
Table 4.13. Categories of Information Gathered for Primary and Secondary Referral Types 39
Table 4.14. Scorecard for the Referral Support Structure Score 39

Table 4.15. Features of Welcome Baby Referral Protocols 42
Table 4.16. Commonly Reported Community Resources, by Site Staff 44
Table 4.17. Participant Perceptions as Assessed in the Client Survey 46
Table 4.18. Summary of Findings on Which Family and Previous Visit Characteristics Are Associated with Client Retention, by Visit Transition 53
Table 4.19. Summary of Findings on Which Welcome Baby Fidelity Components Are Associated with Client Retention, by Visit Transition 55
Table 4.20. Outcome Measures and Data Source 56
Table 4.21. HOME Items in the Client Survey 57
Table 4.22. Parent Knowledge Items in the Client Survey 60
Table 4.23. Main Findings, by Evaluation Question 76

Summary

First 5 LA (F5LA) is a public entity that supports collaborative work across Los Angeles County to strengthen families, communities, and systems of services and supports so that all children in the county are born healthy, maintain a healthy weight, are safe from abuse and neglect, and enter kindergarten ready to succeed in school and life (F5LA, 2014a). Over the last decade, F5LA has developed a unique approach to supporting families through a tiered home visiting approach. Among women living in 14 designated communities in Los Angeles County, births at participating hospitals are screened for risk; the highest-risk families are offered one of two intensive evidence-based home visiting programs. Lower-risk families are offered Welcome Baby, which provides a visit in the hospital after birth and up to five post-partum visits through the child's ninth month of life. The combination of the program's "light touch" and its targeting of low- or moderate-risk families sets Welcome Baby apart from many home visiting programs, which tend to be more intensive and target high-risk families (Michaloupolos et al., 2015). With the recent addition of Family Connects (a home visiting program providing only one to three visits) to the federal evidence-based home visiting list (Sama-Miller et al., 2017), there is considerable interest in the potential of less-intensive programs to improve family outcomes at less expense than other federally listed programs.

This report presents the findings from our evaluation of the Welcome Baby program. F5LA has undertaken a series of evaluations of Welcome Baby over the program's lifecycle, and this evaluation examines the realization of implementation and outcome goals. The evaluation focused on answering the following questions about the implementation and outcomes of Welcome Baby:

1. To what extent are sites implementing Welcome Baby to fidelity?
2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability?
3. How are sites maintaining community resource and referral networks? What if any gaps exist in these networks?
4. What are participant perceptions of and experiences with the program and Welcome Baby service providers?
5. What factors contribute to participants leaving the program early?
6. To what extent do participants achieve short- and intermediate-term outcomes?
7. What are the relationships between program fidelity outcomes and participant outcomes?

To address these questions, we examined the fidelity domains in the Welcome Baby fidelity framework and assessed outcomes drawn from the stated goals and objectives in F5LA's Welcome Baby logic model (F5LA, 2014b). We used multiple methods to analyze data from the

first 12 sites that implemented the program,[1] including interviews with program staff, focus groups with program participants, staff and participant surveys, program administrative data, and document review. These data were collected during a period spanning January 2016 to December 2017.

This evaluation was designed to help F5LA decide how to best allocate resources for training, program monitoring, and other program management activities. The evaluation findings are also likely to be valuable to other home visiting programs, as the fidelity components identified in Welcome Baby are similar to those of other family services. Finally, the information in this report will contribute to the ongoing discussion in the home visiting field regarding the use of universal, and lower-intensity, home visiting services.

The Welcome Baby Program

During pregnancy or soon after delivery, a Welcome Baby staff member conducts a risk assessment with families interested in receiving home visitation services. The triage process involves using a screening tool to assess a family's risk level and determining whether the family resides in one of F5LA's focal communities. Families in the focal communities who are at high risk are recommended to area home visiting programs that provide more intensive home visiting services than Welcome Baby. Families in the focal communities who score under high risk on the screening tool are offered Welcome Baby. (The focal communities are among the highest-risk communities in the county, so even lower-risk families may face many child rearing challenges.)

Families enrolled in Welcome Baby may receive three prenatal home visits, a visit in the hospital after birth, and up to five postpartum home visits. This evaluation focuses on the postpartum visits (see Figure S.1). Each Welcome Baby home visit includes risk and developmental assessments, and these are used to guide the topics covered during the visit, as well as any referrals made to other services. The Welcome Baby curriculum delivered at each engagement point is designed to be flexible to meet families' differing needs. Welcome Baby emphasizes that a service relationship characterized by connectedness, empathy, and empowerment helps promote positive behavior changes (Edelman, 2004). During the home visits, parents receive support and information on such topics as postpartum depression, breastfeeding, immunizations and well-baby doctor visits, and home safety. During each home visit, home visitors model reflective communication and empathy to teach parents interaction skills that help them better connect with their child.

[1] Although 13 hospitals participated, two hospitals (Torrance and Little Company of Mary) shared staff, so the data for these two sites were combined for the purpose of our analyses. Another site (Martin Luther King, Jr., Community Hospital) started implementing the Welcome Baby program after the study launched and therefore was not included.

Figure S.1. Timeline of Welcome Baby Visits

SOURCE: LA Best Babies Network, "Welcome Baby Timeline of Program Visits," fact sheet, undated.

F5LA developed a Welcome Baby Fidelity Framework (see Table S.1; Appendix A) to guide the implementation of the program, and the framework specifies central components of the program in terms of staff training and expertise, number and timing of family encounters, and approach to interactions with families. Examining whether Welcome Baby sites meet these fidelity standards and whether the standards are related to client outcomes were central components of this evaluation. Each of the Welcome Baby positions has different qualification requirements, such as degrees, certifications (e.g., lactation consultant certification), as well as preferred experience and language capabilities (see Appendix A). Each position also has training requirements, which consist primarily of training provided by Welcome Baby.

Table S.1. The Welcome Baby Fidelity Domains

Fidelity Domain	Description
1. Staff Qualifications	Staff meet minimum requirements
2. Staff Training	Staff meet training requirements
3. Supervisory Requirements	Supervisors oversee no more than 4 coaches
4. Reflective Supervision	Staff participate in the required amount of reflective supervision sessions
5. Home Visitor Workloads	Staff meet suggested workload amounts
6. Prenatal Recruitment and Enrollment	Eligible prenatal families offered and enrolled in program
7. Hospital Enrollment	Eligible mothers approached and enrolled in the hospital
8. Service Dosage	Participating families receive appropriate service dosage
9. Timing of Service Delivery	Home visits are completed within the recommended time period
10. Referrals to Community Services	Clients receive appropriate referrals, and referrals are verified by staff as completed
11. Participant Perception of the Relationship	Staff build positive relationships with their clients
12. Family Centered Approach	Home visitors use a family-centered approach
13. Content of Home Visits	Home visits include the recommended content
14. Responsiveness of Provider	Home visitors address unplanned situations

Data Sources

To address these evaluation questions, we used multiple data sources (e.g., interviews, focus groups, client surveys, staff surveys) and analytic methods (e.g., quantitative analysis of both primary and secondary data, qualitative analysis of interview data). Table S.2 provides an overview of the data sources and relationship to each evaluation question. Of note, we intended to include observational assessments of the home visits performed by home visitor supervisor staff in our analyses, but because of a delayed start in the use of the observational assessment tool during our study period, too few observation assessments were completed to include in our analyses.

Table S.2. Data Sources Used for Each Research Question

Evaluation Question	Site Interviews	Client Focus Groups	Staff Survey	Referral Documents	Client Survey	Stronger Families Database[a]
1. To what extent are sites implementing Welcome Baby to fidelity?			X		X	X
2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability?	X		X		X	X
3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?	X		X	X		
4. What are participant perceptions of and experiences with the program and Welcome Baby service providers?		X			X	
5. What factors contribute to participants leaving the program early?	X		X		X	X
6. To what extent do participants achieve short- and intermediate-term outcomes?					X	X
7. What are the relationships between program fidelity outcomes and participant outcomes?			X		X	X

[a] The Stronger Families Database is the administrative database maintained by Welcome Baby.

Findings

We tailored the methods for addressing each evaluation question using the multiple data sources and qualitative and quantitative methods as appropriate. For the fidelity analysis, we identified a threshold that we could use to assess whether or not a site had achieved the fidelity standard. We briefly summarize the main findings for each evaluation question.

1. To What Extent Are Sites Implementing Welcome Baby to Fidelity?

There was great variability in the degree to which the sites achieved fidelity to the Welcome Baby model. For each site, we assessed fidelity for the 11 of the 14 fidelity domains for which we had data. No site achieved fidelity in all 11 domains, but every site achieved fidelity in

supervisory requirements and participant perceptions of the relationship. Individual sites achieved fidelity in 18 to 80 percent of measured domains, with an average of 48 percent.

2. Is There Variability in Sites' Ability to Reach Fidelity to Welcome Baby? If So, What Factors Account for This Variability?

For each of the 11 fidelity domains, there were large differences in the proportion of sites that met the fidelity threshold. For two domains (supervisory requirements and participant perceptions of the relationship), all assessed sites achieved fidelity thresholds; for another three domains (staff qualifications, reflective supervision, and hospital enrollment), only one site achieved fidelity thresholds. For the other domains, between five and eight sites achieved fidelity thresholds. Across all of the domains, an average of 5.5 sites achieved domain fidelity. In several domains, sites also varied in achieving thresholds by specific elements of the domain criteria (e.g., by staff position, visit type). Findings from site interviews with Welcome Baby staff provided information that helps explain the challenges in meeting the fidelity thresholds.

3. How Are Sites Maintaining Community Resource and Referral Networks? What, If Any, Gaps Exist in These Networks?

The completeness of referral directories varied widely across sites. Very few sites had developed the organizational infrastructure to facilitate successful referrals (e.g., memoranda of understanding with service providers and referral forms). The Welcome Baby program provides sites with protocols that outline procedures for five referral types, including domestic violence, early intervention for child developmental delay, postpartum care, maternal depression, and suicide prevention. These five Welcome Baby protocols require monitoring referral completion; four require that Welcome Baby staff help clients gain access to the services, and two emphasize client confidentiality. Staff across all sites reported referring to a wide range of referral resources, regardless of the infrastructure developed to facilitate successful referrals.

4. What Are Participant Perceptions of and Experiences with the Program and Welcome Baby Service Providers?

Both qualitative and quantitative data indicated that Welcome Baby participants generally had a positive perception of the program. In focus groups, participants overwhelmingly reported that the Welcome Baby program met their needs and helped them connect with services. Program participants indicated that they would participate in the program again if seeking parenting help in the future and rated their relationships with the Parent Coaches extremely positively. Clients noted that the program enrollment process was easy, and they appreciated most the assistance with breastfeeding. Overall, Welcome Baby staff were perceived as responsive to their needs, easy to communicate with, accessible, and flexible. Clients identified a few areas for improvement, such as offering more visits and providing program materials in non-paper formats. Survey results corroborated the information from the focus groups: Across sites and time (i.e., from the two-to-four-week visit to the nine-month visit), program participants

generally had positive perceptions of the Welcome Baby program and their relationship with their Parent Coaches.

5. What Factors Contribute to Participants Leaving the Program Early?

We assessed whether participant characteristics and fidelity during a previous Welcome Baby program visit predicted families getting a successive visit. Family characteristics associated with being at risk of poor outcomes (e.g., a high risk score, being young) were often associated with a greater likelihood of transitioning from the hospital to a registered nurse (RN) visit, but a lower likelihood of staying in the program for later visits. For the two-to-four-week visit and later visits, adherence to Welcome Baby fidelity standards, such as covering the curriculum, was related to lower rates of participants leaving the program.

6. To What Extent Do Participants Achieve Short- and Intermediate-Term Outcomes?

We examined Welcome Baby participants' outcomes across all sites and visits for 12 outcome measures. Where regional or national benchmarks were available, Welcome Baby participants exhibited better outcomes in more than half of the outcome areas measured, including more positive parenting practices, higher levels of breastfeeding, and safer sleep environments (i.e., back sleeping and no co-sleeping) than benchmarks. Welcome Baby participants exhibited lower levels of family planning and exclusive breastfeeding compared to the benchmarks.

7. What Are the Relationships Between Program Fidelity Outcomes and Participant Outcomes?

We estimated the relationship between the 12 outcomes and eight fidelity measures. We found little evidence of relationships between program fidelity and participant outcomes. Across the eight fidelity components included in this analysis, the ones most likely to be associated with improved outcomes were staff qualifications, staff training, reflective supervision, home visitor workload, and curriculum content coverage.

The findings from this evaluation provide Welcome Baby stakeholders with data-based information on the implementation and outcomes of the program. Additionally, the findings inform the home visiting field as a whole, providing rigorous analysis of such issues as factors contributing to home visiting program attrition and assessing referral networks.

Conclusions and Recommendations

Overall, we found that the Welcome Baby program sites were meeting many of the program's implementation and outcome goals and that participants had favorable views of the program. The evaluation findings highlighted some areas where F5LA could explore improvements or clarity in policies and procedures. Next, we provide suggestions for these areas.

Staff Qualifications and Training

Sites typically did not perform well in the staff qualifications *and* training fidelity domains, although some sites performed well in one or the other. A review of staff qualifications and training requirements for each position might be helpful to see how relevant these are in the future recruitment and training of Welcome Baby program staff. These two fidelity domains are particularly critical because they appear to be related to program attrition; sites that met the fidelity thresholds appear to have had less participant attrition than those that did not.

Supervision

While sites generally achieved fidelity in terms of supervision caseload levels, the frequency and quality of reflective supervision may benefit from further examination. Some staff positions reported not receiving reflective supervision very frequently, and staff across positions and sites questioned reflective supervision's quality and value. This is particularly important because reflective supervision was related to several positive participant outcomes, such as well-child visits, immunizations, home safety, and safe sleeping practices. Reflective supervision also appears to negatively relate to attrition between the hospital and RN visit. F5LA may want to further examine the quality of the reflective supervision, especially for hospital liaisons and RNs.

Hospital Enrollment

This fidelity domain consisted of two components: (1) approaching 90 percent of eligible families in the hospital and (2) enrolling 40 percent of those approached. Most sites missed the 90-percent approach target. Since sites reported challenges meeting the target for approaching eligible families in the hospital, F5LA may want to address staff coverage issues (e.g., not having staff available 24/7, including nights and weekends). While most sites met the target for enrolling families, there was wide variation, suggesting that staff across sites could learn from one another on effective enrollment practices. F5LA may also want to consider whether site-specific targets may be more appropriate, given the number of births and Welcome Baby staffing levels at the different participating hospitals. Now that more data have been collected on Welcome Baby, the threshold enrollment rate can be adjusted based on observed site enrollment rates to set more realistic targets.

Service Dosage

Sites exhibited wide variation in the percentage of participants who received four or more postpartum Welcome Baby visits. Although program staff thought that the large gaps between the three-to-four month and nine-month visits contributed to attrition, the analysis found that most attrition occurred between the hospital and RN visit. F5LA may want to undertake continuous quality improvement approaches to increase program retention between the hospital enrollment visit and the first in-home visit. Staff at higher-performing sites may have lessons learned that could improve performance at other sites.

Home Visit Content

Overall, across sites and across visits, coverage of the Welcome Baby curriculum was good. Since coverage was lower at the hospital visit, F5LA may want to examine whether crucial content is being missed in the hospital.

Community Referral Process

Performance on this fidelity domain was extremely varied across sites, representing another potential opportunity to learn from best practices at some sites. Due to the limitations of the Stronger Families Database (SFDB), the administrative database maintained on the Welcome Baby program, we were able to evaluate this domain for only a short time period and did not include it in our analyses of factors related to program attrition and outcomes. Based on review of each site's documentation on the referral process, F5LA should consider the development of detailed protocols for all high-priority referral types, including public benefits, alcohol, smoking, and drug treatment (all protocols should include the provision of client confidentiality). F5LA should also support sites in developing and maintaining a standardized referral directory and establish memoranda of understanding with service providers to improve service access.

Outcomes

Sites' abilities to achieve outcomes, such as family planning, exclusive breastfeeding, and co-sleeping, varied widely and, therefore, could be areas to target for staff retrainings and booster sessions. Sites that performed better may be able to share experiences and lessons learned with sites that did not perform as well. Rates of postpartum depressive symptoms were extremely low in comparison to other benchmarks, suggesting that administration of the postpartum depression screener may be improved.

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We are grateful to the many Welcome Baby staff who participated in interviews, took the online staff survey, gathered the relevant referrals documents, trained in the data collection activities, collaborated with site-specific Institutional Review Board activities, and gathered and maintained signed consent documentation. We greatly appreciate their time, attention to detail, and willingness to provide input based on their expertise and experience. Their contributions have enriched our understanding of the Welcome Baby program.

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Abbreviations

ASQ	Ages & Stages Questionnaire
BSC	Best Start Community
CLE	Clinical Lactation Educator
CSQ	Client Satisfaction Questionnaire
EPDS	Edinburgh Postpartum Depression Scale
F5LA	First 5 LA
HV	home visit
HOME	Home Observation for Measurement of the Environment inventory
IRB	Internal Review Board
KIDI	Knowledge of Infant Development Inventory
LAC	Los Angeles County
LABBN	LA Best Babies Network
LAMB	Los Angeles Mommy and Baby Project
LSP	Life Skills Progression Tool
MCH	Maternal Child Health
MCHA	Maternal Child Health Access
MOA	memorandum of agreement
MOU	memorandum of understanding
NICU	neonatal intensive care unit
NSFG	National Survey of Family Growth
NLSY79	National Longitudinal Survey of Youth 1979
PAC/LAC	Perinatal Advisory Council: Leadership, Advocacy, and Consultation
PHQ	Patient Health Questionnaire
PRAMS	Pregnancy Risk Assessment Monitoring System
RN	registered nurse

SFDB	Stronger Families Database
SSDI	Social Security Disability Insurance
SSI	Supplemental Security Income
TANF	Temporary Assistance for Needy Families
WAI-BOND	Working Alliance Inventory – Bonding subscale
WB	Welcome Baby
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children

1. Introduction

More than 120,000 children are born in Los Angeles County each year, the highest annual number of births of any county in the United States and a number higher than all but eight individual states (Kidsdata.org, 2018a; Centers for Disease Control, 2018). Along with the notable size of the birth population, Los Angeles County births are also remarkably diverse. More than half of all births in the county are of Hispanic origin, another third are either white or Asian/Pacific Islander, and about 7 percent are African American (Kidsdata.org, 2018). Births in Los Angeles County are also more likely to be to foreign-born mothers (60 percent) than anywhere else in the United States (Myers and Pitkin, 2013). Families in Los Angeles County live in neighborhoods where many languages are spoken and cultural practices related to child rearing are varied (Allen and Turner, 2013; Benatar et al., 2013).

Given the quantity of births and diversity of families, it is not surprising that child and family outcomes are highly variable. There have been gains in some areas over the last decade—for instance, the rate of third-grade students scoring at or above proficiency in reading rose 19 percentage points between 2003 and 2012 (California Department of Education Assessment and Accountability Division, 2012). However, downward trends for some outcomes and racial and ethnic disparities for others persist. For example, the rate of substantiated prenatal-to-age-five maltreatment and the disparity in low birth weight for African-American and Asian babies compared to white babies both continue to grow (Needell, 2013). Because children experiencing challenges such as child maltreatment and low birth weight are at risk for developmental delays and long-term physical and emotional challenges (Center on the Developing Child at Harvard University, 2007), trends and disparities such as these indicate that families need support in raising strong, healthy children.

Created in 1998, First 5 LA (F5LA) is a public entity that supports collaborative work across Los Angeles County to strengthen families, communities, and systems of services and supports so all children in the county are born healthy, maintain a healthy weight, are safe from abuse and neglect, and enter kindergarten ready to succeed in school and life (F5LA, 2014a). Since 1998, F5LA has invested more than $1 billion to support programs, initiatives, research, partnerships, and public education (F5LA, 2014b). In 2014, F5LA produced a strategic plan that highlighted communities as physical and social supports for families and as the context in which policies and programs operate to support families. F5LA puts this emphasis into practice through its focused, place-based support of the Best Start Communities, a set of 14 traditionally underserved communities. These communities were selected for support based on lessons learned in F5LA's first decade and research that demonstrates the influential role of a young child's neighborhood.

F5LA's strategic approach recognizes that strong and supportive communities lead to better outcomes for children. F5LA characterizes strong families as having protective factors, such as resilience, parent knowledge, and positive relationships, which support children's social and

emotional competence. F5LA defines supportive communities as those with opportunities for positive social networks and access to concrete supports in times of need (F5LA, 2014a). F5LA hopes to increase family and community and other protective factors through investments in direct service programs that serve families.

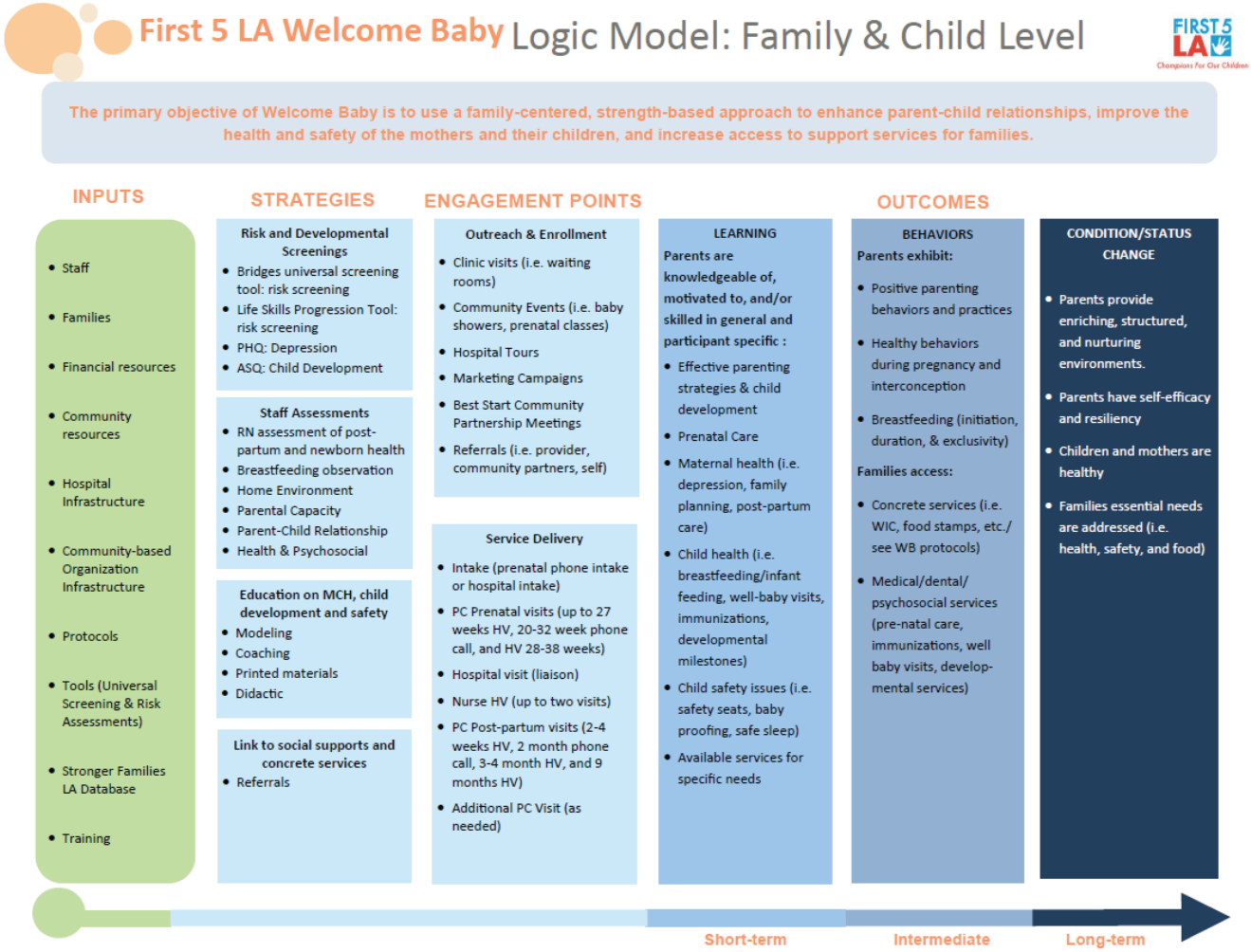
Welcome Baby is an F5LA-supported, locally designed, free, and voluntary home visiting program for pregnant and postpartum women. The primary goal of Welcome Baby is to use a family-centered, strength-based approach to accomplish the following objectives: ensuring parents can provide enriching structured and nurturing environments, strengthening parental resilience and self-efficacy, ensuring that children and mothers are healthy, and addressing families' essential needs.

Despite common features, home visiting programs and systems differ in execution in some ways. Some in the home visiting field advocate targeting services to families who demonstrate the highest need, which is often measured using socioeconomic measures, such as mother's education, marital status, or income (Olds et al., 2003; Pew Center on the States, 2011). An emerging alternative view emphasizes a public health systems approach that provides a spectrum of home visiting services depending on family need (Schuyler Center for Analysis and Advocacy, 2007). Proponents of this view see tiered intervention as providing families with the required level of services at the lowest cost. This approach to home visiting is supported by research by Every Child Succeeds in Cincinnati that suggests that postpartum depression may be a more useful indicator than socioeconomic measures in predicting families' likelihood of benefitting from home visits (Ammerman et al., 2010). Additional empirical support for the tiered approach comes from recent evaluations of the Durham Connects program (now known as Family Connects), which provided universal home visiting to families of all newborns as a way to improve short-term outcomes and identify families who could benefit from additional services (Dodge et al., 2014; Schuyler Center for Analysis and Advocacy, 2007).

Welcome Baby's Research-Informed Program Development

In developing Welcome Baby, F5LA created a logic model (see Figure 1.1) that includes inputs, strategies, engagement points, and outcomes for Welcome Baby children and families in the areas of learning, behavior change, and condition/status change. This logic model drew from the existing evidence base on child development and family support. F5LA rolled out Welcome Baby using a strategic planning and evaluation program that follows the processes outlined in the evidence-based Getting To Outcomes® implementation framework (Mattox et al., 2013) and the Coalition for Evidence-Based Policy (2013) recommendations. These research-based frameworks recommend engaging in an evidence-informed planning stage for implementation, then engaging in a pilot evaluation to assess whether initial implementation produces desired outcomes. If the pilot program succeeds, subsequent expansion should be subject to implementation evaluation to monitor the success of scaling up with fidelity and replicability. When the program achieves maturity and systems have been established to ensure fidelity, a randomized controlled trial or other rigorous impact evaluation should be conducted.

Figure 1.1. Welcome Baby Logic Model: Family & Child Level



SOURCE: F5LA, "First 5 LA Welcome Baby Logic Model: Family & Child Level," fact sheet, undated.
NOTE: PHQ = Patient Health Questionnaire; ASQ = Ages and Stages Questionnaire; RN = Registered Nurse; MCH = maternal and child health; PC = Parent Coach; HV = home visit; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children; WB = Welcome Baby.

In keeping with their commitment to using data and evaluation to inform its work, F5LA conducted an initial implementation evaluation and outcomes evaluation at the Welcome Baby pilot site. This report represents the next phase in the Welcome Baby evaluation program—an implementation and outcomes evaluation of Best Start communities charged with scaling up Welcome Baby. F5LA plans a rigorous impact evaluation as the next phase of the Welcome Baby program evaluation.

In 2010, the Welcome Baby pilot evaluation commenced with a series of studies related to the implementation and outcomes of the Welcome Baby program in the pilot site, known as "Metropolitan Los Angeles." The evaluation included case studies of efforts to build program capacity and focus groups with stakeholders that found that participants were satisfied with the program and found value in the services provided (Adams, Hill, and Benatar, 2012). A Child and Family Survey was also administered at 12, 24, and 36 months using a quasi-experimental design comparing women older than 18 years old who participated in the pilot Welcome Baby program with other women who resided in the Metropolitan Los Angeles area but did not participate in the program (Benatar et al., 2014). The Child and Family Survey measured seven outcome domains: quality of home environment, parenting and parent-child relationship, child development, child nutrition, health care coverage, maternal mental health, and family well-being. Across all outcome domains, Welcome Baby mothers fared better relative to the comparison group, with many positive gains—particularly in the domains of child development and home environment—sustained through 12 and 24 months. Welcome Baby families did not show significant improvement in areas such as children being overweight, the use of physical punishment, and parental distress (Benatar et al., 2014). The final component of the pilot evaluation was a cost-effectiveness study using the findings from the outcomes evaluation. This study found that Welcome Baby cost less to implement than other home visiting programs, which was related to the fact that it was less intensive than those programs. Additionally, the evaluation yielded cost estimates for the amount of investment required to get certain outcomes for policymakers and other stakeholders to consider (Benatar et al., 2014).

A qualitative study of the early implementation of the Welcome Baby expansion in the remaining Best Start sites was conducted in March 2014. Through semistructured interviews with a variety of key stakeholders, researchers found that stakeholders were enthusiastic about implementing the program and that the program worked well in a variety of settings. Research results also demonstrated that having certain elements (e.g., fidelity framework, data collection tools and protocols, applied professional development and training) in place initially promoted smoother implementation of the program when scaling up (Hill, Wilkinson, and Benatar, 2014).

A 2017 study examined the relationship between Welcome Baby participation and maternal and child enrollment in Medi-Cal (Howell et al., 2017). This study found that by age two, children whose families had participated in Welcome Baby were more likely to have both well-child visits and, perhaps counterintuitively, more emergency room visits than children whose families had not participated in Welcome Baby. Mothers who participated in Welcome Baby had longer Medi-Cal enrollment, were more likely to have postpartum doctor visits within

recommended time frames, and were less likely to have a Medi-Cal covered birth within two years of the previous birth relative to comparison mothers.

Implementation and Outcomes Evaluation

In 2015, F5LA selected the RAND Corporation to perform an implementation and outcomes evaluation of the Welcome Baby program. The primary objectives of the implementation and outcomes evaluation were to answer the following questions:

1. To what extent are sites implementing Welcome Baby to fidelity?
2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability?
3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?
4. What are participant perceptions of and experiences with the program and Welcome Baby service providers?
5. What factors contribute to participants leaving the program early?
6. To what extent do participants achieve short- and intermediate-term outcomes?
7. What are the relationships between program fidelity outcomes and participant outcomes?

We used the Welcome Baby logic model to identify outcomes to assess with this evaluation. We analyzed data from 12 Welcome Baby sites collected from January 2016 to December 2017. This information will help F5LA decide how to best allocate resources for training, program monitoring, and other program management activities. The findings of this report are also likely to be valuable to other home visiting programs, as the fidelity components identified in Welcome Baby are similar to those for other family services.

Outline of the Report

The remainder of the report describes the program under study, our approach to examining implementation and outcomes, results from the evaluation, implications, and conclusions. Chapter 2 provides an overview of the Welcome Baby program. Chapter 3 describes the data sources used for each of the evaluation questions. Chapter 4 presents evaluation question–specific analyses and findings. Chapter 5 summarizes the findings across the evaluation questions and provides recommendations for ongoing monitoring for Welcome Baby program stakeholders and other family service providers. Appendix A provides information about the Welcome Baby Fidelity Framework and staffing qualifications. Appendix B presents more detailed information on the data collection approaches, including procedures on how the data were collected and sample sizes. Appendix C describes the fidelity domain measures in detail, and Appendix D describes the outcome measures. Finally, Appendixes E, F, and G provide detailed results from the analyses of Evaluation Questions 5, 6, and 7.

2. Overview of the Welcome Baby Program

Welcome Baby is offered to women residing in Best Start communities who give birth or are planning to give birth at participating hospitals serving Best Start communities. Families may receive three prenatal home visits, a visit in the hospital after birth, and up to five postpartum home visits (see Figure 2.1).[1] A Welcome Baby staff member, known as a Hospital Liaison, conducts the assessment in the hospital and enrolls families following the baby's birth. RNs conduct the first postpartum visit, and a Parent Coach conducts each of the remaining four home visits. Visits are between 45 and 90 minutes long, depending on the engagement point and the complexity of client needs. This evaluation focuses on Welcome Baby's postpartum home visits.

The Welcome Baby curriculum, as delivered at each engagement point, is designed to be flexible to meet the differing needs of families. The primary motivation for this flexibility is Welcome Baby's family-centered approach that stresses that parents are able to fulfill their potential for growth and that they are the experts on their family's strengths (McCroskey and Meezan, 1998). Another pillar of home visiting is that positive behavior change is promoted when services are provided in a relationship characterized by connectedness, empathy, and empowerment (Edelman, 2004). Each Welcome Baby home visit includes risk and developmental assessments, and these are used to guide the topics covered during the visit as well as any referrals made to other services. During the home visits, parents receive support and information on such topics as postpartum depression, breastfeeding, immunizations and well-baby doctor visits, and home safety. Home visitors undertake the activities while modeling reflective communication and empathy to teach parents interaction skills that help them better connect with their child.

Soon after delivery, a Hospital Liaison conducts a risk assessment with women interested in receiving home visitation services. The level of risk identified through the Modified Bridges for Newborns Screening tool (Stucky et al., 2017) is one component of eligibility for Welcome Baby. This risk assessment occurs at the hospital visit for all Welcome Baby participants, even those that receive services prenatally.

- Women who live in a Best Start community and score **low to moderate risk** on the Modified Bridges for Newborns Screening tool are offered Welcome Baby.
- Women who do not live in a Best Start community and score **low to moderate risk** on the Bridges assessment are not offered any home visiting services from F5LA.
- Women residing in Best Start communities who score **high risk** on the Bridges Assessment are recommended to home visiting programs in their area that provide more intensive services than Welcome Baby. The home visiting models offered during our study period were Healthy Families America and Parents as Teachers.

[1] This number does not include an extra post-Neonatal Intensive Care Unit [NICU]–discharge visit, for those who qualify. Mothers with children in the NICU also receive a home visit after the child has returned home.

- Women who do not reside in Best Start communities but score as **high risk** are eligible for Welcome Baby "Lite," a less-intensive version of Welcome Baby that includes a hospital visit and up to three postpartum visits. These participants are not included in our evaluation.

Figure 2.1. Timeline of Welcome Baby Visits

SOURCE: LA Best Babies Network (LABBN), "Welcome Baby Timeline of Program Visits," fact sheet, undated.

Welcome Baby is currently being implemented at 14 sites in Los Angeles County, and our study includes the first 12 sites that implemented the program.[2]

Table 2.1 provides an overview of participant demographic characteristics during our study period (January 1, 2016 to December 31, 2017).

[2] Although 13 hospitals participated, two hospitals (Torrance and Little Company of Mary) shared staff; for evaluation purposes, we combined data for these two sites. One site (Martin Luther King, Jr., Community Hospital) launched the Welcome Baby program after the study started and therefore was not included in our analyses.

Table 2.1. Demographic Characteristics of Welcome Baby Clients

Mother's demographics	
Average age at program entry	27.60
Percentage of moms under 18 at program entry	2.02
Percentage with a high school diploma (includes General Education Development)	70.98
Percentage whose primary language is not English	44.46
Race/ethnicity	
Hispanic ethnicity	82.78
African American	8.32
White	4.61
Asian	1.92
Mother's risk factors	
Average Bridges Score (standard deviation)	43.27* (16.33)
Percentage first time mothers	36.60
Child's risk factors	
Percentage gestational age < 37 weeks at birth	7.26
Percentage low birth weight	5.69

SOURCE: Stronger Families Database (SFDB). Includes clients with visits completed between January 1, 2016 and December 31, 2017.
* Bridges scores of 50 or greater are defined as high risk.

Oversight

F5LA contracts with the Family Strengthening Oversight Entity (Oversight Entity) to manage the adoption and integration of the Welcome Baby program into hospitals and community-based organizations. LABBN serves as part of the Oversight Entity. LABBN provides training and technical assistance to all Welcome Baby sites, as discussed in more detail later, and organizational-level technical assistance to hospitals and community partners through workshops that focus on promoting and supporting integration of Welcome Baby practices and protocols in the hospital systems of care.

Staff

Key program staff at each site include

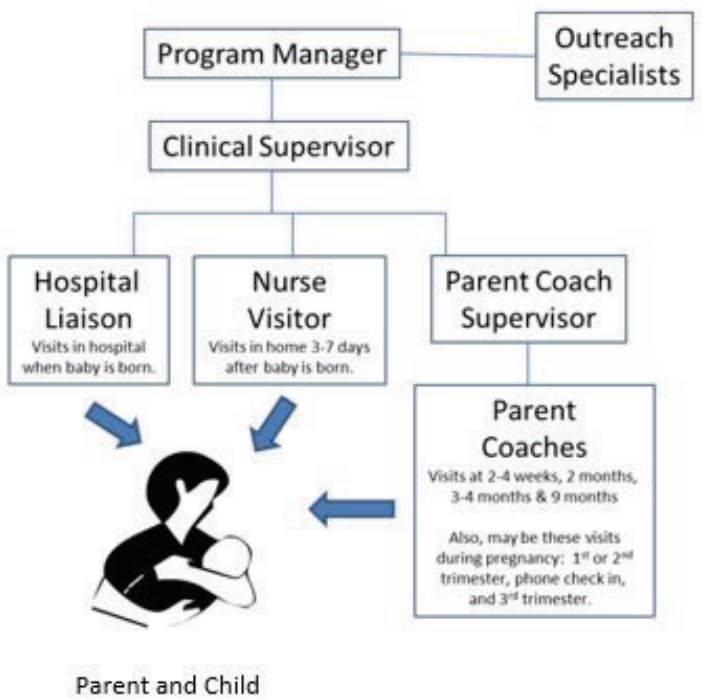
- the **Program Manager/Director**, who has overall responsibility for implementation of Welcome Baby, including overseeing and monitoring adherence to procedures, policies and protocols, and maintaining and improving the quality of the program
- the **Clinical Supervisor**, who is responsible for day-to-day oversight of program staff, including supervision of Parent Coaches and RNs, and for ensuring that staff are trained and participate in reflective supervision (a clinical approach that incorporates active, empathic, and nonjudgemental listening; collaborative relationships between supervisor

and supervisee that support shared responsibility and decisionmaking; and regular interactions)

- the **Data and Evaluation Manager**, who provides the Program Manager with assistance in implementation and program evaluation activities and implements systems for program management and outcomes assessment
- the **Parent Coach Supervisors**, who conduct prenatal and postnatal home visits, oversee other Parent Coaches, and provide weekly reflective supervision
- the **Parent Coaches**, who conduct prenatal and postnatal home visits
- the **RNs**, who conduct the first home visit within three to 14 days after the mother is discharged from the hospital
- the **Hospital Liaisons**, who invite mothers to participate (or encourage mothers to continue to participate) by discussing the program and related services during hospital visits, complete the Bridges for Newborn Screening Tool, and assess the family for social support needs, infant feeding, and maternal depression during hospital visits soon after delivery
- the **Outreach Specialists**, who conduct community outreach at social service sites, social service offices, and health care providers' offices to recruit and enroll eligible clients; Outreach Specialists develop and maintain key community contacts, conduct client intakes, and follow up with potential clients.

Figure 2.2 depicts an organizational chart for a typical site.

Figure 2.2. Typical Welcome Baby Site Organizational Chart for Postpartum Services



Training

Welcome Baby staff attend 184 hours of training, which covers up to 27 topics related to program objectives and goals with specific sessions required for each position (see Table 2.2). New staff must also be certified in lactation education within six months of hire. LABBN develops and coordinates continuing education for staff, including quarterly training sessions (delivered in workshop and webinar formats) on topics aligned with program goals and needs, such as best practices from evidence-based models, and monthly conference calls to review performance measures and provide an opportunity for shared learning between sites.

Table 2.2. New Staff Training Topics

- Welcome Baby Framework and Orientation
- Home Visitor Safety and Self Defense
- Parent-Child Empathetic Communication
- Brain Development and Early Infant Development
- Bonding and Attachment
- Child Abuse and Mandatory Reporting
- Cultural Competency
- Preventive Care: Prenatal, Postpartum, and Newborn Care
- Universal Risk Screen/Bridges for Newborns
- Healthy Homes
- Home Safety for Infants and Toddlers
- Reflective Practice
- Welcome Baby Nurse Visit
- Perinatal Depression and Patient Health Questionnaire-9 Screening
- Using ASQ-3 to Communicate about Children's Development
- Milestones and Development: Expectations for Birth to 12 Months
- Family Planning
- Motivational Interviewing and Follow-Up
- Health Coverage
- Family Violence
- Childbirth Education
- Consent and Confidentiality
- Health Insurance Portability and Accountability Act
- Parent Coach Visit
- Stronger Families Database: Data Collection, Tracking, and Reporting
- Outreach and Communications
- Life Skills Progression

Fidelity

To guide implementation quality, F5LA developed a Welcome Baby fidelity framework (see Table 2.3), which specifies the central components of the program in the domains such as staff training and expertise, number and timing of family encounters, and approach to interactions

with families (see Appendix A). The fidelity framework specifies the criteria that Welcome Baby sites must meet in order to demonstrate that they are providing high-quality services and that the Welcome Baby model is being delivered as intended. In addition to drawing on the existing evidence base related to child development, positive parenting, and family supports, the fidelity framework and performance matrix also drew on the Welcome Baby Family and Child Level Logic Model and the Welcome Baby Program Level Logic Model, as well as qualitative data collection from families, the Welcome Baby pilot study, and extensive meetings with other stakeholders (LABBN, 2008).

Table 2.3. The Welcome Baby Fidelity Domains

Fidelity Domain	Description
1. Staff Qualifications	Staff meet minimum requirements
2. Staff Training	Staff meet training requirements
3. Supervisory Requirements	Supervisors oversee no more than 4 coaches
4. Reflective Supervision	Staff participate in the required amount of reflective supervision sessions
5. Home Visitor Workloads	Staff meet suggested workload amounts
6. Prenatal Recruitment and Enrollment	Eligible prenatal families offered and enrolled in program
7. Hospital Enrollment	Eligible mothers approached and enrolled in the hospital
8. Service Dosage	Participating families receive appropriate service dosage
9. Timing of Service Delivery	Home visits are completed within the recommended time period
10. Referrals to Community Services	Clients receive appropriate referrals, and referrals are verified by staff as completed
11. Participant Perception of the Relationship	Staff build positive relationships with their clients
12. Family-Centered Approach	Home visitors use a family-centered approach
13. Content of Home Visits	Home visits include the recommended content
14. Responsiveness of Provider	Home visitors address unplanned situations

3. Data Sources

As stated earlier, the project was designed to address the following questions:

1. To what extent are sites implementing Welcome Baby to fidelity?
2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability?
3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?
4. What are participant perceptions of and experiences with the program and Welcome Baby service providers?
5. What factors contribute to participants leaving the program early?
6. To what extent do participants achieve short- and intermediate-term outcomes?
7. What are the relationships between program fidelity outcomes and participant outcomes?

This chapter describes the data sources used to address these questions. Before describing each data source, we summarize the guiding principles underlying our approach to selecting the specific data sources. To the extent possible, in drafting and deploying the different data collection instruments, we aimed to

- build on existing Welcome Baby data collection methods, preserving aspects that have worked well for stakeholders and modifying aspects that stakeholders reported as needing improvement
- select measures from the literature that have been successfully used for home visiting or related services and have demonstrated desirable psychometric properties, such as inter-rater reliability and validity
- gather information from a spectrum of Welcome Baby stakeholders to ensure that multiple perspectives are included
- pilot test all instruments before deploying
- design data collection, analysis, and reporting procedures to facilitate sustainability by Welcome Baby stakeholders for purposes of ongoing monitoring after this project ends.

With these underlying principles, we designed the evaluation with multiple data sources, including interviews, focus groups, observational assessments of home visits, client surveys, and staff surveys. Across these data sources, final versions of all data collection instruments and consent materials were approved by RAND's Internal Review Board (IRB) and local Welcome Baby site IRBs.

Table 3.1 provides an overview of these data sources and how they relate to each evaluation question. Appendix B has more details for each data source, including dates of administration, sample, data collection protocols, and instruments.

Table 3.1. Data Sources Used for Each Research Question

Evaluation Question	Site Interviews	Client Focus Groups	Staff Survey	Referral Documents	Client Survey	SFDB
1. To what extent are sites implementing Welcome Baby to fidelity?			X		X	X
2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability?	X		X		X	X
3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?	X		X	X		
4. What are participant perceptions of and experiences with the program and Welcome Baby service providers?		X			X	
5. What factors contribute to participants leaving the program early?	X		X		X	X
6. To what extent do participants achieve short- and intermediate-term outcomes?					X	X
7. What are the relationships between program fidelity outcomes and participant outcomes?			X		X	X

As mentioned earlier, F5LA has specified 14 fidelity domains that characterize the Welcome Baby program, and we gathered information on the fidelity domains from different quantitative data sources (Table 3.2). Of note, although we planned to use data from home observations to address the family-centered approach fidelity domain, small sample sizes precluded us from using that data source in our analyses. The small sample size was primarily the result of the delay in the implementation of the home observation assessment tool because of staff training concerns from F5LA, LABBN, and the participating sites. The national evaluation of the fidelity of evidence-based home visiting programs also reported challenges in collecting data to assess the quality of the home visitor–participant relationship (Boller et al., 2014). We also used data from the qualitative efforts to enrich the quantitative data sources. More specifically, information from staff interviews helped to explain variation on the staffing- and service delivery–related domains, and client focus groups helped to explain variation in the participant-related domains (e.g., participant perception of the relationship).

Table 3.2. Quantitative Data Sources That Capture Each Fidelity Domain

Fidelity Domain	Data Source
D1. Staff Qualifications	Staff survey
D2. Staff Training	Staff survey
D3. Supervisory Requirements	Staff survey
D4. Reflective Supervision	Staff survey
D5. Home Visitor Workloads	Staff survey
D6. Prenatal Recruitment and Enrollment	No data available
D7. Hospital Enrollment	LABBN site reports[a]
D8. Service Dosage	SFDB
D9. Timing of Service Delivery	SFDB
D10. Referrals to Community Services	SFDB
D11. Participant Perception of the Relationship	Client survey
D12. Family Centered Approach	Observational assessments[b]
D13. Content of Home Visits	SFDB, observational assessments[b]
D14. Responsiveness of Provider	Observational assessments[b]

[a] These data were not available in the SFDB but collected and monitored by LABBN, which provided us with site-level reports to use for our analyses.
[b] Sample size was too small to use this dataset.

The outcomes we analyzed reflect the outcomes drawn from the Welcome Baby logic model and assessed using data reported in the SFDB and measures collected in the Client Survey (Table 3.3).

Table 3.3. Quantitative Data Sources That Capture Each Outcome

Outcome Category	Outcome Measure	Data Source
Parenting	Parenting practices	Client Survey (subset of HOME inventory)
	Parenting knowledge	Client Survey (subset of KIDI)
Maternal health	Family planning	SFDB
	Maternal depression	SFDB (PHQ-9)
Maternal social support	Maternal social support from all sources	SFDB
Child health	Breastfeeding—exclusive	SFDB
	Breastfeeding—any	SFDB
	Child health insurance	SFDB
	Child immunizations up to date	SFDB
	Child attended well-child visits at recommended intervals	SFDB
Child safety	Home safety—no issues identified	SFDB
	Safe sleep practices (child sleeps on back, no co-sleeping)	SFDB
Child development	Communication	SFDB (ASQ)
	Gross motor	SFDB (ASQ)
	Fine motor	SFDB (ASQ)
	Problem solving	SFDB (ASQ)
	Personal/social	SFDB (ASQ)
	Child development—overall	SFDB (ASQ)

NOTE: HOME = Home Observation Measurement of the Environment; KIDI = Knowledge of Infant Development Inventory; LSP = Life Skills Progression Tool.

Next, we briefly describe each qualitative and quantitative data source. More complete details are located in Appendix B.

Qualitative Data Collection

Site Interviews

We conducted semistructured phone interviews (and some in-person interviews) about Welcome Baby program delivery with individuals representing each of the different staffing roles at each of the participating sites. This information allowed us to collect qualitatively rich information about staff perceptions of support for Welcome Baby program implementation, including factors that staff perceived as influencing program delivery. Key domains in the interview protocol included training and technical assistance experience, leadership support, staff support, facilitators and barriers to program delivery, and enrollment and engagement experiences. In Table 3.4, we summarize the research questions and topic areas addressed by the site interviews (see Appendix B for a copy of the site interview protocol).

Table 3.4. Data Source: Site Interviews

Evaluation questions	2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability? 3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?
Topic areas (components of fidelity framework)	• staff training • supervisory requirements • reflective supervision • service dosage • referrals to community services

Client Focus Groups

We conducted one or two focus groups with Welcome Baby clients at each site. Welcome Baby staff at each site assisted us in this effort by recruiting individuals who had experience with different Welcome Baby engagement points. The client focus groups allowed us to gain insight into client experience with the program, including aspects of the enrollment process, what clients liked and disliked about program content, relationships with home visiting staff, and ideas for ongoing quality improvement. In Table 3.5, we summarize the evaluation questions and topic areas that the focus groups addressed. We conducted focus groups in English and Spanish (see Appendix B for more information).

Table 3.5. Data Source: Client Focus Groups

Evaluation questions	4. What are client perceptions of and experiences with the program and Welcome Baby service providers?
Topic areas (components of fidelity framework)	• client perception of the relationship • family-centered approach • responsiveness of the provider

Quantitative Data Collection

Staff Survey

We conducted an online survey of key Welcome Baby staff at each site, including Parent Coaches, Parent Coach Supervisors, RNs, Outreach Specialists, and Hospital Liaisons. The primary goals of the survey were to capture the qualifications, training, and supervision of Welcome Baby staff so that we could compare those to the relevant Welcome Baby fidelity components. In Table 3.6, we summarize the evaluation questions and topic areas that this survey addresses (see Appendix B for more details, including a copy of the staff survey instrument).

Table 3.6. Data Source: Staff Survey

Evaluation questions	1. To what extent are sites implementing Welcome Baby to fidelity? 2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability?
Topic areas (components of fidelity framework)	• staff qualifications • staff training • supervisory requirements • reflective supervision

Referral Documentation

We collected documentation from site Program Managers related to each site's referral system to address the evaluation question concerning site maintenance of community resource and referral networks and gaps in existing networks (see Table 3.7; see Appendix B for the document review protocol).

Table 3.7. Data Source: Referral Documentation

Evaluation questions	3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?
Topic areas (components of fidelity framework)	• referral sources to community services

Client Survey

Client surveys were conducted to obtain information about several fidelity domains and outcomes. In relation to fidelity, the surveys included questions that addressed program components from the perspective of the client (i.e., the use of the family-centered approach, the client–home visitor relationships, the client experience). The survey incorporated existing measures from the literature that were adapted to the Welcome Baby context and built on the existing Welcome Baby client satisfaction survey (see Chapter 4 and Appendix B for more information on specific items). For this effort, we trained Parent Coaches at each site to introduce the opportunity for Welcome Baby clients to complete the anonymous survey using a tablet that the Parent Coach brought to any home visit during the data collection period. Clients also had the option of completing a paper version of the survey, but this option was rarely taken. Home visitors did not record the number of clients who were offered the survey or refused to complete the survey during the data collection period.

In Table 3.8, we summarize the research questions and topic areas that this survey addressed. Note that our access to Client Survey data was from September 2016 through September 2017; however, the survey administration start date varied by site because of IRB schedules and other constraints. We had access to less than four months of data for five sites, resulting in a low number of observations at those sites, precluding site-level comparisons with these data.

Table 3.8. Data Source: Client Survey

Evaluation questions	1. To what extent are sites implementing Welcome Baby to fidelity? 2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability? 4. What are participant perceptions of and experiences with the program and Welcome Baby service providers? 6. To what extent do participants achieve short- and intermediate-term outcomes? 7. What are the relationships between program fidelity outcomes and participant outcomes?
Topic areas (components of fidelity framework)	• parent perceptions of the relationship with the Welcome Baby providers (part of fidelity framework) • whether the providers use a family-centered approach (part of fidelity framework) • the responsiveness of the provider (part of fidelity framework) • parent knowledge of child development (part of outcome measurement) • parenting behaviors and practices (part of outcome measurement)

Stronger Families Database

We accessed data from the SFDB for several aspects of the fidelity framework, client outcome measurement, and client demographic information. The SFDB houses data recorded by Hospital Liaisons, RNs, Parent Coaches, and Parent Coach Supervisors over the course of a client's engagement with the Welcome Baby program. Examples of information recorded in the SFDB are the types of content covered during home visits, measures of maternal and child health and safety, maternal and child health insurance coverage status, maternal mental health status, breastfeeding status, and measures of child development. In Table 3.9, we summarize the research questions and topic areas that the SFDB addressed (see Appendix B for more details).

Table 3.9. Data Source: Stronger Families Database

Evaluation questions	1. To what extent are sites implementing Welcome Baby to fidelity? 2. Is there variability in sites' ability to reach fidelity to Welcome Baby? If so, what factors account for this variability? 5. What factors contribute to participants leaving the program early? 6. To what extent do participants achieve short- and intermediate-term outcomes? 7. What are the relationships between program fidelity outcomes and client outcomes?
Topic areas (components of fidelity framework)	• service dosage (part of fidelity framework) • timing of service delivery (part of fidelity framework) • content of home visits (part of fidelity framework) • maternal health (part of outcome measurement) • child health inputs (part of outcome measurement) • child safety (part of outcome measurement) • child development (part of outcome measurement)

4. Methods and Findings by Evaluation Question

This section organizes the findings by each of the seven evaluation questions. We first present each evaluation question and provide a brief summary of the findings. Appendices B–G contain additional details about the data collection methods and analyses referenced next.

Evaluation Question 1: To What Extent Are Sites Implementing Welcome Baby to Fidelity?

At the site level, there was a large amount of variability in the degree to which individual sites achieved fidelity to the Welcome Baby model. No site achieved fidelity in all of the assessed fidelity domains, but every site achieved fidelity in at least two domains (supervisory requirements and participant perception of the relationship). Individual sites achieved fidelity in 18 to 80 percent of measured domains, with an average of 48 percent.

Methods

Our approach to measuring fidelity was based on the criteria specified for 14 domains in the Welcome Baby Fidelity Framework, June 2016 version (see Table 2.2 and Appendix A). Our analyses involved establishing minimum requirement thresholds against which sites were measured. To the extent possible, we tried to measure domain fidelity as specified in the Framework, but in several cases, we established domain fidelity indicators based on the best data available (similar to the process used in Daro et al., 2012). Each of these fidelity domain thresholds were discussed with F5LA staff and staff from the LABBN to ensure relevance and accuracy. For three domains (Domain 6 [prenatal enrollment and recruitment], Domain 12 [family-centered approach], and Domain 14 [provider responsiveness]), we lacked available data to conduct site-level analysis, so our site-level results include assessments of only 11 of the 14 domains in the Welcome Baby Fidelity Framework.

Table 4.1 summarizes data sources, dates covered by the data, a brief description of the threshold standard established for meeting fidelity at the site level, and the average relevant percentage meeting minimum requirements across all of the sites. Appendix C provides details for the data sources and standards we applied for each fidelity domain. For each site and domain, we calculated whether the site met the minimum fidelity requirements and thus designated that the site met or did not meet the threshold standard outlined in Table 4.1.

Table 4.1. Fidelity Domain Data Sources, Site Threshold Standards, and Average Performance Across All Sites

Fidelity Domain	Data Source (Sample Size)	Dates Covered	Threshold Standard Established	Average Across Sites
D1. Staff Qualifications[a]	Staff Survey (116)	May–August 2017	All staff in 5 positions met minimum education, certification, and previous experience requirements	64% of staff
D2. Staff Training[a]	Staff Survey (117)	May–August 2017	All staff in 5 positions met minimum new staff training requirements for their role and had lactation education certification, as applicable	86% of staff
D3. Supervisory Requirements[a, b]	Staff Survey (15)	May–August 2017	All Parent Coach Supervisors oversaw no more than 4 Parent Coaches each at time of survey	100% of PCSs
D4. Reflective Supervision[a]	Staff Survey (107)	May–August 2017	All staff in 5 positions met minimum requirements for individual and group reflective supervision in 3 months prior to survey	61% of staff
D5. Home Visitor Workloads[a]	Staff Survey (72)	May–August 2017	All Parent Coaches, Parent Coach Supervisors, and RNs met minimum client engagement requirements, based on number of visits in last week worked prior to survey	78% of staff
D7. Hospital Enrollment	Site reports (12 months per site)	January–December 2017	Site staff approached 90% of available families and enrolled 40% of those approached	75% of available families approached; 58% of approached families were enrolled
D8. Service Dosage[c]	SFDB (4,928)	January 2016–December 2017	46% or more of Best Start clients completed at least 4 of 6 postpartum engagements	46% of clients
D9. Timing of Service Delivery[c]	SFDB (26,028)	January 2016–December 2017	84% or more of completed prenatal and postnatal client visits occurred within specified time period	84% of visits
D10. Referrals to Community Services[c]	SFDB (4,387)	April–December 2017	25% of created referrals from April through October 2017 were verified by staff as completed or under way by December 31, 2017.	25% of referrals
D11. Participant Perception of the Relationship[d]	Client Survey (1,976)	September 2016–September 2017	85% or more of clients responded “often” or “very often” for all four items in the Working Alliance Inventory, Bond subscale	89% of clients
D13. Content of Home Visits[c]	SFDB (32,597)	January 2016–December 2017	87% or more of recommended content was covered in completed postpartum client visits	87% of visit content

[a] Four sites had a staff survey response rate of less than 54 percent, so results from those sites should be interpreted with caution for this domain. The overall response rate for the survey across sites was 73% (121 of 166 staff).
[b] Four sites did not have a Parent Coach Supervisor complete the survey, so the sites were not assessed for fidelity on this domain.
[c] This domain did not have a specified threshold to use from the Welcome Baby Fidelity Framework. One hundred percent is not a realistic threshold, as these domains are not entirely under the control of the Welcome Baby program and require client involvement; however, one aim of the Welcome Baby program is to be responsive to the client. Therefore, we established the threshold as the average across all sites in our sample that met the particular domain criteria. Achieving a threshold in those domains indicates the site was at or above the Welcome Baby program site-wide average.
[d] This domain did not have a clear minimum requirement; therefore, the fidelity threshold was set at 85 percent of clients meeting the standard.

Findings

Sites varied in their ability to meet fidelity threshold requirements (Table 4.2). Each cell indicates whether a given site met the fidelity threshold for a specific domain. Green shading and "Yes" indicate the threshold was met, and red shading and "No" indicate it was not met. Gray shading and "N/A" indicates we did not have data for that site and domain. Additionally, we exclude from the summary the three domains for which we did not have available data for site-level analysis (domains 6, 12, and 14). Eight of the 12 sites were measured on 11 domains, and the other four sites were measured on 10 domains.

The two sites with the highest fidelity threshold achievement—sites 2 and 7—met the minimum requirements for seven to eight of ten domains (70 percent and 80 percent, respectively). Sites with the lowest fidelity threshold achievement met minimum requirements for only two to three of 11 domains (from 18 percent to 27 percent). On average, sites achieved fidelity thresholds for just under half (48 percent) of the measured domains.

Comparing these findings to the home visiting fidelity study by Boller et al. (2014), we observe that dosage was one of the most difficult fidelity measures for sites to attain in both studies. The sites in the Boller et al. study also struggled with maintaining caseloads, which was not one of the bigger challenges for Welcome Baby sites. The Welcome Baby sites also have low rates of completed referrals (25 percent across sites), but we did not find comparisons we could use to assess the relative value of this rate of referral.

Table 4.2. Summary of Fidelity Domain Achievement, by Site

Site	D1. Staff Qualifi-cations	D2. Staff Training	D3. Parent Coach Supervisor Supervisory Requirements	D4. Staff Reflective Supervision	D5. Home Visitor Workload	D7. Hospital Enrollment	D8. Service Dosage[b]	D9. Service Timing[b]	D10. Referrals Completed[b]	D11. Perception of Relationship	D13. Visit Content[b]	Domains Achieved
1	No	No	Yes	No	No	No	No	No	No	Yes	No	18%
2	No[a]	Yes[a]	N/A	Yes[a]	Yes[a]	Yes	Yes	No	Yes	Yes	No	70%
3	No	No	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	55%
4	No[a]	No[a]	Yes[a]	No[a]	Yes[a]	No	Yes	No	No	Yes	Yes	45%
5	No	No	Yes	No	No	No	No	No	Yes	Yes	No	27%
6	No	No	Yes	No	No	No	No	Yes	No	Yes	No	27%
7	Yes	Yes	N/A	No	Yes	No	Yes	Yes	Yes	Yes	Yes	80%
8	No	No	Yes	No	No	No	No	No	No	Yes	Yes	27%
9	No[a]	No[a]	N/A	No[a]	Yes[a]	No	Yes	Yes	Yes	Yes	Yes	60%
10	No[a]	Yes[a]	Yes[a]	No[a]	Yes[a]	No	No	Yes	Yes	Yes	Yes	64%
11	No	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes	55%
12	No	Yes	N/A	No	Yes	No	Yes	No	No	Yes	Yes	50%
Sites meeting threshold (Total Yes)	1	5	8	1	6	1	7	5	7	12	8	48%

NOTES: For sample size information, see Table 4.1.
[a] Site had a staff survey response rate of less than 54%.
[b] The threshold was set at the Welcome Baby program average across all sites, so by definition, some sites will fail to achieve the threshold.

Evaluation Question 2: Is There Variability in Sites' Ability to Reach Fidelity to Welcome Baby?

At the domain level, a large amount of variability existed in the proportion of sites that met the fidelity threshold. For two domains (supervisory requirements and participant perceptions of the relationship), all assessed sites achieved fidelity thresholds with the Welcome Baby model; three sites achieved one domain each (one site met staff qualifications, one met reflective supervision, and one met hospital enrollment. The remainder of the domains had five to eight sites achieve fidelity thresholds. On average across all of the assessed domains, 5.5 sites achieved domain fidelity. Within several domains, there was also variability in achieving thresholds for specific elements of the domain criteria (e.g., by staff position or visit type). Findings from the interviews with Welcome Baby staff at the sites lend some information to help explain challenges faced in meeting the fidelity thresholds.

As noted in the previous section, we used data from a variety of sources to examine fidelity to the Welcome Baby model. For this evaluation question, we describe how we assessed whether sites met the specific domain fidelity thresholds and the results from that assessment. Following the presentation of each of the domain-specific findings, we present findings from the qualitative data collected from interviews with site staff that we used to explore and understand the implementation context that might explain the sites' ability or inability to meet fidelity requirements. In many cases, there were no observable differences between sites that met the fidelity requirements of a particular domain and those that did not, so we report overall the themes.

Methods

For the quantitative analysis, we used the same methods as described for Evaluation Question 1 to establish minimum requirements and site-level domain fidelity thresholds. In Evaluation Question 1, we looked *across* sites at the number of domains for which fidelity thresholds were achieved; now, we look *within* each domain to assess how many sites achieved fidelity thresholds. We provide additional descriptions of methods particular to specific domains, as appropriate.

In addition to analyzing data sources, we conducted interviews with site staff representing eight positions across each of the sites to qualitatively describe factors affecting the achievement of domain fidelity thresholds. Data collection details are included in Appendix B. Field notes taken during the interviews were reviewed against a digital recording of the interview for accuracy and then uploaded into the qualitative software program (MaxQDA) for qualitative data analysis. We used field notes rather than transcripts, following a long tradition in anthropology (Bernard, 2006; Sanjek, 1990) because it better met the purposes of our study— documenting themes based on interview questions—and is less time consuming and expensive than transcription analyses. All notes were stripped of identifying information (except for Site Code and Position Code) before data analysis. Data were coded independently by research staff using a

constant comparative process. Initial coding was done on notes from 25 of the earliest interviews conducted, using a conventional content analysis approach and allowing the content of the text to drive thematic development before imposing categories defined according to the areas covered (i.e., section headers) in the respective interview protocols. To create a theme for coding purposes, research staff were instructed to identify at least three excerpts from different respondents that illustrated the theme. For example, looking at the data on staff experience with the cohort training, we initially developed themes using words from the text, such as "the training was long and intense," "more of the training should be web-based," and "it is difficult traveling to LA every day for training." Later, these were all coded under the theme "logistical challenges," which is one theme in the category "perceptions of staff training." Some segments were *double-coded*, meaning that they could be categorized into more than one theme. For example, the suggestion that "more of the training should be web-based" was coded under the theme "suggestions to improve training" as well as "logistical challenges."

Following an initial round of coding, consensus meetings were conducted (including one of the principal investigators as well as the research staff that were involved in the interviews and focus group data collection and analyses) to develop a codebook. The codebook consisted of a detailed description of each code (theme), inclusion and exclusion criteria for sorting coded segments, and some typical exemplars. Codebook development activities included removing and collapsing redundant codes and repositioning others as necessary.

In the next phase, we used the codebook to review and systematically code all the interview notes independently, including those that had been previously coded during codebook development. We did not measure intercoder consistency; instead, one of the project leaders randomly selected a subset of coded segments that had been coded by more than one member of the research staff and reviewed to ensure that there was consistency during the initial round of coding. The few inconsistencies found were discussed, and a final determination was made by consensus. All the excerpts presented in the results section have been reviewed for consistency with the theme by more than one member of the research team.

Findings

Only one site achieved fidelity in each of the 11 measured domains, and the average across all of the domains that were assessed was 5.5 sites achieving domain fidelity (Table 4.2). However, that average masks the wide range of fidelity achievement across domains—from one to 12 sites met the fidelity threshold within each domain. For three of the 11 measured domains (domains for staff qualifications, reflective supervision, and hospital enrollment), only one site met fidelity thresholds. For one domain (participant perception of the relationship), all 12 sites met fidelity thresholds; for another domain (supervisory requirements), all sites that could be assessed (eight out of 12 sites) met thresholds. This wide range of variability in fidelity achievement across sites is consistent with the findings of the national evaluation of evidence-based home visiting programs (Boller et al., 2014). Their study of the fidelity of 17 home visiting sites across five program models found more variability in fidelity within models than across

models. Next, we discuss each domain separately to provide further information on the variability observed on the separate fidelity domains (Table 4.2).

Domain 1: Staff Qualifications

This domain comprises the sum of staff qualifications for five Welcome Baby staff positions: Hospital Liaison, Outreach Specialist, Parent Coach, Parent Coach Supervisor, and Registered Nurse. For a site to achieve the fidelity threshold, all staff must have met the minimum requirements for their positions, which may help explain why only one site achieved fidelity. The average across all staff was 64 percent (Table 4.3). Also, it should be noted that this is based on those staff responding to the survey, so it is not fully representative of all staff at the time of fidelity assessment.

Table 4.3 shows the rates of fidelity threshold achievement for each staff position across all Welcome Baby sites. Over three-quarters of Outreach Specialists and Hospital Liaisons met requirements, whereas the rates were as low as 50 percent among the other three staff positions. The pooled threshold achievement rates are reported because of the large amount of variation in staffing levels within sites and varying nonresponse rates, which would make site by site comparisons limited. For example, some sites were missing all survey responses for a specific position.

Table 4.3. Staff Qualifications (Domain 1) Fidelity Threshold Achievement, by Staff Position

Staff Position	Number Meeting Requirements	Number of Respondents	Percentage Achieving Fidelity
Hospital Liaison	19	24	79
Outreach Specialist	14	17	82
Parent Coach	20	40	50
Parent Coach Supervisor	8	14	57
RN	13	21	62
Total	74	116	64

SOURCE: Staff Survey data (*n* = 116; May–August 2017).

Domain 1: Qualitative Findings

Most sites reported challenges finding staff with the required qualifications, particularly the RN position. We provide illustrative examples here from the interview notes of the concerns expressed:

- *The role that is difficult to hire for is the Welcome Baby [RN]. There aren't enough RNs with that specific experience of home visiting. I think they're required to have a public health certification and six months of home visiting experience. That's hard to find, especially the home visiting experience. It would be easier to get [RNs] if they could shadow for training and get that home visiting experience that way.*

- *There are some pretty rigid criteria for each job position and it would be nice to see a little bit of room and flexibility to hire staff because it takes a significant amount of time to fill out a position because we are looking for specific set of qualifications.*

Domain 2: Staff Training

For staff training, the average percentage meeting minimum training requirements across all staff was 86 percent. Five sites achieved the fidelity threshold—markedly higher than for staff qualifications. Four of the five positions had high rates of fidelity threshold achievement, including 100 percent for Parent Coach Supervisors, whereas the percentage of Outreach Specialists was significantly lower at 56 percent (Table 4.4).

Table 4.4. Staff Training (Domain 2) Fidelity Threshold Achievement, by Staff Position

Staff Position	Number of Staff Meeting Requirements	Number of Respondents	Percentage of Staff Achieving Fidelity
Hospital Liaison	21	24	88
Outreach Specialist	9	16	56
Parent Coach	37	42	88
Parent Coach Supervisor	15	15	100
Registered Nurse	19	20	95
Total	101	117	86

SOURCE: Staff Survey data (n = 117; May–August 2017).

If we limit the sample to staff with at least one year's tenure at Welcome Baby, the rate of staff training threshold achievement was above 94 percent for all positions. We examined the rates for a smaller sample of staff (n = 93) who had been employed at least one year to see if a potential explanation for the lower Outreach Specialist percentages is that a significant number were newer hires at the time of the survey. New staff must complete cohort training within the first year of hire (see Chapter 2), but very new staff may not yet have completed that.

Domain 2: Qualitative Findings

With respect to staff training, staff representatives from many sites reported both positive and negative aspects of training, and several proposed suggestions for improving the required cohort training. In general, interviewees felt that the training was comprehensive and in-depth and provided a great introduction to Welcome Baby. However, there was an almost universal sentiment across staff roles and sites that the training was too intense and too protracted to ensure retention of all the information provided.

Suggestions for improvements fell mainly into two broad categories, "logistics" and "aligning training with specific roles," as illustrated here. A few sample coded segments from the interviews are provided to illustrate the points raised in these categories.

- Logistics
  - *I'd also say that as the trainings would go on it's been challenging because on training days that are back to back it really cuts into seeing clients. We have to see 32–40 [clients] and if I miss two to three days in a month for training, I can only see 32 at the most. It cuts into my numbers when we have so many trainings.*
  - *The main challenges for the basic required training . . . would be that it's required and spread out [over time], so getting someone up and running can take some time.*
- Aligning training with specific roles
  - *BRIDGES training was like [a] half day and it did not give a feel for how much they would go through—need to include some mock visits.*
  - *We need a more comprehensive training for outreach; I struggled with some areas of [outreach]. They should have a one-week-long outreach specialist training, A lot of what they cover doesn't capture what we do.*
  - *It would be good for Hospital Liaisons to shadow Hospital Liaisons at other sites to get a better understanding of what to do. From the training, it wasn't clear what it was like to be on the floor . . . and it made it harder when we were in our position to know what to do.*
  - *The core training is a lot about moms and kids but less on the role of Outreach Specialist and Hospital Liaisons—there needs to be more of a marketing strategy and tools on how to speak with parents to get them to enroll in Welcome Baby.*
  - *There was no specific training to be a Parent Coach Supervisor.*
    I was not trained by Welcome Baby to hire staff.

We also explored the possibility that staff turnover might be an important factor impacting the ability of sites to meet Domains 1 (staff qualifications) and 2 (staff training). Interviewees were asked whether they "thought there was high staff turnover" at their site, and if so, what they thought contributed to the high staff turnover rate. Analysis of the data from the interviews gives a sense of the potential reasons for the observed turnover rates. Two key reasons cited by interview participants include

- maternity leave (many staff are of childbearing age, and some do not return to the program or to the workforce after having a child or return only on a part-time basis)
- staff turnover among RNs (one participant noted that Welcome Baby requires a high level of experience, and RNs at that level can get a better-paying job with a lower caseload; staff burnout was also mentioned).

Domain 3: Supervisory Requirements

This domain is limited to information collected from Parent Coach Supervisors, and all 15 in our study met the fidelity threshold requirement that they supervise four or fewer Parent Coaches (Table 4.1). These staff were located in eight of the 12 sites, and two sites had one respondent for this domain, five sites had two respondents, and one site had three respondents. There were no indications from the qualitative data that sites were experiencing challenges on this supervisory requirement.

Domain 4: Reflective Supervision

Across the five staff positions, an average of 61 percent of all staff met minimum individual and group reflective supervision requirements in the past three months (Table 4.5). Only one site achieved the domain fidelity threshold by staff in all five positions reporting meeting the supervision requirements. Parent Coaches had the highest rates of fidelity threshold achievement at 78 percent, whereas the other staff positions ranged from 47 to 61 percent. For this domain fidelity threshold calculation, we allowed for one or two fewer reflective supervision meetings over three months, depending on the number required for each position, than the Framework technically required, providing some leeway for the potential that staff may have had vacation or sick leave during the specific time frame asked about in the survey that could have resulted in a lower number of meetings.

Table 4.5. Reflective Supervision (Domain 4) Fidelity Threshold Achievement, by Staff Position

Staff Position	Number Meeting Requirements	Number of Respondents	Percentage Achieving Fidelity
Hospital Liaison	11	22	50
Outreach Specialist	8	14	57
Parent Coach	28	36	78
Parent Coach Supervisor	7	15	47
RN	11	20	55
Total	65	107	61

SOURCE: Staff Survey data (*n* = 107; May–August 2017).

Domain 4: Qualitative Findings

In terms of challenges around the provision of reflective supervision that might affect the ability of sites to achieve fidelity on this domain, staff cited the lack of consistent scheduling, failure to prioritize the reflective supervision sessions, lack of supervisory support for staff, and the lack of supervisory support for the meetings. Examples from the notes are given here:

- *We're supposed to have reflective weekly but lately it's been off and on, we haven't had a good schedule.*
- *We are meant to have weekly one-on-one supervision and we've never had it done effectively or following the fidelity model. It was a total failure when done.*
- *I don't get anything out of it. We feel disconnected. We don't get anything from the one-on-ones. Sometimes we have to wait, start late, and are rushed. She seems to be busy and preoccupied.*
- *We don't feel supported. She is preoccupied. We are not a priority. We don't get anything from our meetings. I can do without it.*

Domain 5: Home Visitor Workloads

Across all Parent Coaches, Parent Coach Supervisors, and Registered Nurses, the average was 78 percent meeting the workload requirements for number of engagements (i.e., 20 per

month for Parent Coach Supervisors and 32 per month for Parent Coaches and Nurses) (Table 4.6). At six sites, all site staff met workload requirements, thus achieving the domain fidelity threshold.

Fidelity threshold achievement was high for all positions, ranging from 70 to 93 percent meeting workload requirements (Table 4.6). We note that threshold achievement rates were calculated based on survey responses for the number of client visits conducted in the last week worked, which we multiplied by four to determine number of monthly engagements. We took into account the number of hours a staff member worked per week in making calculations.

Table 4.6. Home Visitor Workloads (Domain 5) Fidelity Threshold Achievement, by Staff Position

Staff Position	Number Meeting Requirements	Number of Respondents	Percentage Achieving Fidelity
Parent Coach	26	37	70
Parent Coach Supervisor	14	15	93
Registered Nurse	16	20	80
Total	56	72	78

SOURCE: Staff Survey data (*n* = 72; May–August 2017).

Domain 5: Qualitative Findings

Staff also identified challenges that might affect the ability of home visiting staff to meet their workload requirements (in particular, factors that could affect completion of the required number of visits per week). The main facilitators of success were quick and flexible scheduling of home visits and support from supervisors for dealing with high-risk cases:

- We try *to assign cases within 24 hours so the family has the best opportunity to get the nurse in within the three days.*
- *The turnaround time goes by very fast. For example, if the Hospital Navigator enrolls a client on Monday, by Tuesday the client is already in our system, and if the clinical supervisor accepts the referral by Wednesday, then the RNs can call the client by Wednesday too. All of this happens while the mom is still at the hospital.*
- *If [home visiting staff] have concerns or high-risk cases, they can have a supervisor go out with them.*
- *The Parent Coaches are very flexible with scheduling. For instance, they offer to see moms on the weekends.*

In considering barriers to meeting the home visiting workload requirements, staff identified a number of potential risk factors for missed engagement points, such as staffing issues, staff turnover, heavy administrative burden, the dual role of Parent Coach Supervisors who are carrying a caseload, and time to complete individual visits due to the complex needs of clients.

- *In my capacity [as a Parent Coach Supervisor], it's juggling the different aspects of my role. Because I am in the field and carry a caseload . . . it's challenging to also monitor staff.*
- *With high-risk clients, sometimes difficulties come up like postpartum depression, and [Parent Coaches] can't rush these visits. I suggest that for high-risk [patients], instead of seeing eight to ten clients a week, they should see seven a week because high-risk clients take longer.*
- *[Parent Coaches] sometimes get really intensive cases, so we have to spend more time on those. Very rarely do we get a visit that lasts less than an hour.*
- *Recently, they've [Parent Coaches] been scheduling three to four clients a day and stretching themselves.*

Domain 6: Prenatal Enrollment

Although we were unable to assess whether sites met the fidelity threshold on this domain using quantitative data, staff were asked in the interviews whether there was "anything about your site or organization that has helped you to recruit women prenatally." Responses indicated that relationships with clinics and doctors, keeping track of the number of pregnant moms approached (separately from the SFDB) even if they do not sign up initially, and following up with them later were key to prenatal enrollment. Staff also noted some conflation between marketing and outreach. As a result, staff recommended more-focused training on outreach and a reduced emphasis on fliers and brochures. Some examples are noted here:

- *Strong collaborations with hospital, WIC, [obstetrician] providers, medical groups.*
- *If [obstetricians] are on board and willing to let you set up in their clinics and approach clients, this makes things easier.*
- *If the outreach staff talk to ten women, they write that down and where it happened at. We keep it in binders and add it up at the end of the month. We have a log of referrals and how many calls they are getting, if they enroll. We have a monthly directors meeting for Welcome Baby that I attend and review it as a team. We talk about challenges, trends we are seeing.*
- *There is someone in charge of outreach at LABBN, but the focus is on marketing and not necessarily outreach. There is too much emphasis on fliers and brochures.*

Domain 7: Hospital Enrollment

Fidelity threshold achievement for this domain comprised of two components: (1) 90 percent or more of available families were approached in the hospital to enroll in the Welcome Baby program, and (2) 40 percent or more of the families approached in the hospital were enrolled in the program. Only one site achieved the domain fidelity threshold by meeting both components. However, all sites met the second component. The average rate for sites for the first component was 75 percent of available families approached, with a wide range from 49 to 92 percent; the average rate for the second component was 58 percent enrolled, again with a wide range from 46 to 83 percent (Table 4.7). We note that these data were provided to us by LABBN as numbers of families eligible, approached, and enrolled reported monthly by sites. We calculated an annual rate for the two components for each site.

Table 4.7. Hospital Enrollment (Domain 7) Percentage Approached and Enrolled, by Site

Site	Percentage of Available Families Approached	Percentage of Approached Families Enrolled
1	57	56
2	92	50
3	77	47
4	74	48
5	80	46
6	85	61
7	89	65
8	78	47
9	58	83
10	83	70
11	49	79
12	72	47
Total average	75	58

SOURCE: Site data provided by LABBN from January through December 2017.

Domain 7: Qualitative Findings

Consistent with the quantitative findings, staff reported more challenges in missing some clients at the hospital (the "approach" requirement of this domain) than in enrolling families once approached. Many of the challenges cited were factors beyond the control of the Hospital Liaison, such as staff shortages, length of time in the hospital, and whether the baby is in the NICU:

- *Our Hospital Liaisons can't work at full capacity when we don't have full staff. Now that we're increasing our numbers at bedside, we lost a Hospital Liaison. We're definitely losing moms. I keep telling the Hospital Liaisons to work individually, focus on their goals. Unfortunately, they're going to miss moms and that's OK.*
- *The NICU moms are more difficult—because they cannot access the NICU to talk to the moms and [the moms] tend to spend a lot of time in there.*
- *We keep our vaginal deliveries for 48 hours and our C-sections for 72 hours, so that really helps us get to the moms. At other hospitals, the Hospital Liaisons have one shot. If I go in and the mom is busy with visitors, I can come back the next day. That's helpful.*

Domain 8: Service Dosage

For this domain, the fidelity threshold was based on rates at or above the Welcome Baby-wide average, which was 46 percent of clients achieving minimum dosage (four out of six postpartum visits). The majority of sites (seven of 12) achieved the minimum dosage for less than half of their clients, with the range across all sites 35 to 71 percent (Table 4.8).

Table 4.8. Service Dosage (Domain 8) Fidelity Threshold Achievement Percentage, by Site

Site	Percentage of Clients Completing 4 or More Postpartum Visits
1	35
2	69
3	48
4	51
5	42
6	44
7	71
8	40
9	57
10	41
11	61
12	46
Total Average	46

SOURCE: SFDB data (*n* = 4,928, January 2016–December 2017).

Domain 8: Qualitative Findings

From the perspective of Parent Coaches and Parent Coach Supervisors, the key contributing factors for program attrition were cancellations or no-shows by clients and the gap between the three-to-four-month and nine-month visit:

- *The no-show issue is just inherent in the program. For a lot of people, it's not a priority. They didn't pay for the program and don't have anything invested in the program.*
- *The gap between the three-to-four-month and nine-month visit is also a challenge because it's hard to reconnect with the client after many months. Something that has worked well for me is doing another visit in between, around the sixth month, or inviting the clients to come to Welcome Baby to an event, so that when you call them at the ninth month they still remember who you are. I wish we had a six-month visit and keep it that way. I agree there is a huge gap between the three-to-four-month and ninth-month visits and because of that you may end up losing a client.*

Although the largest drop-off in program participation occurs between the hospital and home visits, we did not find consistent themes addressing this time point.

Domain 9: Timing of Service Delivery

The fidelity threshold was based on rates at or above the Welcome Baby–wide average, which was 84 percent of visits completed on time as reported in SFDB data. Five of 12 sites achieved the domain fidelity threshold for the percentage of all prenatal and postpartum client visits that were completed within a specified time frame based on expected date of birth or hospital discharge (i.e., "completed on time"). All sites had high percentages, ranging from 78 to 90 percent (Table 4.9). We include only completed visits in our fidelity threshold assessments

(i.e., not visits that were recorded as incomplete in SFDB). We exclude three types of visits in our calculations: hospital visits, because they could all be considered on time by the nature of the visit; post-NICU nurse visits, because of limitations with the data to calculate time period correctly; or "other" visit types, because they do not include a specified time period.

Table 4.9. Timing of Service Delivery (Domain 9) Fidelity Threshold Achievement Percentage, by Site

Site	Percentage of Visits Completed on Time
1	83
2	81
3	87
4	82
5	78
6	90
7	85
8	78
9	90
10	86
11	80
12	83
Total average	84

SOURCE: SFDB data (*n* = 26,028, January 2016–December 2017).

Somewhat more variation existed in on-time rates by visit type, which was assessed for the full sample rather than by site (Table 4.10). The lowest on-time rates were for the postpartum nurse visit (56 percent) and the postpartum two-to-four week visit (78 percent), both of which had the narrowest calculated time periods in which to occur (within seven days or two to four weeks of hospital discharge, respectively, to achieve fidelity threshold). Conversely, the postpartum three-to-four-month visit has the widest calculated time period to be considered on time, from about three to 4.5 months after discharge, and virtually all visits (99 percent) achieved this threshold.

Table 4.10. Timing of Service Delivery (Domain 9) Fidelity Threshold Achievement Percentage, by Visit Type

Visit Type	Percentage of Visits Completed on Time
Prenatal up to 27 weeks	90
Prenatal by 32 weeks	93
Prenatal by 38 weeks	91
Postpartum Nurse	56
Postpartum, 2–4 weeks	78
Postpartum, 2 months	95
Postpartum, 3–4 months	99
Postpartum, 9 months	96
Total	84

SOURCE: SFDB data (*n* = 26,028, January 2016–December 2017).

Domain 9: Qualitative Findings

Staff indicated that staff shortages and difficulties faced with filling staff positions quickly may have contributed to some challenges in meeting the service delivery timing (see findings under Domains 1, 2, and 5 that offer examples about these points).

Domain 10: Referrals to Community Services

The fidelity threshold was based on rates at or above the Welcome Baby–wide average, which was 25 percent of referrals as reported in SFDB data. We included referrals made at any visit prior to the nine-month visit and considered referrals where active engagement was under way (e.g., an appointment scheduled) as "completed." Seven sites achieved the domain fidelity threshold for the percentage of Welcome Baby staff referrals made for clients that were either completed or under way. We found a wide range of referral completion rates among sites, and all sites had less than 60 percent completed. Only one of the 12 sites had more than half (58 percent) of its client referrals completed, whereas two sites had merely 6 to 7 percent completed (Table 4.11). This analysis was based on a specific window of time, and some referrals (i.e., occurring in October 2017) were observed for only two months to assess completion. Those and other referrals may have been completed after our time period.

Table 4.11. Domain 10 Fidelity Threshold Achievement Percentage, by Site

Site	Percentage of Referrals Completed
1	6
2	46
3	58
4	20
5	26
6	18
7	45
8	12
9	40
10	29
11	32
12	7
Total	25

SOURCE: SFDB data (*n* = 4,387, April–December 2017).

Domain 10: Qualitative Findings

We present findings related to staff reports of the community referral process as part of Evaluation Question 3.

Domain 11: Participant Perception of the Relationship

All sites achieved the domain fidelity threshold, indicating clients' perceptions of the relationship with their Parent Coaches or other home visitor are overwhelmingly positive. We established the fidelity threshold at 85 percent of clients reporting "very often" or "always" for all four measured items of the Working Alliance Inventory's Bond subscale (i.e., reporting a positive relationship) in the Client Survey. The average rate of reported positive relationships was 89 percent across sites, narrowly ranging from 86 to 100 percent. We note that the site achieving 100 percent of the fidelity threshold had a very small survey response rate. We also found little variation in reported positive relationships by visit type, ranging from 87 to 92 percent across the two-to-four-week, two-month, three-to-four-month, or nine-month visits.

Domains 11–14: Qualitative Findings

No specific interview questions related to these fidelity domains were given, and, therefore, there are no relevant findings to report. Of note, the qualitative data from clients regarding the responsiveness of the provider are presented elsewhere (see Evaluation Question 4).

Domain 13: Content of Home Visits

To calculate this measure, we evaluated Parent Coach–reported content covered during the home visits. These self-report data are not subject to external validation. Additional information on how this measure was specified can be found in Appendix C. Most recommended content items from the Welcome Baby Fidelity Framework were captured in the SFDB data, but in a few cases we excluded an item from calculations if we did not have an SFDB data element match. The fidelity threshold was based on rates at or above the Welcome Baby–wide average, which was 87 percent of content covered across all completed visits from 2016 through 2017. Eight of 12 sites achieved the domain fidelity threshold for the percentage of recommended postpartum visit content being covered as reported in SFDB data. All sites had fairly high rates, ranging from 74 to 94 percent. The fidelity threshold was based on the percent of recommended content items covered within postpartum visits, from hospital visit through nine months.

We also found little variation in the achievement of the fidelity threshold by visit type, with the exception of the hospital visit. Whereas 71 percent of recommended content was covered in completed hospital visits, that rate ranged from 91 to 96 percent for all other postpartum visits.

Evaluation Question 3: How Are Sites Maintaining Community Resource and Referral Networks? What, If Any, Gaps Exist in These Networks?

Sites vary widely in the completeness of their referral directories (Figure 4.1). Very few sites have developed their own infrastructure to facilitate successful referrals (e.g., MOUs with service providers, referral forms). The Welcome Baby program provides sites with protocols for five referral types, including domestic violence, early intervention for child developmental delay, postpartum care, maternal depression, and suicide prevention. All five Welcome Baby protocols require monitoring referral completion, four require that Welcome Baby staff help clients gain access to the services, and two emphasize client confidentiality (Table 4.15). Staff across all sites reported referring to a wide range of referral resources, regardless of the infrastructure developed to facilitate successful referrals.

To address this question we conducted a systematic investigation of the referral documentation available for Welcome Baby as a whole as well as at each site, providing insight into the infrastructure supporting effective referrals at the sites. We also examined responses we received from staff during the site interviews to understand the community resources and referral networks staff were using.

Methods

Our approach to assessing Welcome Baby sites' referral systems involved a systematic review of programmatic referral documentation, which was based upon the University of North Carolina's 2013 Referral Systems Assessment and Monitoring Toolkit (Measure Evaluation Center, 2013). By scanning and abstracting relevant program referral-related documents, we

identified gaps in referral networks or procedures that may be preventing the proper implementation or successful completion of referrals.

Using this approach, we requested the following documents from each site's Program Manager:

- a copy of any centrally maintained referral directories providing contact information for community service providers
- copies of any MOUs or MOAs with community service providers
- copies of any referral protocols used by staff at each site
- copies of blank referral forms used to formally connect clients with service providers.

We collected documents related to 28 different referral types, and we categorized referral types as either primary or secondary referral types (Table 4.12). RAND researchers developed a list of referrals by type, where the primary referral types included those categories of need that are given specific emphasis in the Welcome Baby Orientation and Protocol Manual (the Manual) as categories of need that are particularly relevant or important to the program and the Welcome Baby population. Secondary referral types included referrals for services that clients commonly need and/or those that are listed as common referrals in the Manual. After the initial list was developed, it was reviewed and approved by F5LA and LABBN.

Table 4.12. Primary and Secondary Referral Types

Primary Referral Types	Secondary Referral Types
Intimate partner violence	Charitable services (e.g., furniture, clothing, baby supplies)
Early intervention for child developmental delay	Housing
Environmental health	Transportation
Postpartum health care	Child care referral services
Maternal mental health–depression	Child care subsidies
Maternal mental health–other	Dental care (mother)
Suicide prevention	Health insurance (child)
Alcohol use disorder treatment	Health insurance (mother)
Substance use disorder treatment	Primary care provider/medical home (child)
Smoking cessation services	Food bank
Public benefits–general	Lactation support
Public benefits–CalWORKs (TANF, Cash Aid)	
Public benefits–SSDI/Disability	
Public benefits–Supplemental Security Income	
Public benefits–unemployment	
Public Benefits–CalFresh (food stamps)	
Public Benefits–WIC	

NOTE: TANF = Temporary Assistance for Needy Families; SSDI = Social Security Disability Insurance.

We categorized referral types in this way to conduct a more in-depth review of referral systems for "primary" referral categories. We reviewed documents for certain characteristics using a "checklist" tool that allowed us to pinpoint systematic gaps in the referral networks both within and across sites and to identify areas of strength (see Appendix B; Table B.1). Table 4.13 outlines the categories of information gathered from each of these documents, for primary and secondary referral types.

Table 4.13. Categories of Information Gathered for Primary and Secondary Referral Types

Document Type	Primary Referral Types	Secondary Referral Types
Referral directory	Contact information present in a centrally maintained directory for each referral type	Contact information present in a centrally maintained directory for each referral type
	Contact information valid	Contact information valid
	Contact information available in both English and Spanish	Contact information available in both English and Spanish
Referral protocols	Protocol present for each referral type	N/A—did not gather referral protocols for secondary referral types
	Instructions given on the role of home visitor in monitoring referrals (no policy/home visitor expected to monitor/home visitor not expected to monitor)	
	Instructions given on the role of home visitor in making referral (no policy/provide information to the family/help family gain access)	
	Protocols include emphasis on maintaining client confidentiality	
Referral forms	Referral form present for each referral type	N/A—did not gather referral forms for secondary referral types
Formal agreements between site and service providers (MOU/MOA)	MOU present with service provider for each referral type	N/A—did not gather formal agreements for secondary referral types

We summed the different elements of referral support structures for primary referral types only, as described in Table 4.13. We did not gather information on referral support structures for secondary referral types, which were lower-priority referral types as described earlier. The referral support structures score ranged from 0 to 4 and varied by referral category. Table 4.14 outlines the scorecard for the referral support structure score assigned to each site.

Table 4.14. Scorecard for the Referral Support Structure Score

Item	Score
Contact information for given referral type	0 = No, 1 = Yes
Referral protocol for given referral type	0 = No, 1 = Yes
Referral form for given referral type	0 = No, 1 = Yes
Formal agreement with service provider (MOU) for given referral type	0 = No, 1 = Yes

Findings

Referral Contact Information

We examined each site's centralized referral directory for contact information related to identified referral categories (Figure 4.1). Notably, all sites with English contact information also had valid Spanish contact information for that referral type, so we do not examine English and Spanish information separately. Among referral types, maternal mental health and housing were

the referral types most likely to have contact information in referral directories. Less than half of sites had specific smoking cessation resources. Three of 12 sites had referral directories with valid contact information related to all identified referral categories (Figure 4.2). One site did not have a referral directory, while two additional sites had referral directories with less than 50 percent of categories covered. Across the primary referral types, with respect to smoking cessation and SSDI/Supplemental Security Income (SSI) benefits, 50 percent or fewer sites had valid contact information.

Figure 4.1. Percentage of Sites with Valid English and Spanish Contact Information, by Primary/Secondary Referral Type

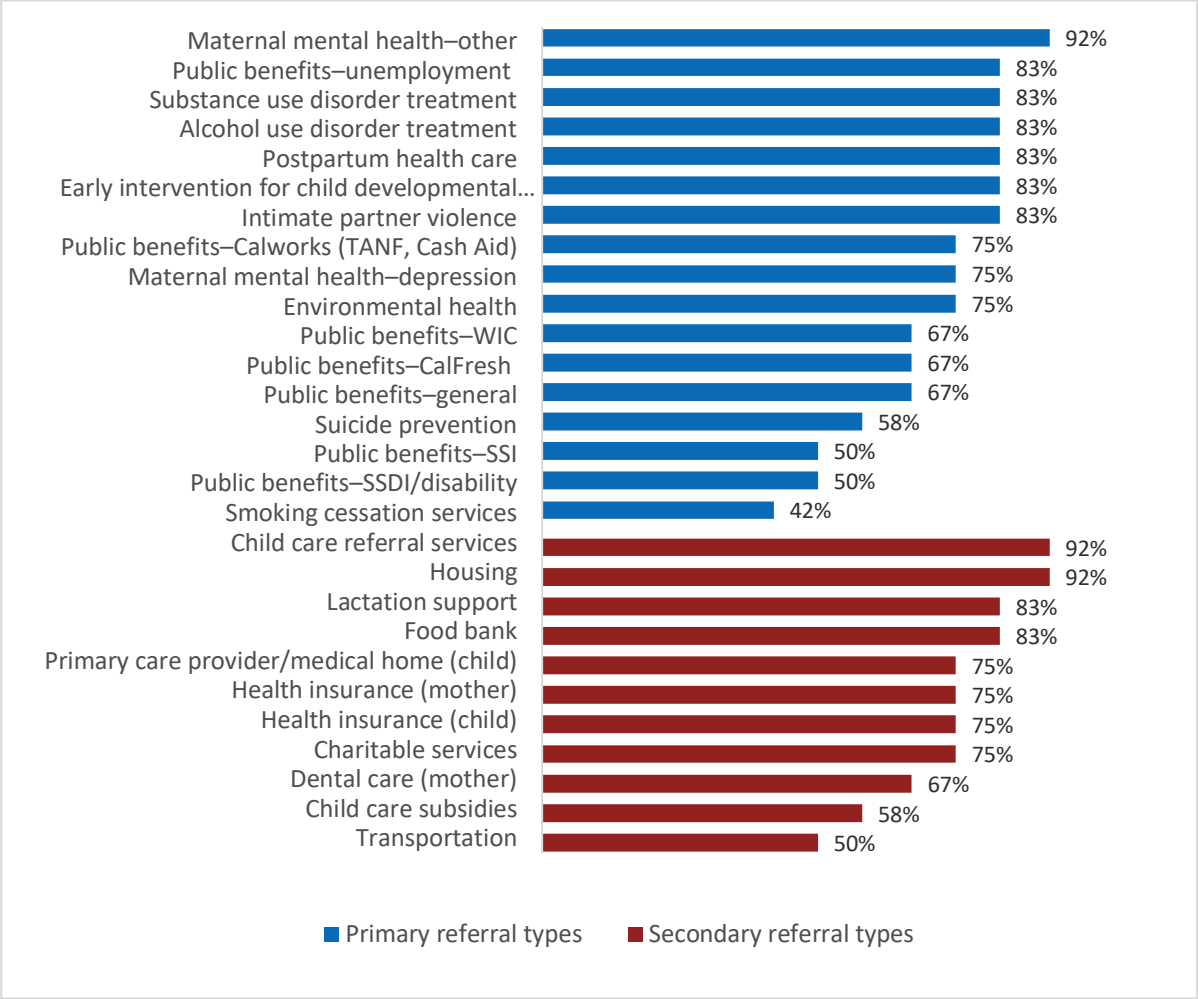
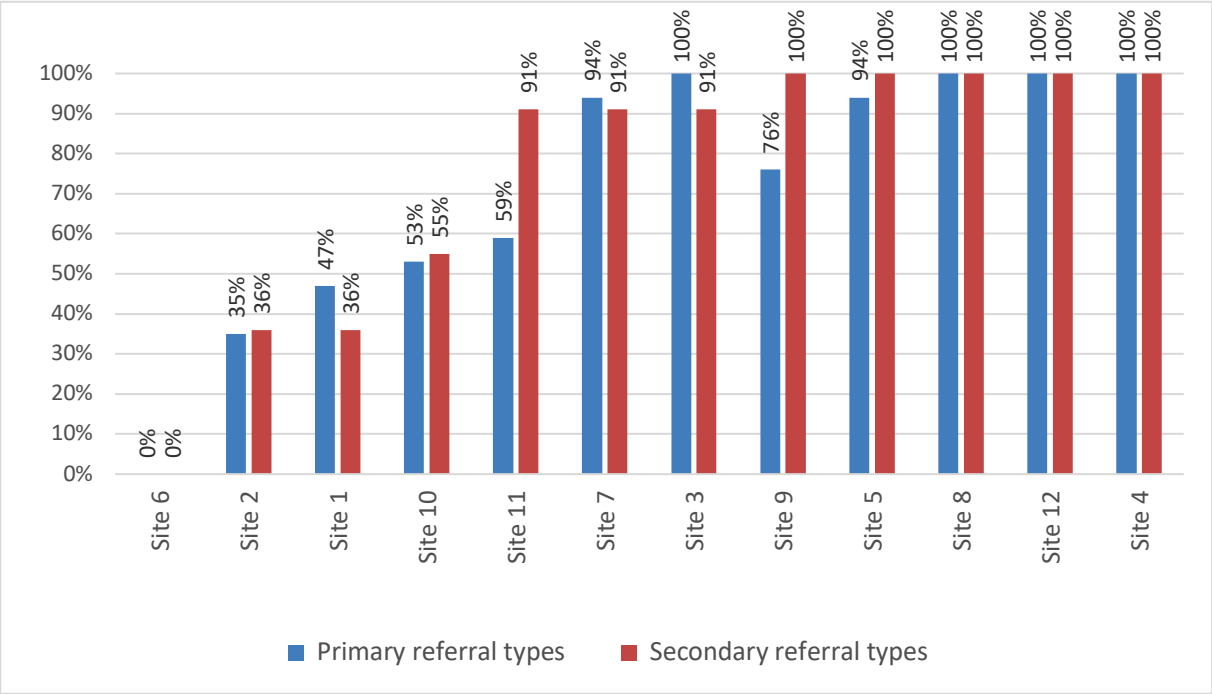


Figure 4.2. Percentage of Primary and Secondary Referral Types for Which Each Site Has Valid Contact Information



Referral Protocols

We reviewed referral protocols, where present, from both the Welcome Baby manual and any referral protocols developed by sites. We defined a referral protocol as a written instruction describing, at a minimum, under which circumstances a referral to a service provider should be made and specifying to which service provider the referral should be made (World Health Organization [WHO], 2018).

We found that the Welcome Baby manual had formal referral protocols for five of the 17 primary referral categories, and no sites had developed additional referral protocols for other referral categories. Thus, 12 of the primary referral categories did not have any formal referral protocols. The five categories that had associated protocols include

- domestic violence
- early intervention for child developmental delay
- postpartum care
- maternal depression
- suicide prevention.

We examined the five protocols for the following:

- **Client confidentiality**: Protocols including assurances that no information will be provided about a client to any person (e.g., family, police, medical personnel) without the client's prior verbal and informed consent, with the exception of when careful

consideration indicates the presence of a clear and present danger to an individual or to others (Alliance of Information and Referral Systems, 2017).

- **Role of home visitor in making referral**: Does the protocol require staff to assist the client in contacting the service provider?
- **Role of home visitor in following through on referral**: Does the protocol require home visitors to monitor referral completion?

As illustrated in Table 4.15, all Welcome Baby Manual protocols required the home visitors to monitor referral completion, but only two emphasized confidentiality (Table 4.15).

Table 4.15. Features of Welcome Baby Referral Protocols

Referral Type	Does the Protocol Require Home Visitors to Monitor Referral Completion?	Does the Protocol Require Staff to Assist Client in Contacting Service Provider (i.e., "Warm Hand-Off")	Does the Protocol Emphasize Client Confidentiality?
Intimate partner violence	X		
Early intervention for child developmental delay	X	X	X
Postpartum care	X	X	
Maternal depression	X	X	
Suicide prevention	X	X	X

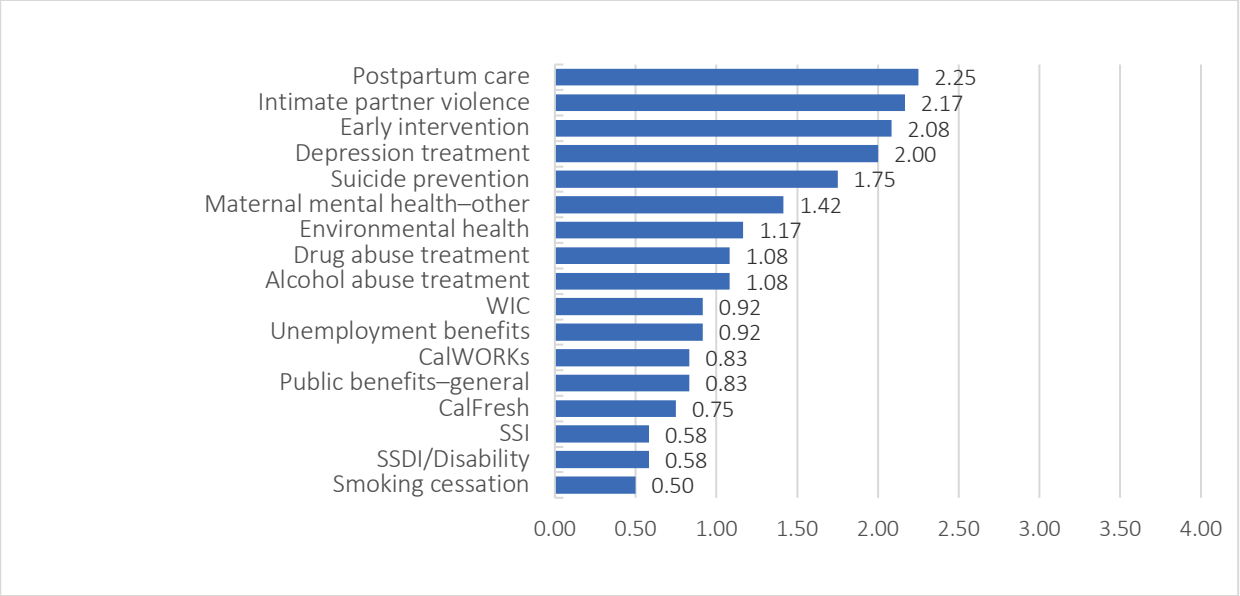
Referral Forms and Memoranda of Understanding

Five of 12 sites had developed referral forms for connecting clients to services in one or more referral areas, most commonly to health services providers. One site had implemented the use of referral forms for every referral area. Four of the twelve sites had established formal agreements (MOUs or MOAs) with service providers in one or more referral areas. Note that in the federal "MIHOPE" study of Maternal, Infant, and Early Childhood Home Visiting–funded home visiting programs, about two-thirds of sites had formal referral agreements with organizations in their communities (Michalopoulos et al., 2015).

Referral Support Structures Score

The average "referral support structures" score across sites for each referral type is illustrated in Figure 4.3. Postpartum care, intimate partner violence, and early intervention were the most well-supported referral types.

Figure 4.3. Average Score Across Sites, by Referral Type



Referral Needs

Staff identified client referral needs and described the community referral process during site interviews. Overall, staff from all sites mentioned referring clients for basic needs other than food (such as cribs, strollers, clothing); mental health care, including help with postpartum depression; public benefit resources such as WIC, CalFresh, CalWorks or other employment opportunities; Medi-Cal/health insurance; and primary care resources (Table 4.16). Other common referrals were to 211, housing resources, childcare, after-school care, dental services, domestic violence resources, and legal resources (including help with immigration issues). Staff reported fewer referrals for education and substance use (alcohol and drug) treatment resources.

Staff also noted when referrals were not made because there were no resources in the community to refer families. The most common responses were the lack of mental health care resources, especially for clients with Medi-Cal or with no insurance, and limited housing service supports. Staff from several sites also mentioned that their community lacked affordable childcare resources, help with immigration issues, and breastfeeding support groups. Staff at many sites also mentioned that a lack of transportation limited their clients' ability to access resources.

Table 4.16. Commonly Reported Community Resources, by Site Staff

Site #	Charitable Services	Mental Health	Public Benefits	Medi-Cal, Health Insurance	Primary Care	211	Housing	Childcare	Dental	Domestic Violence	Legal	Education or Parenting Classes	Alcohol or Substance Use
1	1	1	1	1	1	1	1	1	1	1	1	1	0
2	1	1	1	1	1	1	1	0	0	1	0	1	1
3	1	1	1	1	1	1	1	1	1	1	1	0	0
4	1	1	1	1	1	1	1	0	0	0	1	0	0
5	1	1	1	1	1	1	1	1	1	1	1	1	0
6	1	1	1	1	1	1	1	1	1	0	0	0	0
7	1	1	1	1	1	0	0	0	1	1	1	1	0
8	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	0	1	1	1	0
12	1	1	.1	1	1	1	1	1	1	0	0	0	0
Total	12	12	12	12	12	11	11	9	9	9	9	8	4

Evaluation Question 4: What Are Participant Perceptions of and Experiences with the Program and Welcome Baby Service Providers?

There was general agreement among program participants that the Welcome Baby program met their needs and helped them connect with services. Program participants indicated that they would participate in the program again if seeking parenting help in the future, and they rated their relationships with the Parent Coaches extremely positively. Clients noted that the program enrollment process was easy, and they appreciated most the assistance with breastfeeding. Overall, Welcome Baby staff were perceived as responsive to their needs, easy to communicate with, accessible, and flexible. Clients identified a few areas for improvement, such as offering more visits and providing program materials in nonpaper formats.

To address this evaluation question, we used both quantitative and qualitative data collected from program participants.

Methods

As described in more detail elsewhere (see Data Sources section and Appendix B), Parent Coaches invited their clients to complete a Client Survey at the home visits using a tablet. We computed descriptive statistics on responses to individual items and scales.

To obtain qualitative feedback, we conducted 20 focus groups (in Spanish and English) that included 140 participants across the 12 sites. Similar to the site interviews, field notes taken during the focus groups were reviewed against the digital recording for accuracy and then uploaded for qualitative data analysis. All notes were stripped of identifying information, except for Site Code and language spoken in the group, before data analysis. All notes were read into the qualitative software program (MaxQDA) for data management and coding. The notes were then organized by the topic areas covered in the focus group protocol, including responses to the questions about the enrollment process, most and least helpful program aspects, favorite visit, communication, challenges and difficulties, and areas for improvement. Data were then reviewed independently by research staff using a constant comparative process (Glaser and Strauss, 1967). The notes were further coded by theme by identifying at least three excerpts that illustrated the theme and creating a code that applied to each of the areas of the topic. For example, participants at multiple sites described the enrollment process as "easy," so one of the themes regarding enrollment was "ease." Some segments were double-coded, meaning they could be categorized into more than one theme.

Following an initial round of coding, consensus meetings were conducted (including one of the principal investigators and research staff that were involved in the interviews and focus group data collection and analyses) to develop a codebook that described each theme identified in the notes. Codebook development activities included defining each theme, inclusion and exclusion criteria for sorting coded segments into theme(s), and some typical examples, along with removing and collapsing redundant codes and repositioning others as necessary. We used the codebook to review and systematically code all the focus group notes, including those that had

been previously coded during codebook development. We did not measure intercoder consistency; instead, one of the project leaders randomly selected a subset of coded segments that had been coded by more than one member of the research staff and reviewed to ensure that there was consistency in coding during the initial round of coding. The few inconsistencies found were discussed and final determination made by consensus. All the excerpts presented in the results section have been reviewed for consistency with the theme by more than one member of the research team.

Client Survey Findings

From the client survey, program participants generally had positive perceptions of the Welcome Baby program and their relationship with their Parent Coach (see Table 4.17). Perceptions were also consistent across sites and time (i.e., from the two-to-four-week visit to the nine-month visit). The size of the sample across some of the sites precluded us from running statistical tests, but the observed average values and standard deviations showed consistently positive scores with low variability across the sites. We do not have data on refusal rates.

Table 4.17. Participant Perceptions as Assessed in the Client Survey

Scale	Question	Response Options	Mean	Std Dev
CSQ-3	How much has Welcome Baby met your needs? (scale 1–4)	4 = almost all of my needs have been met 3 = most of my needs have been met 2 = only a few of my needs have been met 1 = none of my needs have been met	3.73	0.48
F5LA-derived	Has Welcome Baby helped you to connect with services that you needed, or helped you to meet any needs that you or your baby had? (scale 1–5)	5 = yes, multiple times 4 = yes, two or three times 3 = yes, once 2 = no, they never did 1 = I have not needed any	4.63	0.94
CSQ-3	Generally, how satisfied are you with the service you have received? (scale 1–4)	4 = very satisfied 3 = mostly satisfied 2 = indifferent or mildly dissatisfied 1 = quite dissatisfied	3.95	0.25
CSQ-3	If you were to seek parenting help again, would you participate in Welcome Baby? (scale 1–4)	4 = yes, definitely 3 = yes, generally 2 = no, not really 1 = no, definitely not	3.89	0.34
WAI-BOND	I believe my Parent Coach likes me. (scale 1–5)	5 = always 4 = very often 3 = fairly often 2 = sometimes 1 = seldom	4.84	0.49

Scale	Question	Response Options	Mean	Std Dev
WAI-BOND	My Parent Coach and I respect each other. (scale 1–5)	5 = always 4 = very often 3 = fairly often 2 = sometimes 1 = seldom	4.95	0.27
WAI-BOND	I feel that my Parent Coach appreciates me. (scale 1–5)	5 = always 4 = very often 3 = fairly often 2 = sometimes 1 = seldom	4.87	0.44
WAI-BOND	I feel that my Parent Coach cares about me even if I do things that he/she does not approve of. (scale 1–5)	5 = always 4 = very often 3 = fairly often 2 = sometimes 1 = seldom	4.70	0.74

SOURCE: Client Survey (*n* = 1,780).

NOTES: CSQ = Client Satisfaction Questionnaire; WAI-BOND = Working Alliance Inventory–Bonding subscale; Std Dev = standard deviation.

Client Focus Group Findings

In the focus groups participants also shared an almost exclusively positive perception of the program and home visiting staff with no differences between responses in groups conducted in English, Spanish, or bilingual settings. Below, we highlight some of the perspectives of program participants on different aspects of the Welcome Baby program.

Welcome Baby Enrollment

Overall, participants found that the enrollment process was easy and did not require much effort or time. Examples from the focus group notes include:

- *Very brief. Sometimes we want to register for a program and it requires a lot of information. Here with Welcome Baby it was fast and did not take much time.*
- *It was pretty fun, she explained a lot of cool things about the program.*
- *It was a good experience, the lady who enrolled me was really nice, and she was just giving me a bunch of tips and stuff.*
- *I like the fact that she came to me, I didn't have to find out about it, she literally came into my room, after my son was born, the next day, and sat down and explained the whole program for me. That's what I liked.*
- *The staff member from Welcome Baby was very kind. She filled out the forms and called me back afterwards.*

In addition, clients did not report any challenges with the Welcome Baby program consent and data authorization process.

Welcome Baby Visits

Participants shared perspectives on the visit topics, frequency of visits, and favorite visits. In terms of the most useful aspects or topics covered in the Welcome Baby program, participants most often mentioned the assistance and information with respect to breastfeeding/lactation, postpartum depression, and nutrition. Examples from the focus group notes include:

- *The information on lactation was helpful because I was feeling stressed out by not producing enough milk. She [nurse/Parent Coach] helped me identify healthy food I could eat. I was able to breastfeed for nine months thanks to Welcome Baby.*
- *Welcome Baby staff explained breastfeeding step by step and provided various pamphlets, a Boppy (pillow), and a book.*
- *For me it was postpartum depression. At first, I was sad, then my mom helped me, then my husband started getting depressed too, so I got ideas on what to do [from the Parent Coach].*
- *I was not doing well the day in which the nurse visited me at home. I was crying because I had postpartum depression and the nurse helped me and gave me advice. She mentioned I should go out more often and get involved in more activities [besides being with the baby all the time]. It helped me a lot.*
- *Nutrition, because my baby, he's been growing fast the whole pregnancy, so the things to eat were helping.*

In general, participants thought that the content of the home visits was very good. However, some program participants expressed that improvements could be made in how the content was delivered. For example, reading the Welcome Baby Book presented challenges. One respondent thought that the Parent Coach may want to provide more guidance during the visit on how to use it, suggesting "bringing up the book more" at visits because "it's hard [for moms] to find time to read." Others thought that the Welcome Baby content could be delivered in a different format:

- *I know they bring a lot of information on paper, so I was wondering if we could just see the information online. Because I get confused with so many papers, and I prefer a site where I can just look at and type a question—it would be much easier.*
- *I would like to get the information in a way that has more visuals. The book that we get has too much information [that is difficult to digest].*

Another commonly expressed program improvement recommendation was to add more visits. There was some variation in responses to when those visits should occur; some suggested early in the postpartum period, whereas others wanted the program to last longer (up to one or two years). Some clients thought the visit itself was too short.

- *There should be another visit somewhere in between the first and second one because that would ease our nerves.*
- *Adding a six-month visit would be good. Teething is the hardest part to handle with a baby. There are many developmental changes between the fourth and ninth months, and we would like some guidance.*
- *They should expand the program a little bit longer. It is too short.*
- *Yes, I believe the time in the program together is too short. We want to chat with them longer, but they have to go with another person. I would like the program to be longer.*

Finally, some participants mentioned the need to incorporate opportunities to interact with other mothers as a way to improve the program.

There were differences of opinion expressed about which visit was the favorite. In some cases, participants thought all of the visits were good and did not have a preference:

- *The first visit was my favorite—nurse visit—because the baby got a similar check-up to what she usually gets at the pediatrician.*
- *I think the initial visits were the most important to me because I am also a first-time parent and it was great to get reassurance from her.*
- *I think the one that helped me the most was the last [visit]. My son wasn't developing movement and I took the walker away from him so that he could learn on his own thanks to the home visitor.*
- *Every single one was special because every time it was different.*

Provider Responsiveness

Across sites, program participants acknowledged the family-centered focus and responsiveness of the Parent Coaches and RNs during home visits. The flexibility and accessibility of Welcome Baby staff (Parent Coaches, in particular) and the information parents received was perceived as helpful:

- *They are very flexible . . . people working in the program are perfect for it because they show a lot of concern and they really like the program.*
- *If I need something, I call my Parent Coach and she provides advice and when I need her she's always there. . . . I always receive information I need.*
- *She was very accessible. I think that one of the things I really struggled with was to adapt myself because the pregnancy was different and she explained it to me. . . . I liked the fact that she was always there, when I called her or sent her a text she was always there, supporting me and guiding me with information.*

Program participants also felt that Parent Coaches gave them the confidence they needed, often assured them that they were doing a good job, and cared not only about the baby but also about them (as moms) and about their other children:

- *I even think of them like they are my family. I don't want them to leave. I would like to have more time with them . . . and they have that availability for 24 hours. She gave me a lot of encouragement. When she was there, I felt alive again.*
- *It feels like a friendship. Every single one was special because every time it was different. And it was focused on your needs whatever it was going on, and [they] want to hear how you are doing. That's what I enjoyed—the focus that they gave us as individuals.*
- *I was feeling I was going crazy with my two young girls; the Parent Coach gave me advice on how to treat the middle child in order to make her feel included.*
- *She [the Parent Coach] gave me confidence to raise my child. She listens to everything good, bad. . . . [W]e have a lot of discussion about child development. She told me to stop being nervous about my first baby.*
- *The Parent Coach worries about the kids, but also about me. Sometimes we need to chat with someone and they are there to listen to us. It is very difficult for us because we have a second baby, and other times it is our first baby, Parent Coaches are there just in the*

right moment to tell us that we are doing a good job. She confirms I am not doing a bad job.

Program Challenges and Difficulties

There were few program challenges or difficulties noted by program participants during the focus groups. Some participants noted that they were transferred from one Parent Coach to another during the program and although they thought it would be hard, they felt that their newly assigned coach was fine. Participants also understood that the program was not available to everyone and thought that expanding the program to remove geographical barriers to program participation would be helpful so that others could benefit from the program.

Evaluation Question 5: What Factors Contribute to Participants Leaving the Program Early?

Family characteristics associated with being at risk of poor outcomes were often associated with a greater likelihood of transitioning from the hospital to RN visit, but a lower likelihood of staying in the program for later visits. For the two-to-four-week visit and later visits, adherence to Welcome Baby client-level fidelity standards was related to lower rates of participants leaving the program.

We used data from the SFDB, Client Survey, and Staff Survey to identify factors that predicted whether a client who got a visit left the program without continuing to the next visit. Specifically, given that a client had a visit, we estimated a logit model that examined which client or visit characteristics were associated with continuing to the next visit.

Methods

The dependent variable in the model was the visit. The visits considered were

- the RN visit
- the two-to-four-week visit
- the two-month visit
- the three-to-four-month visit
- the nine-month visit.

For the independent variables, we selected variables that might predict continuing in the program or dropping out based on characteristics associated with attrition in the home visiting literature (Alonso-Marsden et al., 2013; Daro, Boller, and Hart, 2014; Daro et al., 2012; Daro et al., 2003; Holland et al., 2014; Ingoldsby et al., 2013; Lanier, Maguire-Jack, and Welch, 2015; McCurdy and Daro, 2001; McFarlane et al., 2010; McGuigan, Katzev, and Pratt, 2003) and research on access and retention in ongoing health treatment services (Andersen and Newman, 1973; Andersen, 1995; Gelberg, Andersen, and Leake, 2000; Ober et al., 2018). The variables fell into three categories:

- time-invariant predisposing variables, which were primarily demographic variables

- time-varying variables related to the client, and these variables were generally observed at the last completed visit (whether the mother worked, for example)
- time-varying variables that depict whether the previous visit met Welcome Baby fidelity criteria, such as whether the Parent Coach had completed training.

The complete set of variables is listed in Tables 4.18 and 4.19. Some variables were not measured at each visit (such as mother's work status) but were included for the visits in which they were measured. More specifically, we included the following client-level fidelity variables for each visit: staff qualifications, staff training, reflective supervision, home visitor workloads, participant perception of the relationship, and percentage of content covered.

Our estimates take into account the fact that the families are clustered within Parent Coach and site, and that the families served by the same home visitor or the same site cannot be counted as independent observations (Laird and Ware, 1982; Moulton, 1990). This type of clustering implies that the effective sample size for this analysis is smaller than the number of families in the data (Guo and Zhao, 2000). We implement clustering by site and home visitor using the melogit command in STATA (StataCorp, 2017).

Some of the family characteristics are correlated, and given that we are interested in helping Welcome Baby pinpoint the characteristics associated with leaving the program, we estimated separate logit models for each family characteristic one at a time, including time-invariant and time-varying family characteristics. For the fidelity component variables, we estimated a model for each fidelity variable separately, and we included family characteristics in order to account for the fact that sites serve very different types of families. The fidelity variable was measured at the previous visit—for example, staff qualifications at the hospital visit for the "hospital to RN" transition analysis. Not accounting for these differences may bias the estimates of the relationship between measures of fidelity and attrition.

We estimated the factors that are associated with retention for five different visits, and we considered many variables, resulting in more than 100 estimates. As is typical in the evaluation literature, we designated a p-value of 0.05 to designate statistically significant estimates. However, when a large number of statistical estimates are generated, it is possible that some p-values will have values less than 0.05 by chance, even though none of the estimates is different from zero (McDonald, 2014). In order to control for the possibility of false positives, we use the Benjamini-Hochberg procedure to adjust the p-value to reduce the chance of false positives due to the large number of estimates using a false discovery rate of 0.10, which is considered appropriate for the type of nonexperimental analysis undertaken in this evaluation (McDonald, 2014). This adjustment reduces the number of statistically significant estimates by only one in this analysis.

Results

We present findings for the relationship between family characteristics and program retention in Table 4.18 and for the relationship between fidelity measure variables measured at the previous visit and program retention in Table 4.19. In both tables, the first column lists the

variables, and the subsequent columns indicate the visit transition for which the model was estimated. Each cell represents an estimate from one model. Entries in bold and shaded cells are significant after making the adjustment as just discussed. Cells with green shading show which variables raise the likelihood that families get the next visit, and cells with red shading show which variables lower the likelihood that families get that visit. Cells with no shading indicate that no statistically significant relationship between the characteristic and the likelihood of the next visit was found. The values can be interpreted as the change in the log odds that the client makes the transition to the visit given a one-unit change in the characteristic noted in the first column. For example, in Table 4.18, being low-income is associated with a 0.24 decrease in the log odds of getting the two-to-four-week visit (coefficient estimate is significant and –0.24). In this model, negative values indicate that the characteristic is associated with a lower probability of getting the visit, while positive values indicate that the characteristic is associated with a higher probability of getting the visit. Larger values indicate stronger associations, and smaller values indicate weaker associations.

Relationship Between Family Characteristics and Program Retention

We examined demographic/family, birth, and visit characteristics to better understand program retention. Across all visits, receiving prenatal services was the only characteristic associated with the client receiving all subsequent visit types.

Some of the demographic or family characteristics indicating that the family may be at risk of poor outcomes (i.e., race, mother's age, risk score) were also associated with successfully transitioning from the hospital to RN visit (Table 4.18). However, among those who stayed for the RN visit, several of these same characteristics were also associated with leaving the program before later visits (i.e., mother's age, risk score). Both of these raised the likelihood of getting the RN visit but reduced the likelihood for receiving the later visits.

Certain characteristics related to the birth, such low birth weight, birth complications, and first births, that may indicate a greater need for information made it more likely that the family had the RN visit. Yet these same characteristics were generally unrelated to staying in the program for later visits.

Among the visit characteristics, families that used public benefits were more likely to continue in later visits, perhaps as a result of being more likely to participate in public programs or because Welcome Baby connected them to services for which they were eligible. The number of referrals made was also associated with staying in the program for three of the visit time points, which could reflect that higher-need families derive more value from Welcome Baby or that families that experience a greater level of Parent Coach proficiency are more likely to stay in the program.

Table 4.18. Summary of Findings on Which Family and Previous Visit Characteristics Are Associated with Client Retention, by Visit Transition

Variable	Visit Transition				
	Hospital to RN Visit	RN to Two-to-Four-Week Visit	Two-to-Four-Week to Two-Month Visit	Two-Month to Three-to-Four-Month Visit	Three-to-Four Month- to Nine-Month Visit
Family Characteristic					
Low income	**–0.04**	**–0.24**	**–0.32**	**–0.18**	0.76
Some English	**–0.37**	**0.67**	**0.63**	**0.66**	0.28
No English	**–0.30**	**0.40**	**0.53**	**0.48**	0.17
Mother black (Hispanic omit)	**0.38**	0.12	–0.15	**–0.46**	**–0.30**
Mother white	**–0.29**	–0.15	0.02	–0.13	–0.02
Mother other race/ethnicity	**0.40**	–0.03	0.27	0.16	0.00
High school education	0.01	–0.14	–0.07	0.00	0.05
More than high school	–0.16	0.08	0.40	0.11	**–0.26**
BRIDGES score 33–42 (less than 33 omitted)	0.04	–0.07	0.03	0.11	0.01
BRIDGES score 43–51	**0.18**	0.01	0.02	–0.13	–0.07
BRIDGES score over 51	**0.34**	**–0.34**	–0.01	**–0.30**	–0.20
Received prenatal services Welcome Baby	**1.69**	**0.80**	**0.90**	**0.30**	**0.21**
Mother age <19	**0.37**	**–0.52**	**–0.40**	–1.73	–0.05
Age 19–24 (age 25–34 omitted)	**0.12**	**–0.40**	**–0.31**	**–0.17**	**–0.17**
Age >34	–0.02	0.00	**0.26**	0.13	0.19
First birth	**0.11**	–0.10	–0.01	–0.09	–0.08
Low-birthweight child	**0.28**	0.26	–0.22	–0.21	–0.26
Birth complications	**0.26**	0.15	**0.19**	–0.19	–0.19
Previous Visit Variables					
Worked full time	0.08	N/A	N/A	–0.17	N/A
Worked part time	–0.11	N/A	N/A	–0.07	N/A
Used public benefits the previous visit	0.06	N/A	**3.34**	**2.23**	**1.96**

Variable	Visit Transition				
	Hospital to RN Visit	RN to Two-to-Four-Week Visit	Two-to-Four-Week to Two-Month Visit	Two-Month to Three-to-Four-Month Visit	Three-to-Four Month- to Nine-Month Visit
Previous visit addressed crisis needs	**0.18**	–0.32	**–0.42**	0.59	–0.23
Number of referrals made at previous visit	N/A	**3.42**	**3.33**	**1.50**	–0.03

NOTE: Entries are coefficient estimates in a logistic regression. Entries in bold and shaded cells are significant at the 0.05 level. The green shading indicates positive values, and the red shading indicates negative values. Darker shading indicates larger values. Further details of these estimates are in Appendix E, Table E.1.

Relationship Between Client-Level Fidelity Components and Program Retention

We also examined the relationship between client-level fidelity variables for each visit (i.e., staff qualifications, staff training, reflective supervision, home visitor workloads, participant perception of the relationship, and percentage of content covered) and program retention. Overall, adhering to Welcome Baby client-level fidelity components raised the likelihood that families stayed in the program at visits for at least one visit, starting at the two-month visit or later (Table 4.19). For example, the home visit provider (either RN or Parent Coach) meeting the minimum training standard and the Parent Coach meeting the caseload standards were both related to families staying in for one of the later three visits. Further, the provider meeting minimum qualifications was related to families staying in for two of the later three visits. The analysis also showed a small positive relationship between covering more of the Welcome Baby content in a visit and the chance of the family staying in the program for two of the later three visits. However, meeting the reflective supervision requirements was associated with lower rates of continuation from the hospital to RN visit, and the RN to the two-week visit, but higher rates of continuation to the three-to-four-month and nine-month visits. This pattern may be consistent with reports in the staff interviews that reflective supervision was viewed as being most helpful for the Parent Coach position. Complete results from the analysis of fidelity components and visit transitions are presented in Appendix E.

Table 4.19. Summary of Findings on Which Welcome Baby Fidelity Components Are Associated with Client Retention, by Visit Transition

Fidelity Component	Visit Transition: Hospital to RN Visit	RN to Two-to-Four-Week Visit	Two-to-Four-Week to Two-Month Visit	Two-Month to Three-to-Four-Month Visit	Three-to-Four-Month to Nine-Month Visit
D1. Provider met minimum qualifications	0.42	–1.85	**0.42**	**0.39**	–0.10
D2. Provider met minimum training standard	–0.51	**2.54**	0.01	**0.55**	**0.61**
D4.Staff met reflective supervision requirement	**–0.55**	**–0.32**	0.17	**0.56**	**0.50**
D5. Parent Coach does not exceed caseload standard	N/A	0.00	0.18	**0.54**	–0.01
D13. Percentage of content covered in previous visit	–0.02	0.10	**0.26**	0.11	**0.12**

NOTE: Entries in bold and shaded cells are significant at the 0.05 level. The green shading indicates positive values, and the red shading indicates negative values. Darker shading indicates larger values. Each cell represents results from a transition model that controls for the family characteristics listed in Table 4.18 in addition to the fidelity component listed in the first column. Appendix E, Table E.1 reports additional details for these estimates.

Evaluation Question 6: To What Extent Do Participants Achieve Short- and Intermediate-Term Outcomes?

Where regional or national benchmarks are available, Welcome Baby participants exhibited better outcomes in more than half of the areas measured, including more positive parenting practices, higher levels of any breastfeeding, and safer sleep environments than benchmarks. Welcome Baby participants exhibited lower levels of family planning use and exclusive breastfeeding compared to benchmarks.

Methods

To address this evaluation question, we identified outcomes of interest based upon outcomes identified in the Welcome Baby logic model (see Figure 1.1) and used cross-sectional data from the Client Survey and the SFDB to measure outcomes for participants and their children. Categories of outcomes identified in the Welcome Baby logic model included

- parent knowledge
- positive parenting practices
- maternal health (depression, family planning)
- child health inputs (breastfeeding, child health insurance status, well-baby visits, timely immunizations
- child development
- child safety.

Table 4.20 shows the specific outcome measures we examined and their associated data source under each of these categories. (Appendix D provides further detail on how the analytical file was created and how each specific outcomes measure was specified.) We examined the client-level outcomes in five categories: parenting outcomes, maternal health, child health inputs, child safety, and child development. We present outcome measures by category, summarizing outcomes by visit and, in cases where we have a sufficient number of observations, by site. Where possible, we have provided local, regional, or national findings from data on a similar measure to provide the reader with insight into how Welcome Baby clients fare relative to these external benchmarks. While we do not have the data to assess the degree to which the samples in these other data sets are comparable to the Welcome Baby sample, they use similar age groups and measures, providing some context for the Welcome Baby outcomes.

Table 4.20. Outcome Measures and Data Source

Outcome Category	Outcome	Outcome Measure	Data Source
Parenting	Positive parenting practices	Percentage of clients who passed all five or four of five HOME items at a given visit	Client Survey
	Parent knowledge of infant development	Percentage of correct responses on parent knowledge questions	Client Survey
Maternal health	Depression	Percentage of clients with a PHQ-9 score of five or greater* at a given visit	SFDB
	Family planning	Percentage of clients at a given visit using some form of contraception	SFDB
Child health inputs	Breastfeeding	Percentage of clients at a given visit breastfeeding; percentage of clients exclusively breastfeeding at a given visit	SFDB
	Child health insurance status	Percentage of clients who report that their children are enrolled in health insurance at a given visit	SFDB
	Well-baby visits	Percentage of clients up to date on well-baby visits at a given visit	SFDB
	Timely immunizations	Percentage of clients up to date on immunizations at a given visit	SFDB
Child development	Child development	Percentage of children who passed all five ASQ-3 domains at a given visit	SFDB
Child safety	Home environment	Percentage of clients for whom no home safety issues were identified in a given visit	SFDB
	Infant sleep environment—back to sleep	Percentage of clients who report putting their infant on their back to sleep at a given visit	SFDB
	Infant sleep environment—bed sharing	Percentage of clients who report never bed-sharing with their infant at a given visit	SFDB

Parenting Outcomes

We evaluated parenting outcomes (i.e., parenting practices, parenting knowledge) using results from the Client Survey (see Chapter 3 and Appendix B for more details).

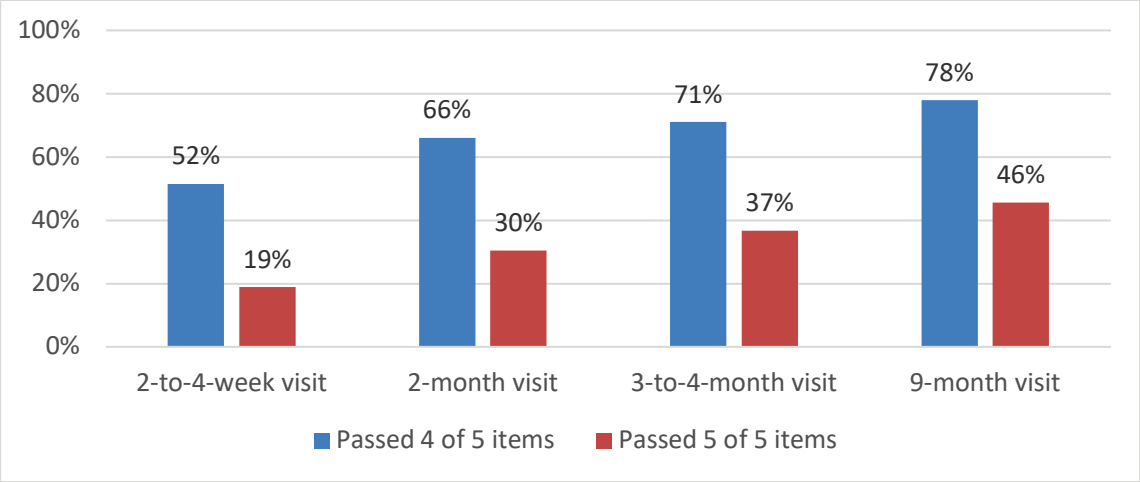
Parenting practices were measured using five of the client-reported items drawn from the HOME inventory (Caldwell and Bradley, 1984); note that the full HOME inventory is a combination of observer ratings and mother-reported items. The five client-reported HOME items included in the Client Survey are shown in Table 4.21.

When looking at parenting practices for Welcome Baby overall, the percentage of clients passing four or five of the HOME items increased over time (Figure 4.4); fewer than one-fifth of clients passed all five items at the two-to-four-week visit, but nearly one-half passed all five items at the nine-month visit.

Table 4.21. HOME Items in the Client Survey

HOME Item	Response Options	"Pass" on This Item
About how often does your child have a chance to get out of the house?	5 = every day 4 = 4 or more times a week 3 = a few times a week 2 = about once a week 1 = a few times a month or less	Child gets out of the house at least 4 times per week
About how many children's books does your child have?	4 = 10 or more books 3 = 3 to 9 books 2 = 1 or 2 books 1 = none	Child has three or more children's books
How often do you get a chance to read stories to your child?	1 = never 2 = several times a year 3 = several times a month 4 = once a week 5 = about 3 times a week 6 = every day	Parent reads stories to child at least three times a week
Some parents spend time teaching their children new skills while other parents believe children learn best on their own. Which of the following most closely describes your attitude?	1 = parents should always spend time teaching their children 2 = parents should usually spend time teaching their children 3 = parents should usually allow their children to learn on their own 4 = parents should always allow their children to learn on their own	Parents should always or usually spend time teaching their children
Children seem to demand attention when their parents are busy around the house. How often do you talk to your child while you are working?	1 = always (talk to your child when working) 2 = often (talk to your child when working) 3 = sometimes (talk to your child when working) 4 = rarely (talk to your child when working) 5 = never (talk to your child when working)	Parents always or often talk to their child while working

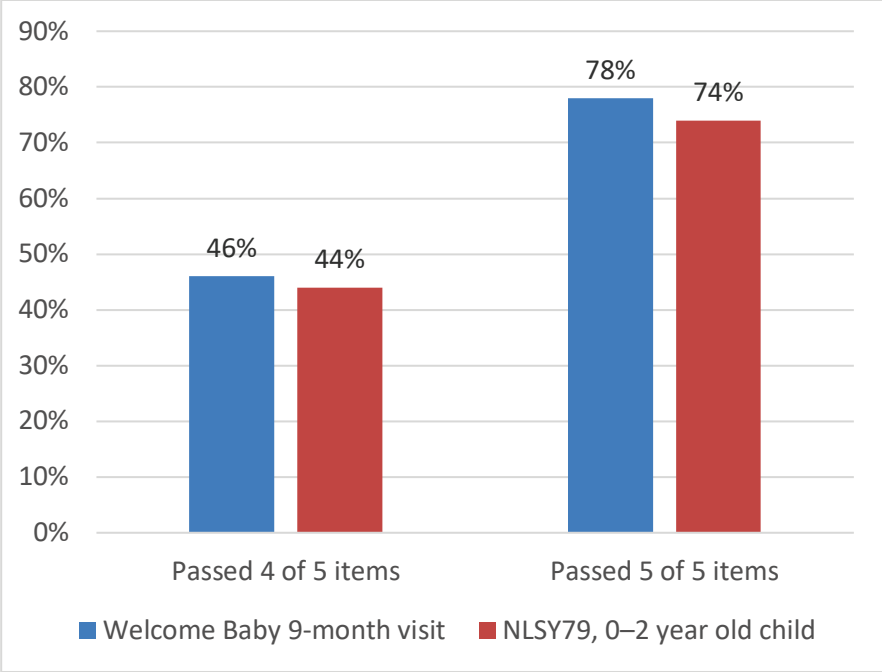
Figure 4.4. HOME Pass Rates, by Visit Type



SOURCE: Client Survey; *n* = 1,780, September 2016–September 2017.

These findings are consistent with national findings on the HOME from the National Longitudinal Survey of Youth 1979 (NLSY79), a nationally representative sample of individuals who were between the ages of 14 and 22 years old in 1979 (Bureau of Labor Statistics, 2017). The 19th administration of the NLSY79 included the same HOME items for individuals in the NLSY79 with a child under the age of two (we were unable to provide a closer age approximation with the public data files). In this national sample, 44 percent of parents passed all five HOME items, and 74 percent passed four of five HOME items (Figure 4.5). The nine-month Welcome Baby pass rates for the HOME measure exceeded these benchmarks.

Figure 4.5. Welcome Baby HOME Pass Rates Compared to NLSY79



SOURCES: Client Survey for Welcome Baby (*n* = 399, September 2016–September 2017); Bureau of Labor Statistics for NLSY79 data (*n* = 325).

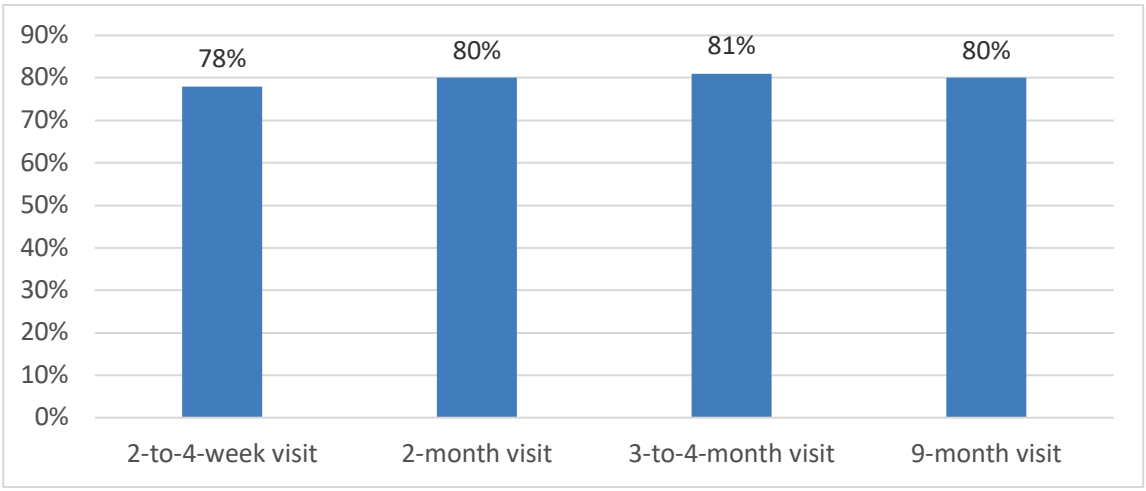
Parenting knowledge of child development was measured using a modified version of the KIDI (MacPhee, 1981). Several items on the KIDI were modified, and many items were removed entirely from the survey at the request of F5LA, such that the full KIDI scale was not kept intact. The full list of the 15 items analyzed for this outcome domain, and whether/how they were modified from the original KIDI items, is included in Table 4.22.

Table 4.22. Parent Knowledge Items in the Client Survey

Survey Item	Modified from Original KIDI Item?
A baby needs to be seen by a doctor every few months in the first year of life.	No
Babies understand only words they can say.	Yes (“infants” changed to “babies”)
The baby should not be held when he (she) is fed because this will make the baby want to be held all of the time.	No
You must stay in the bathroom when your baby is in the tub.	No
Talking to the baby about things he (she) is doing helps the baby’s development and later competence.	No
A baby should get its first shots (immunizations) before three months of age.	Yes (modified from “Shots [immunizations] can wait until one year old because babies have natural protection from illness for the first year”)
A baby with colic can cry for 20 or 30 minutes at a time, no matter how much you try to comfort him (her).	No
Fathers are naturally clumsy when it comes to taking care of babies.	No
Taking care of a baby can leave the parent feeling tired, frustrated or overwhelmed.	No
Babies should not be put in a crib with a soft pillow.	Yes (modified from "Putting a soft pillow in the crib is a good, safe way to help the baby sleep better")
New foods should be given to the infant one at a time, with 4–5 days between each one.	No
The more you comfort your crying baby by holding and talking to him (her), the more you spoil him (her).	No
Baby girls are fragile and sick more often, so they need to be treated more carefully than boys.	No
Babies do not need to be punished.	Modified from "A good way to teach your child not to hit is to hit back."
Babies do some things just to make trouble for the parent (like crying a long time or dirtying their diaper).	No

For parenting knowledge, on average Welcome Baby clients responded correctly to about 80 percent of the knowledge question across the different visit types (Figure 4.6). Because the KIDI items were modified and/or scales were not kept intact, there are not national benchmarks for this measure of parenting knowledge.

Figure 4.6. Average Percentage Correct on Parenting Knowledge of Child Development Questions



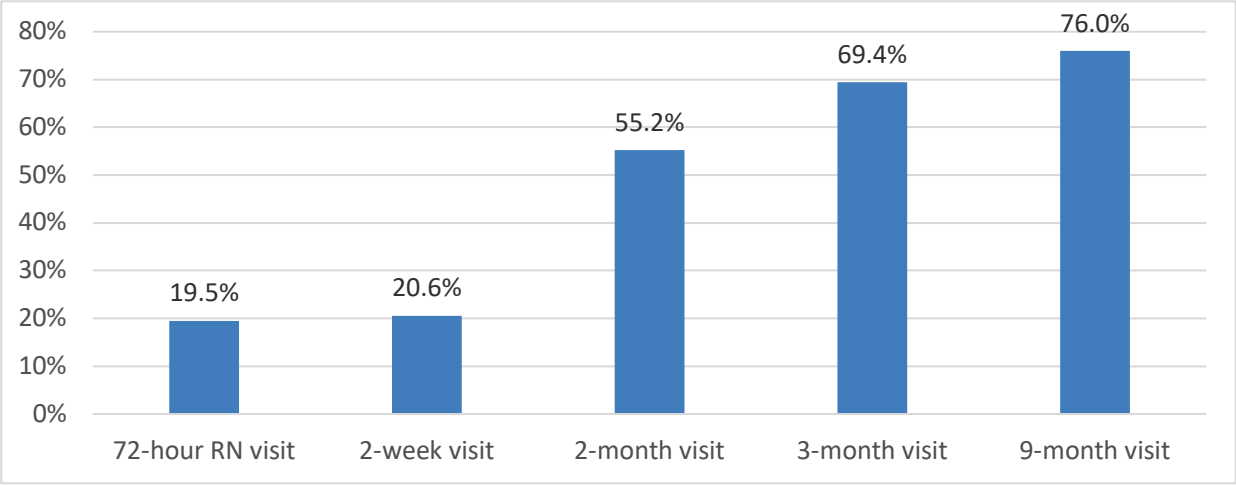
SOURCE: Client Survey (*n* = 1,780, September 2016–September 2017).

Maternal Health

We assessed maternal health outcomes, including family planning and maternal depression, using data from the SFDB, the Welcome Baby administrative database described in Chapter 3.

Family planning was measured using the home visitor's report of whether the client used any form of family planning or contraception. The percentage of clients using any form of family planning or contraception increased substantially between the 72-hour and nine-month home visits (Figure 4.7). By the nine-month visit, more than three-quarters of the clients with whom family planning was discussed were using some form of family planning method.

Figure 4.7. Percentage of Clients Using Any Form of Family Planning, by Visit

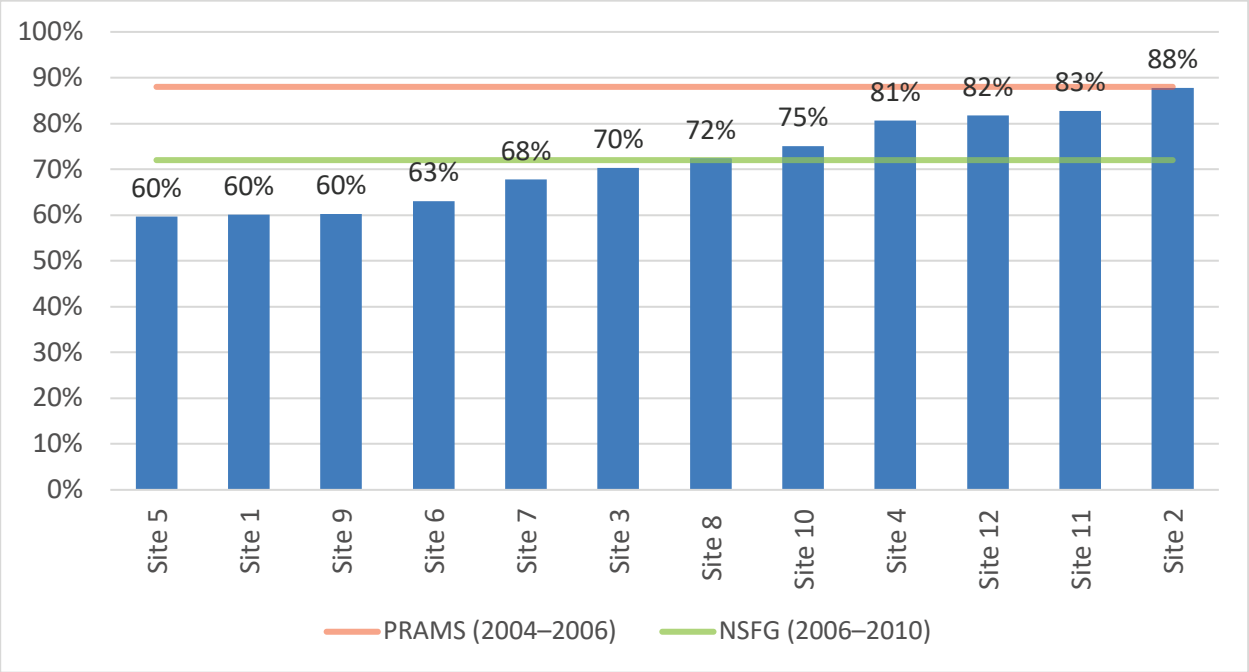


SOURCE: SFDB (*n* = 21,266, January 2016–December 2017).

Two national benchmarks related to family planning provide comparisons with the Welcome Baby results. White et al. (2015) used the 2006–2010 National Survey of Family Growth (NSFG), a national probability survey conducted by the National Center for Health Statistics, to examine women's use of contraception in the postpartum period. According to data in the NSFG, at three months postpartum, 72 percent of mothers used some form of contraception. Similarly, an analysis by Whiteman et al. (2009) of the 2004–2006 Pregnancy Risk Assessment Monitoring System (PRAMS) contraception data from 12 states and New York City evaluated mothers' use of contraception using a self-administered survey mailed to a random sample of mothers between two and four months after delivery (median = 3.7 months) and found that 88 percent of mothers used some form of contraception.

Across the sites, 60 to 88 percent of Welcome Baby mothers reported at the three-month Welcome Baby home visit that they were using some form of family planning methods (Figure 4.8). We examined the three-month visit because it is the best comparator to the national benchmarks. Overall, half of the sites met or exceeded the benchmark from the NSFG, while only one site met the 88-percent benchmark from the PRAMS.

Figure 4.8. Percentage of Clients Using Any Form of Family Planning at the 3-month Visit, by Site with National Benchmarks



SOURCES: SFDB for Welcome Baby (*n* = 3,960, January 2016–December 2017); White et al., 2015, for NSFG (*n* = 3,005); Whiteman et al., 2009, for PRAMS (*n* = 43,887).

Postpartum depression was assessed by the home visitor or nurse, who administered the PHQ-2 (Kroenke, Spitzer, and Williams, 2003) at every visit, which is intended to be a quick screening tool for depression. Following a positive screen on the PHQ-2, the home visitor or

nurse should administer the PHQ-9 (Kroenke, Spitzer, and Williams, 2001), which is a more detailed evaluation for assessing mild, moderate, or severe depressive symptoms. A score of ten or higher on the PHQ-9 indicates moderate to severe levels of depressive symptoms (Olson et al., 2006).

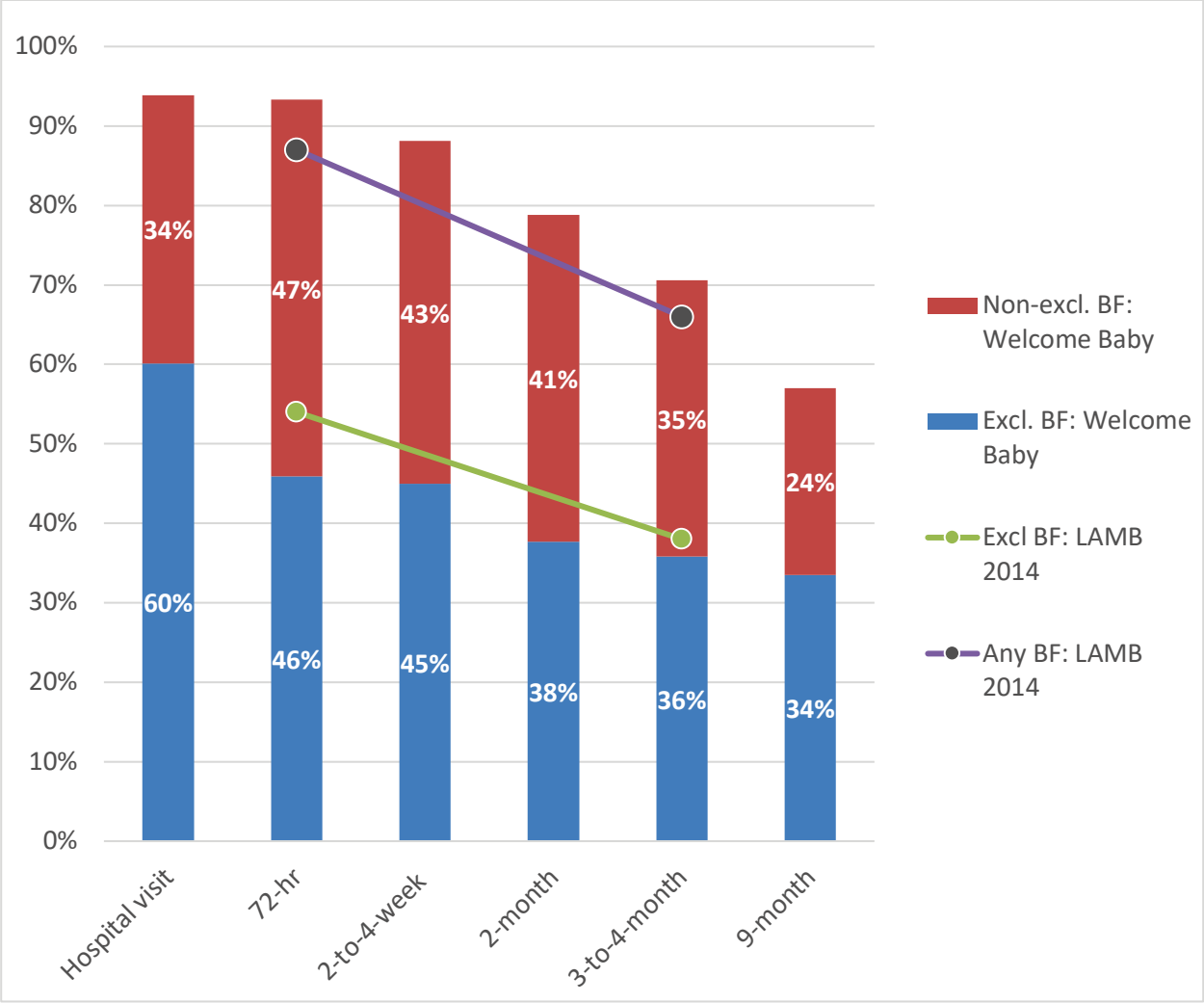
We examined the prevalence of depressive symptoms and found exceedingly low rates compared to every national and regional benchmark found in the literature. Overall, less than 6 percent of clients screened positive on the PHQ-2 at a given visit, and less than 1 percent of Welcome Baby clients were found to have moderate depressive symptoms as measured by the PHQ-9 at a given visit. For comparison, in the general population of adults in the United States, the prevalence of moderate depressive symptoms using the PHQ is estimated to be 8.1 percent (Brody, Pratt, and Hughes, 2018). We would expect the prevalence of depressive symptoms to be higher in the postpartum population, and indeed, the 2012–2013 PRAMS data show that 11.7 percent of mothers self-reported postpartum depression in a sample of 35,946 individuals in 29 states (Centers for Disease Control and Prevention, undated). The Los Angeles Mommy and Baby Project (LAMB), a Los Angeles County effort modeled on the nationwide PRAMS project, found in 2014 that 12.2 percent of mothers in Los Angeles County reported that they were moderately or very depressed following the birth of their child (n = 6,035; Los Angeles County Department of Public Health, 2014).

Child Health Inputs

We examined whether children in the Welcome Baby program were benefiting from five different important child health inputs, including exclusive and nonexclusive breastfeeding, child health insurance, child immunization status, and well-child visit status, using data from the SFDB.

Breastfeeding status is assessed by the home visitor or nurse at each visit. If the client is not breastfeeding, the Parent Coach, where feasible, provided lactation support to the client. Over 60 percent of mothers exclusively breastfed at the hospital visit, while 94 percent of mothers were breastfeeding in any capacity at the hospital visit (Figure 4.9). As expected, the portion of clients exclusively breastfeeding and doing any breastfeeding decreased over time. As a benchmark, the 2014 LAMB survey assessed the rates of exclusive and nonexclusive breastfeeding at one week and three months after birth for a probability-based sample of mothers who had recently given birth in Los Angeles County (Los Angeles County Department of Public Health, 2014). Welcome Baby clients were slightly less likely to exclusively breastfeed at both the 72-hour (46 percent in Welcome Baby versus 54 percent in the LAMB) and three-month visits (36 percent in Welcome Baby versus 38 percent in the LAMB), and slightly more likely to be incorporating breastfeeding in some capacity into their infant feeding routine than the average for Los Angeles County at both the 72-hour (93 percent in Welcome Baby versus 87 percent in the LAMB) and three-month (71 percent in Welcome Baby versus 66 percent in the LAMB) time points.

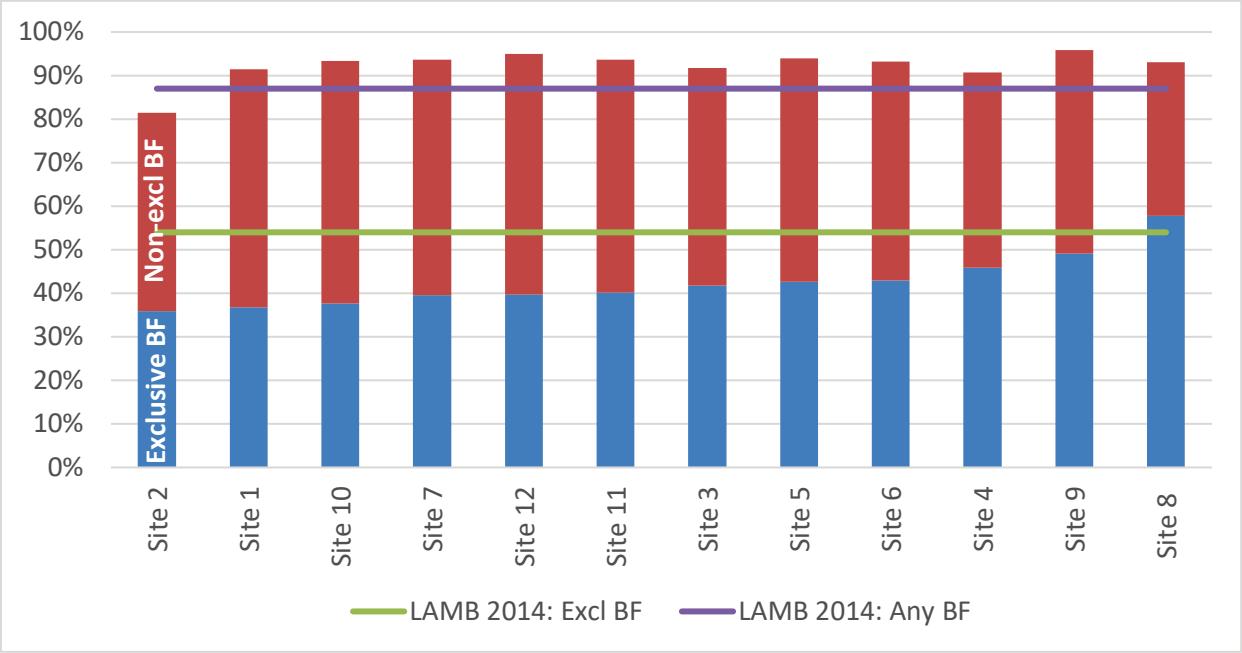
Figure 4.9. Exclusive and Nonexclusive Breastfeeding, by Visit Type, with County Benchmarks



SOURCES: SFDB for Welcome Baby (*n* = 31,486, January 2016–December 2017); Los Angeles County Department of Public Health, 2014 for LAMB (*n* = 6,035).

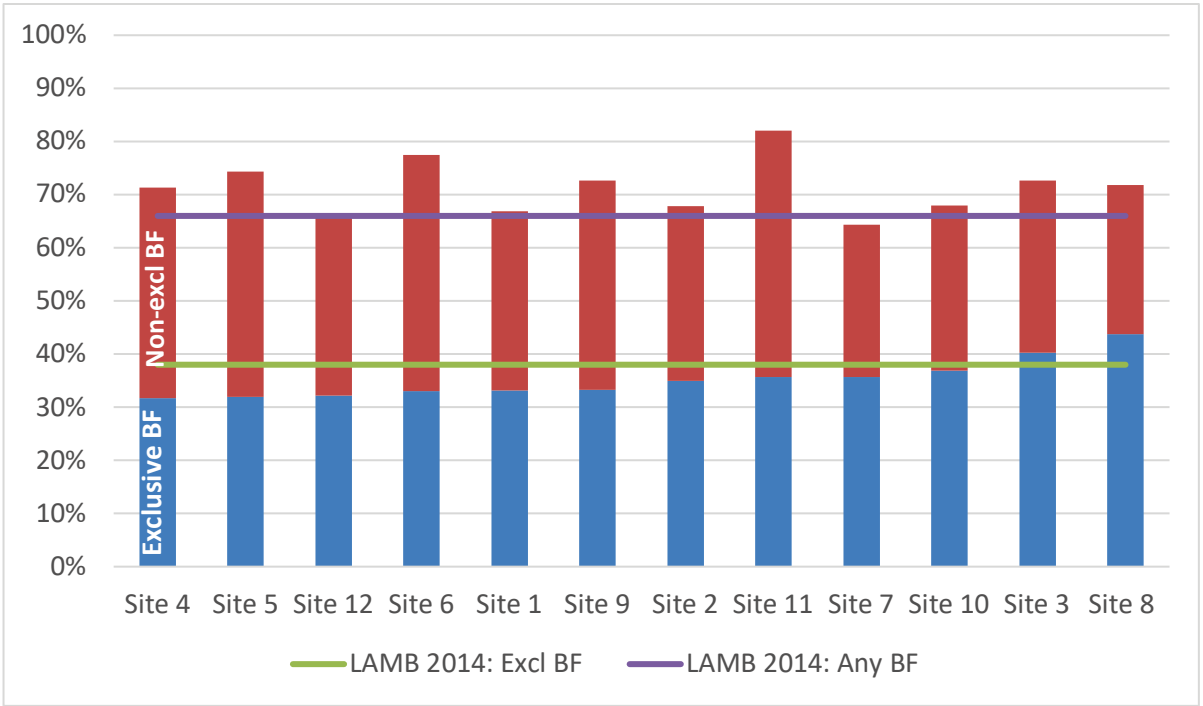
Looking at clients' breastfeeding status at 72 hours by site alongside the LAMB one-week findings, one site outperformed county benchmarks for both exclusive and any breastfeeding at this time point, while 11 of 12 sites outperformed county benchmarks for any breastfeeding (Figure 4.10). Similarly, two sites outperformed county benchmarks for both exclusive and any breastfeeding at the three-to-four-month home visit, and again, 11 of 12 sites met or exceeded county benchmarks for any breastfeeding (Figure 4.11).

Figure 4.10. Exclusive and Nonexclusive Breastfeeding by Site at the 72-Hour Home Visit, with County Benchmarks



SOURCES: SFDB for Welcome Baby (*n* = 5,224, January 2016–December 2017); Los Angeles County Department of Public Health for LAMB, 2014 (*n* = 6,035).

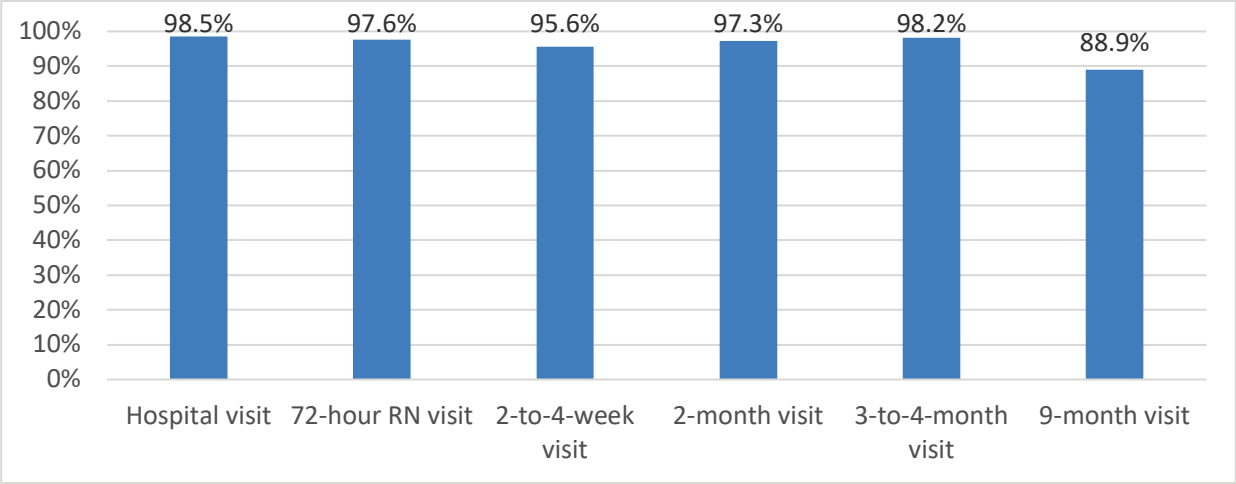
Figure 4.11. Exclusive and Nonexclusive Breastfeeding by Site at the Three-to-Four-Month Home Visit, with County Benchmarks



SOURCES: SFDB for Welcome Baby (*n* = 3,885, January 2016–December 2017); Los Angeles County Department of Public Health for LAMB, 2014 (*n* = 6,035).

The child's health insurance status is assessed by the home visitor or nurse at each visit, starting at the hospital visit. According to the SFDB, more than 98 percent of infants in the Welcome Baby program had some form of insurance when leaving the hospital, with those numbers decreasing over time to 89-percent coverage at the nine-month visit (Figure 4.12). From the hospital visit through the three-month visit, more than 95 percent of infants were covered by some form of health insurance, while this number dropped to 89 percent at the nine-month visit. There was no recent benchmark for children's insurance coverage at hospital exit, or at a specific time in the first year.

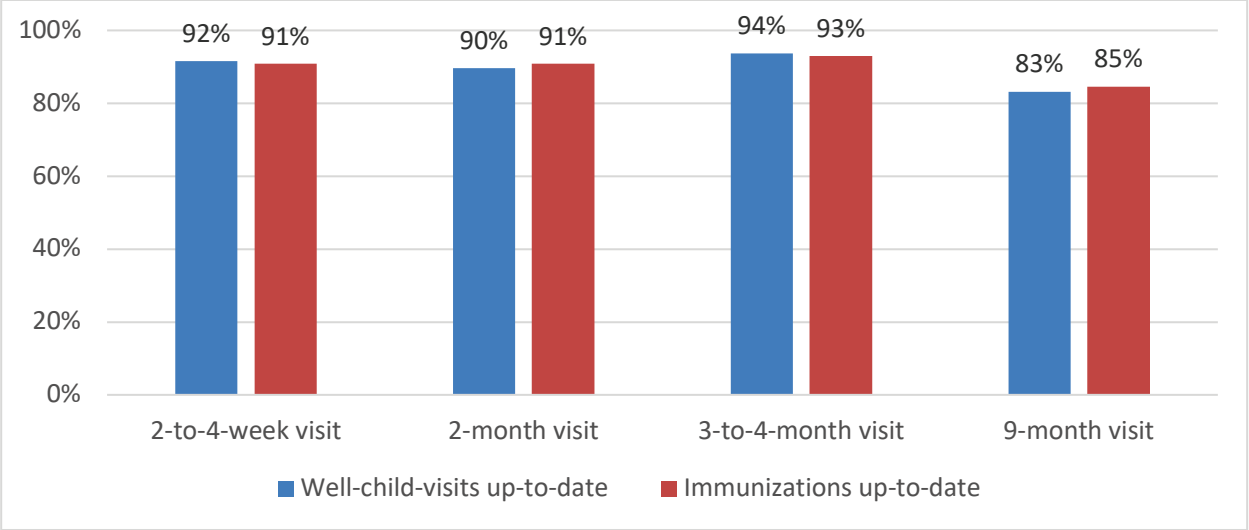
Figure 4.12. Percentage of Clients Whose Infant Is Covered by Health Insurance, by Visit, with Los Angeles County Benchmark



SOURCE: SFDB (*n* = 32,435, January 2016–December 2017).

Status of infant immunizations and whether the mother has kept up with all relevant well-child visits were assessed by Parent Coaches during routine visits. These two measures covaried as expected because well-child visits are typically where physicians recommend any required immunizations (Figure 4.13). The percentage of mothers up to date on immunizations and well-child visits was above 90 percent at the two-to-four-week, two-month, and three-to-four-month visits. At the nine-month visit, these percentages dropped about ten percentage points, consistent with the roughly ten–percentage point drop in health insurance coverage shown in Figure 4.12.

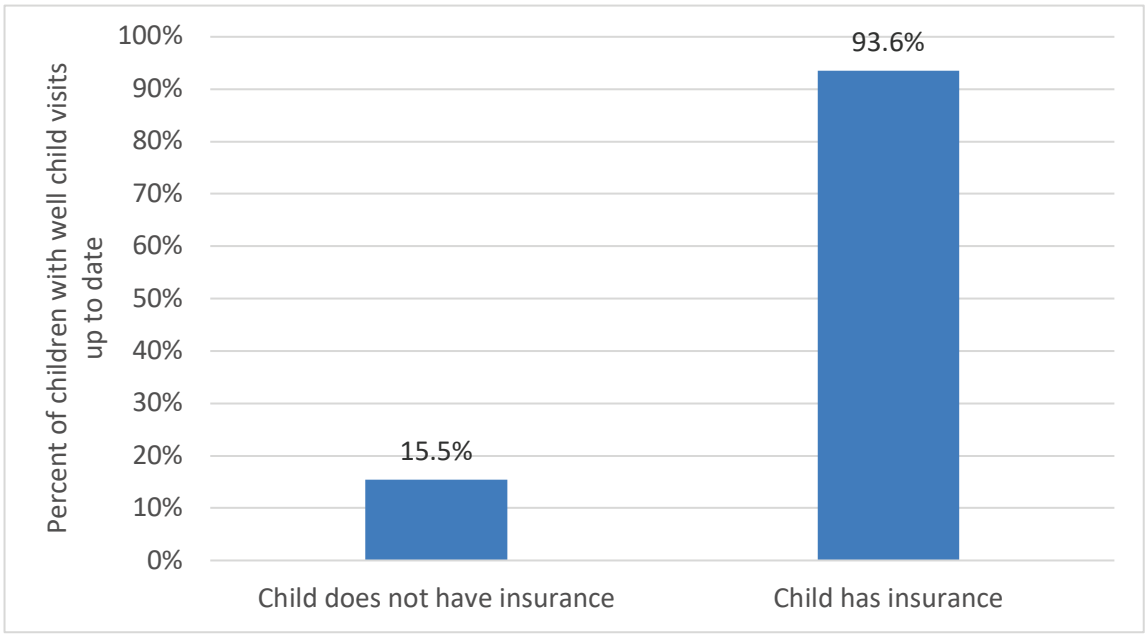
Figure 4.13. Infant Immunizations and Well-Child Visit Status, by Visit



SOURCE: SFDB (*n* = 16,848 for well-child visits, 17,015 for immunizations, January 2016–December 2017).

Insurance status and well-child visit status also covaried: Clients who reported a lack of health insurance for the child also reported not keeping up with well-child visits (Figure 4.14). More specifically, for a given visit where the child is reported not to have insurance, only 16 percent of mothers reported at that visit that their well-child visits were up to date.

Figure 4.14. Well-Child Visit Status for Children With and Without Insurance at a Given Visit



SOURCE: SFDB (*n* = 16,848, January 2016–December 2017).

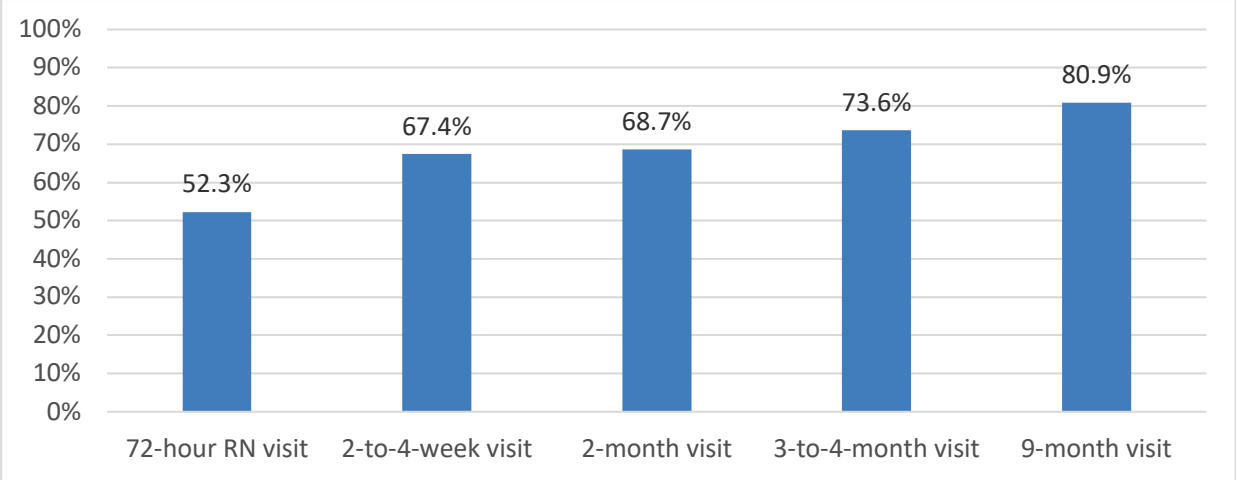
Child Safety

We used the SFDB to examine several child safety measures, including the child's environmental safety, as observed by the Parent Coach, and the mother's safe sleep practices, as reported by the mother to the Parent Coach and/or observed by the Parent Coach in the case that the infant was asleep at the time of the visit.

Home safety hazards were assessed by observation of the Parent Coach at each in-home visit. Potential hazards include a lack of childproofing, secondhand tobacco smoke in the home, visible bugs such as bedbugs or cockroaches, weapons in the home, and other similar items. Home visitors recorded whether there were any home safety issues identified, or whether the home safety inspection was completed with no issues identified. Home visitors then provide tailored home safety education to the client according to needs identified.

The vast majority of home safety issues identified fall in the category of inadequate childproofing; in 75 percent of visits where a home safety issue was identified, childproofing was one of the issues. The percentage of Welcome Baby clients for whom no home safety issues were identified at a given visit increased over time, indicating that the safety of the home environment improved as a client progressed through the program (Figure 4.15; see Appendix D, Table D.8 for information on site-level change over time). There were no national or local benchmarks using the same home safety checklist used by the Welcome Baby program.

Figure 4.15. Percentage of Clients for Whom No Home Safety Hazards Were Identified, by Visit



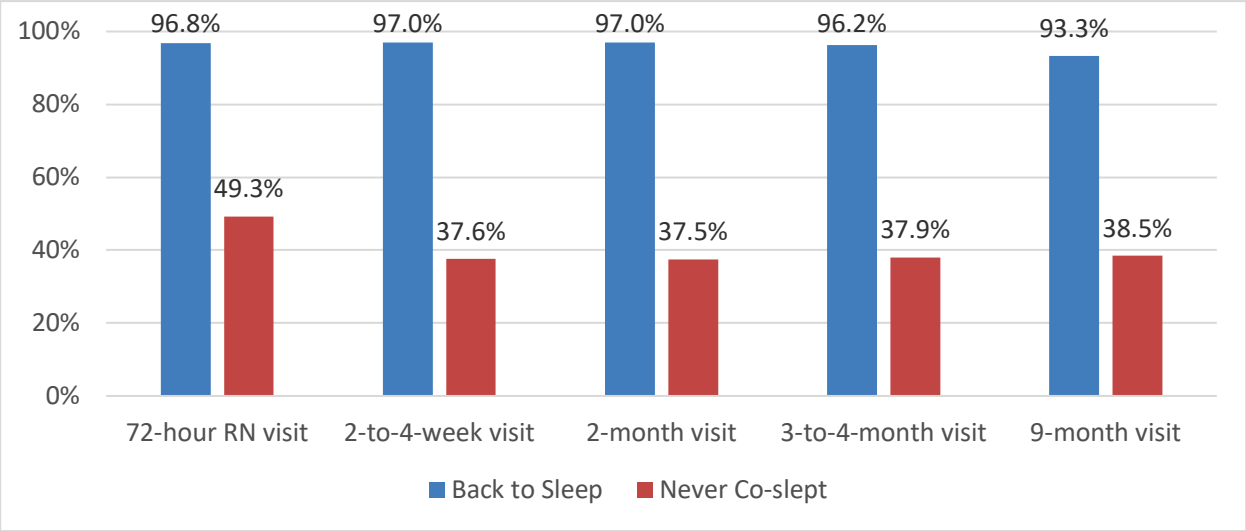
SOURCE: SFDB (*n* = 22,335, January 2016–December 2017).

Safe sleep practices were assessed by parent report or observation of the Parent Coach at every visit in the home, including whether a child was put on their back to sleep, and an assessment of whether a child ever shared the bed with another person.

A recent systematic review of studies found that the infant's sleep environment, including sleep position and bed sharing, is the most critical element of risk reduction for sudden infant

death (Carlin and Moon, 2017). Nearly all Welcome Baby clients reported putting their child down to sleep on their back, while less than half of clients reported never having shared their bed with their child (Figure 4.16). This is true even at the 72-hour RN visit, indicating that for most clients, bed sharing happened in the first days after returning from the hospital.

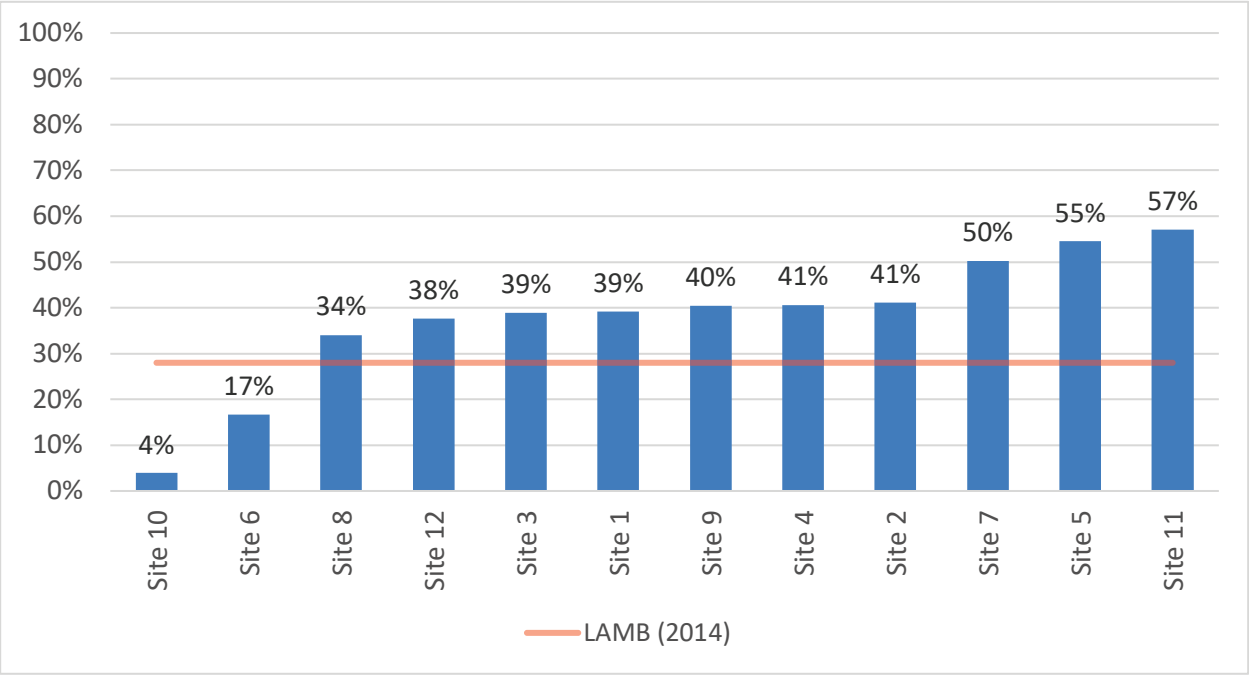
Figure 4.16. Safe Sleep Practices, by Visit



SOURCE: SFDB ("Back to Sleep," *n* = 21,426; "Co-Sleeping," *n* = 21,373, January 2016–December 2017).

In looking at county benchmarks, all sites are well above the 2014 LAMB survey average of 83 percent for putting infants on their back to sleep; across sites, between 95 and 98 percent of clients at the two-to-four-week visit report putting their infants on their back to sleep. For co-sleeping, all but two Welcome Baby sites outperform the county benchmark of 28 percent reporting never co-sleeping, with a lot of variation across the sites (Figure 4.17).

Figure 4.17. Percentage of Mothers Who Report That Their Children Have Never Co-Slept at the Two-to-Four-Week Visit, by Site, with Regional Benchmarks

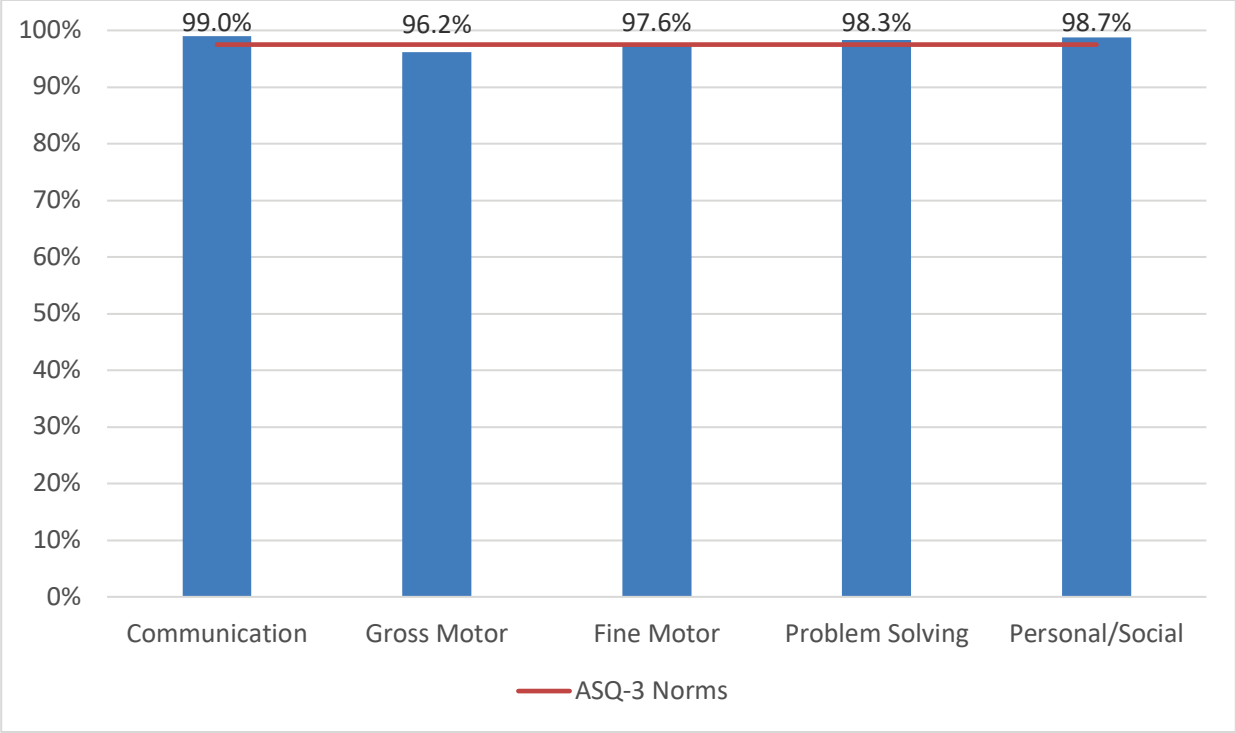


SOURCES: SFDB for Welcome Baby (*n* = 4,958, January 2016–December 2017); Los Angeles County Department of Public Health for LAMB, 2014 (*n* = 6,035).

Child Development

As part of the Welcome Baby curriculum, Parent Coaches administer the ASQ-3 (Squire et al., 2009) at the three- and nine-month home visits, selecting the version of the questionnaire that most closely maps to the age of the child. The ASQ-3 is a developmental screening tool used with infants and young children and covering five domains: Communication, Gross Motor, Fine Motor, Problem Solving, and Personal Social. ASQ cut-points indicating a potential developmental need are set at the 2.5th percentile for each scale. Indeed, in each of the five domains, between 96 and 99 percent of children were above the cut-off for the test that they were administered (Figure 4.18).

Figure 4.18. Percentage of Infants with Passing Scores on Each of the ASQ-3 Domains



SOURCES: SFDB for Welcome Baby (*n* = 6,669, January 2016–December 2017); Squire et al., 2009, for ASQ-3 norms (*n* = 6,035).

Evaluation Question 7: What Are the Relationships Between Program Fidelity Outcomes and Participant Outcomes?

Overall, the number of significant relationships between program fidelity and participant outcomes was relatively low, indicating a lack of evidence for a link between fidelity and participant outcomes. Across the eight fidelity components included in this analysis, the ones most likely to be associated with improved outcomes were staff qualifications, staff training, reflective supervision, home visitor workload, and curriculum content coverage.

To address this evaluation question, we examined the relationship between the eight program fidelity components with data that could be matched to the client, visit, and participant outcomes. Next, we summarize the findings by outcome, visit type, and fidelity component.

Methods

To identify which fidelity components are associated with participant outcomes, we examined whether the fidelity components analyzed in Evaluation Question 1 and Evaluation Question 2 were related to the outcomes analyzed in Evaluation Question 6. The variables we used to examine this evaluation question are described in detail in the previous sections. The eight fidelity domains we examined in this analysis are staff qualifications, staff training,

reflective supervision, home visitor workload, service dosage, timing of service delivery, participant perception of the relationship, and percentage of content covered. For the five postpartum visits beginning with the RN visit, we estimated a set of models for 12 outcomes with these fidelity components. The outcomes were positive parenting practices, parent knowledge of infant development, use of family planning, exclusive breastfeeding, any breastfeeding, child has health insurance, child has well-baby visits, timely immunizations, child development, no safety issues in the home, putting the child on his or her back to sleep, and no co-sleeping (all measures expressed so that one is a better outcome than zero). While we aimed to estimate relationships between all 12 outcomes and all eight fidelity domains at each visit (for a total of 96 estimates for each of the five visits), not all measures were available for each visit; we report the number of estimates at each visit subsequently.

The estimates measured the association between each participant outcome at a visit and each fidelity component measured at the previous visit. The idea behind this approach is that an outcome measured at one visit would have been generated by the actions and knowledge of parents prior to that time, and that the previous Welcome Baby visit would have aimed to influence these actions and knowledge in a way that would promote child development and family wellness. While it is possible that the fidelity components of all of the previous Welcome Baby visits would influence later outcomes, we expected that the most recent Welcome Baby visit has the most influence on outcomes, and so we focused on the fidelity components of the most recent visit. Not all fidelity components or outcomes were measured at each visit, so in each model, we included all of those variables that are available in the data for that visit. For example, the service dosage variable counted the number of visits the family received out of a possible of six total, so this variable was included in only the nine-month outcome estimates. We also included family characteristics in these models to control for differences in the types of families served by different sites and home visitors. If we did not control for these differences, the estimates of the relationship between measures of fidelity and outcomes could be biased. The correlation for the fidelity components measured at the same visit was never more than 0.4, with the exception of fidelity components measured for the Hospital Liaison visit where staff meeting the minimum qualifications received less reflective supervision and staff meeting the minimum training requirements were more likely to cover all the content in the visit.

As we did in the estimates for Evaluation Question 5, we estimated these models accounting for the clustering of families within home visitors and sites. Most of the models have binary outcomes, and we used the melogit command in STATA (StataCorp, 2017) to account for clustering. For the few continuous outcomes in our analysis, we used the mixed command in STATA. Also as described in the methods for Evaluation Question 5, we used the Benjamini-Hochberg procedure with a false discovery rate of 0.10 to adjust the p-value to reduce the chance of false positives due to the large number of estimates.

Results

The findings can be summarized from several perspectives; we summarize the findings by visit type, outcomes, and fidelity component. More detailed results from this analysis are presented in Appendix G.

Findings by Visit Type

We first present these results through the lens of the visit type. Given that different staff provide services at different visit types and that different outcomes might be more relevant to different child development periods, the findings can inform Welcome Baby where to emphasize fidelity efforts to have the most impact on family outcomes. We identified several significant relationships between fidelity components and outcomes by visit.

- For the RN visit, a quarter of the relationships between fidelity components and outcomes were found to be significant (i.e., seven out of 28), with a mix of positive and negative associations.
- For the two-to-four-week visit, very few relationships were significant (i.e., six out of 77), with a mix of positive and negative relationships.
- For the two-month visit, about one-sixth of the relationships were significant, with ten positive and four negative (i.e., 14 out of 88).
- For the three-month visit, almost one-sixth of the relationships were significant, with 11 positive and five negative (i.e., 16 out of 96).
- For the nine-month visit, about one in ten of the relationships was significant, with six positive and five negative (i.e., 11 out of 96).

Since the significant results generally include both positive and negative relationships, these findings do not lend support to an overall conclusion of a clear positive association between the fidelity components and outcomes measured in this research.

Findings by Outcome

We examined the relationship between the fidelity components and five client-level outcome categories: parenting, maternal health, child health inputs, child safety, and child development.

Parenting

For positive parenting practices (as measured by five items from the HOME) and parent knowledge of infant development (as measured by items from the KIDI), most of the fidelity components did not exhibit a relationship with these outcomes. This may be related to the low amount of variance displayed among Welcome Baby participants on these two measures. Most parents scored the maximum possible on both the HOME and the KIDI, making it difficult to detect effects for these two outcomes.

Maternal Health

The findings for the family planning outcome were counterintuitive, as meeting staff training and workload standards were associated with lower rates of family planning. Further, meeting the home visitor workload fidelity threshold was associated with lower use of family planning for the last four visits, one of the most consistent patterns in these findings. We explored the possibility that these findings were related to the fact that sites may have different policies on this topic because of religious considerations; for example, different versions of the Welcome Baby manual had been created with and without the family planning component to meet the needs of religious-affiliated sites. However, we did not find that sites with religious affiliations had lower rates of family planning than other sites.

Child Health Inputs

None of the fidelity components was related to the "any breastfeeding" measure, and only one fidelity component was related to the "exclusive breastfeeding" measure. This may be related to the relatively high rates of breastfeeding among Welcome Baby participants, which makes it difficult to effect large changes on this outcome. There were some positive relationships between meeting fidelity components and having child insurance, having immunizations up to date, and having well-child visits at recommended intervals, but the positive relationships were not always consistent across visits and fidelity components.

Child Safety

There was some evidence that meeting the staff qualifications fidelity threshold was related to parents avoiding co-sleeping. However, there was also some evidence that meeting the reflective supervision component was associated with parents reporting more co-sleeping. Perhaps there is some variability in staff attitudes toward co-sleeping, with some viewing co-sleeping as a cultural norm that should be respected, and others viewing co-sleeping from a public health perspective that emphasizes the potential dangers. We also observed a mixed relationship between the fidelity components and the home safety outcome.

Child Development

Child development, as measured by the ASQ at the three-month and nine-month visits, did not show any clear patterns in the estimated relationships with fidelity components.

Findings by Fidelity Components

In looking at whether some fidelity components exhibited relationships with outcomes more often than others, five fidelity components (staff qualifications, staff training, reflective supervision, home visitor workload, and content covered) were positively related to some outcomes and negatively related to others. However, omitting the family planning and safety issues outcomes, which may reflect both Welcome Baby procedures and participant actions, there were few negative relationships. The other three fidelity components—program dosage,

timing, and the participant perception of the relationship—had two or fewer positive relationships across all the outcomes for the five visits.

Overall we find little evidence to support a relationship between the fidelity components and client outcomes. This finding could be because of a true null effect or to the analyses being underpowered—that is, the sample size is not large enough to enable the identification of the effects. We conducted some illustrative calculations to assess whether the sample size was large enough to support identification. Known as "power calculations," these calculations yield the sample size needed to estimate the true effect rather than simple chance, using a selected confidence interval and likelihood of correctly estimating nonzero effects (for more information on power calculations, see Noordzij et al., 2010). Using the smallest sample in the estimates in this section (for the nine-month outcomes), a mean number of clients per Parent Coach cluster of 11, and a typical intraclass correlation of these clusters of 0.25, we calculated that our data had an effective sample size of 400, compared to the true sample size of about 1,520 (Killip et al., 2004). Using the smallest prevalence of our outcomes of 0.19 and the smallest prevalence for our binary fidelity measures of 0.25, there is 80-percent power with Type I error of 5 percent to detect an odds ratio smaller than 0.4 or larger than 2.0. While the power of each estimated equation will be specific to the analysis due to varying sample sizes and varying prevalence rates, this illustrative example using the most conservative sample size and the lowest prevalence of the outcome and predictor shows that we are able to detect moderate relationships between fidelity and outcomes. Similarly, there is 80-percent power with Type I error of 5 percent to detect an odds ratio smaller than 0.7 or larger than 1.4 for a one standard deviation change in a continuous fidelity measure. In sum, our power calculations are consistent with the findings that there are null or weak relationships as a whole between the fidelity components and client outcomes. As mentioned, some of the outcomes with relatively high rates may exhibit no relationship with fidelity components because it would be difficult to effect large changes on those outcomes.

Overall Summary of Findings

This section has provided detailed findings on each of the seven questions that this evaluation was asked to answer. We summarize the main points for each evaluation question in Table 4.23.

Table 4.23. Main Findings, by Evaluation Question

1. To what extent are sites implementing Welcome Baby to fidelity?
Across the 11 fidelity domains for which we had data, there was considerable variability in the degree to which individual sites achieved fidelity to the Welcome Baby model. No site achieved fidelity in all of the assessed domains, but every site achieved fidelity in at least two domains (supervisory requirements and participant perception of the relationship). Within each domain, between 18 and 80 percent of sites met the fidelity threshold.
2. Is there variability in sites' ability to reach fidelity to Welcome Baby?
There were also differences in the degree to which sites met the fidelity threshold across different domains. For two domains, all sites achieved fidelity thresholds with the Welcome Baby model (supervisory requirements and participant perception of the relationship); for another three domains, only one site achieved fidelity thresholds (staff qualifications, reflective supervision, and hospital enrollment). The remainder of the domains had from 5 to 8 sites achieve fidelity thresholds. Within several domains, there was also variability in achieving thresholds for specific elements of the domain criteria (e.g., by staff position or visit type).
3. How are sites maintaining community resource and referral networks? What, if any, gaps exist in these networks?
Sites also varied widely in the completeness of their referral directories. Very few sites have developed their own infrastructure to facilitate successful referrals (e.g., MOUs with service providers, referral forms). Welcome Baby provides sites with protocols for five referral types, including domestic violence, early intervention for child developmental delays, postpartum care, maternal depression, and suicide prevention. Yet, very few sites had developed their own infrastructure to facilitate successful referrals (e.g., MOUs with service providers, referral forms). Staff across all sites reported referring to a wide range of referral resources, regardless of the infrastructure developed to facilitate successful referrals.
4. What are participant perceptions of and experiences with the program and Welcome Baby service providers?
There was general agreement among program participants that the Welcome Baby program met their needs and helped them connect with services. Families found the enrollment process easy and greatly appreciated the breastfeeding assistance. Program participants also indicated that they would participate in the program again if seeking parenting help in the future and rated their relationships with the Parent Coaches extremely positively. Overall, families said Welcome Baby staff were responsive to their needs, easy to communicate with, accessible, and flexible. In terms of areas for improvement, many participants wanted more home visits, while some noted that it would be helpful to provide program materials in nonpaper formats.
5. What factors contribute to participants leaving the program early?
Family characteristics associated with being at risk of poor outcomes are often associated with a greater likelihood of transitioning from the hospital to RN visit, but a lower likelihood of staying in the program for later visits. For the 2-to-4-week visit and later visits, adherence to Welcome Baby fidelity standards is related to lower rates of participants leaving the program.
6. To what extent do participants achieve short- and intermediate-term outcomes?
Welcome Baby participants exhibited better outcomes in more than half of the areas with available regional or national benchmarks. Welcome Baby participants exhibit more positive parenting practices, higher levels of any breastfeeding, and safer sleep environments than benchmarks. Welcome Baby participants exhibited lower levels of family planning and exclusive breastfeeding compared to benchmarks.
7. What are the relationships between program fidelity outcomes and participant outcomes?
Overall, the number of significant relationships between program fidelity and participant outcomes is relatively low, although more likely than one would expect due to chance. The fidelity components most likely to be associated with improved outcomes are staff qualifications, staff training, reflective supervision, home visitor workload, and percentage of curriculum content covered.

5. Summary, Recommendations, and Limitations

This chapter is organized into four main sections. First, we provide a summary of the strengths of the Welcome Baby Program that is based on the findings from the evaluation, that is, areas in which the Welcome Baby program sites were meeting their implementation or outcome goals. Second, we provide recommendations for improving the Welcome Baby program implementation and outcomes, including suggestions for ongoing monitoring in light of the study findings. Third, we describe the limitations we experienced with conducting this evaluation. Finally, we provide conclusions from the project.

Strengths of the Welcome Baby Program

Overall, the Welcome Baby program sites were meeting many of the implementation (i.e., fidelity) and outcome goals.

In terms of implementing the program with fidelity as measured by adhering to the fidelity domains, program strengths include

- client satisfaction, with clients generally very satisfied with the services they received (Domain 11)
- supervision levels, with all sites meeting the fidelity threshold related to the supervisory requirement levels (i.e., supervisors oversee no more than four Parent Coaches; Domain 3).
- visit content, with most sites able to achieve the home visit content fidelity domain (Domain 13)
- timeliness, with most Welcome Baby visits being conducted on time (Domain 9).

When looking at outcomes, the Welcome Baby sites scored similarly to or better than national and local benchmarks on

- parenting practices
- breastfeeding
- health insurance status
- safe sleep practices (i.e., back sleeping, no co-sleeping)
- child development.

There were other outcomes where the sites on average scored well, but we did not have any benchmarks to compare to the Welcome Baby site performance, including

- parenting knowledge
- immunization rates
- home safety.

Recommendations for Improving the Welcome Baby Program

Based on our analysis, we found several areas that may be in need of improvement and offer some suggestions for addressing them. We organize this section by first addressing the fidelity domains, next we discuss outcomes, and then we discuss the implications from the analyses where we examined the relationship between variables. More specifically, we discuss the findings from our analyses of factors related to program attrition and from our analyses of fidelity domains and program outcomes. Then, we provide some recommendations for ongoing monitoring based on these findings.

Fidelity Domains

For this section, we discuss the fidelity domains where improvements could be made. We do not address the domains where the majority of sites met the benchmark (i.e., Domain 3 [supervisory requirements], Domain 9 [timing of service delivery], Domain 11 [participant perception of the relationship]) or domains that we were not able to assess (i.e., Domain 6 [prenatal recruitment and enrollment], Domain 12 [family-centered approach], Domain 14 [responsiveness of provider). F5LA may still want to continue to monitor the domains where the majority of sites met the benchmark to ensure they are maintained, and improvements in data collection and abstraction are needed to assist with assessment of prenatal recruitment and enrollment, family-centered approach, and responsiveness of provider.

Staff Qualifications (Domain 1) and Training (Domain 2)

For the staff qualifications and training fidelity domain, there were some staff positions where the sites performed well in meeting one or the other, but typically not both. This implies that sites may be hiring staff that meet the job qualifications but may not be providing adequate training requirements (e.g., Outreach Specialists), or hiring staff that do not meet the job qualifications but are providing adequate training (e.g., Parent Coach Supervisors). To address this, it might be helpful to review the relevance of the qualifications and training requirements for each position for future recruitment and training of Welcome Baby program staff. Staff training and qualifications are particularly critical because they appear to be positively related to program retention and program outcomes, such as breastfeeding, family planning, co-sleeping, well-baby visits, and home safety.

Reflective Supervision (Domain 4)

Although sites met the mark in terms of supervision caseload levels, the frequency of reflective supervision and the quality of it is in need of further examination. Some staff positions reported not receiving reflective supervision very frequently, and staff across positions and sites questioned the quality and value of reflective supervision. Since reflective supervision appeared to negatively relate to retention between the hospital and RN visit, an examination of the quality of the reflective supervision, especially for Hospital Liaisons and RNs, is warranted. Reflective supervision is related to several program outcomes; it was found to be positively related to well-

baby visits, immunizations, home safety issues, and sleep environment (back sleeping) and negatively related to parenting practices and co-sleeping.

Home Visitor Workloads (Domain 5)

At the time of our assessment, staff at most sites were meeting the home visitor workload requirements. Given that meeting the workload requirement appears related to program retention from the two-month to three-to-four-month time point and certain outcomes (family planning, child health insurance, immunizations, home safety, and sleep environment), F5LA may want to continue to monitor this to ensure sites are maintaining appropriate workload levels.

Hospital Enrollment (Domain 7)

Meeting the fidelity threshold on this domain required approaching 90 percent of eligible families in the hospital and enrolling 40 percent of those approached. Most sites did not meet the recruitment target because of issues with staff coverage (e.g., not having staff available 24/7, including nights and weekends). While many sites met the 40-percent target for approaching families, there was wide variation, suggesting that staff from some sites may be able to learn from others on best enrollment practices. F5LA may want to consider whether these threshold levels are appropriate given the number of births and Welcome Baby staffing levels at the different participating hospitals to see if site-specific targets may be appropriate. Also, now that the program has been implemented for quite some time, the fidelity threshold for enrollment may need to be adjusted based on the observed enrollment rates to set more realistic targets.

Service Dosage (Domain 8)

There was wide variation across the sites in the percentage of participants who received four or more postpartum Welcome Baby visits, with most clients not receiving four of six targeted postpartum engagement visits. Although staff felt that the large gap between the three-to-four-month and nine-month visit contributed to program drop-out, the analysis showed that the largest attrition occurred between the hospital and RN visit. F5LA may want to undertake continuous quality improvement approaches to increase program retention between the hospital enrollment visit and first in-home visit. We were able to examine this fidelity domain only with nine-month outcomes, and it appears related to any breastfeeding. Given the wide variation across sites in percentage of clients completing four or more postpartum visits, there are potentially lessons learned from staff at the high-performing sites that could help improve performance at other sites.

Referrals to Community Services (Domain 10)

Site performance on this fidelity domain was extremely varied, suggesting again that there could be best practices in some sites that may help the lower-performing sites. Due to the limitations in the SFDB, we were able to evaluate this for only a short time period and did not include it in our analyses of factors related to program attrition and outcomes. Based on our assessment of the community referral process through each site's documentation (i.e., Evaluation

Question 3), F5LA should consider the development of detailed protocols for all high-priority referral types, including public benefits, alcohol, smoking and drug treatment, with the provision of client confidentiality. F5LA should support sites in developing and maintaining a standardized referral directory and establish MOUs with service providers to improve service access.

Home Visit Content (Domain 13)

Overall, across sites and visits, coverage of the Welcome Baby curriculum was quite good with the exception of the hospital visit. F5LA may want to explore the reasons behind this by gathering input from Hospital Liaison staff about challenges they face with delivering content and whether or not crucial content is being missed, or if modifications to the expectations of curriculum covered in the hospital are needed. Since coverage of home visit content appears to be related to program attrition as well as a number of outcomes, including family planning, child health insurance status, immunizations, and co-sleeping practices, it is important to further investigate why content is not always covered and whether there can be efforts to improve delivery of content and perhaps enhance engagement and outcomes.

Outcomes

Findings indicate that site outcomes varied quite a bit, including family planning (i.e., only about half the sites met the national benchmarks on the use of family planning, less family planning with more fidelity to Welcome Baby content) and safe sleeping practices (i.e., two sites reported high levels of co-sleeping at the two-to-four-week visit). Given these findings, family planning and safe sleep practice could be areas to target for staff retrainings and booster sessions, as well as to share lessons learned from sites showing higher rates with sites demonstrating lower rates. Additionally, while Welcome Baby participants exhibited higher levels of any breastfeeding compared to local benchmarks, they reported slightly lower rates of exclusive breastfeeding, and there may also be an opportunity to improve this outcome.

Relations Between Variables

Factors Related to Program Attrition

To better understand program attrition (i.e., Evaluation Question 5), we examined both participant characteristics and performance on the fidelity domains. The practical value of the findings from these analyses is twofold. Knowing which family characteristics are associated with participants leaving the program early can help Welcome Baby staff adjust followup, scheduling effort, or incentives toward families that are most likely to leave. Furthermore, knowing which Welcome Baby fidelity components are associated with retention can help F5LA to prioritize which fidelity component efforts to monitor.

The results on the relationship between family characteristics and staying in the program suggest that while higher-risk families—as measured by a number of characteristics—are staying for the RN visit, they are more likely to leave before the later home visits. This implies that F5LA may be able to improve Welcome Baby retention by supporting efforts to retain higher-

risk families in the later home visits. Retention efforts could include more engagement efforts, like check-in calls and opportunities for families to reach out to Welcome Baby staff.

Findings on the links between five of the fidelity components and program retention suggest that the fidelity components were associated with greater retention for the later three home visits. Finally, the findings on reflective supervision suggest that there may be value in gaining a better understanding of the quality of the supervision for the staff involved in the first couple of visits—the Hospital Liaison and the RN—as we found a negative association between reflective supervision and retention at the early time points. While we don't have quantitative data to help explain these findings, the qualitative data suggest that perhaps some Hospital Liaison and RN staff did not feel the reflective supervision was helpful.

Relationship Between Fidelity and Outcomes

The results in regard to Evaluation Question 7 (i.e., what are the relationships between program fidelity and participant outcomes?) generally demonstrate weak support for the relationship between program fidelity and participant outcomes. When focusing on outcomes that display more variation, there is evidence that the fidelity components are more likely to be related to outcomes than one would expect due to chance. However, the incidence of a relationship is relatively low, making it difficult to draw strong conclusions that there is generally a relationship between the fidelity components and outcomes measured. Clients that experienced greater levels of program fidelity also exhibited lower rates of family planning, and this pattern merits additional investigation by F5LA. The family planning rates were not associated with the religious affiliation of the hospital, suggesting that this is a training issue that could be addressed, not a site-specific policy issue. The findings do suggest some areas where F5LA could explore some improvements or clarity in Welcome Baby policies and procedures as described in more detail in next section.

Ongoing Monitoring for Quality Improvement

As described in this report, there is a wealth of data collected about Welcome Baby implementation and outcomes. Our analyses helps shed light on whether some of these data may be useful to monitor in the future to help ensure potential participants stay engaged in Welcome Baby and demonstrate good maternal and child outcomes. Specifically, we recommend the following:

- **Family risk factors:** Since characteristics of program participants may influence program participation, it may be helpful to continue to monitor these trends and be mindful that participants showing a particular risk profile may be likely to drop out so that strategies for retaining these families can be deployed.
- **Fidelity:** Given the relationships between the different fidelity domains and program retention and outcomes, F5LA should continue to monitor staff training (Domain 2) and qualifications (Domain 1), reflective supervision (Domain 4), hospital enrollment (Domain 7), service dosage (Domain 8), home visit content (Domain 13), and the community referral process (Domain 10).

- **Outcomes:**
  - We recommend deemphasizing outcomes with very high pass rates and/or very limited variability. For example, F5LA might consider removing the KIDI items from the client survey since there was not a lot of variability on these items, and there were no benchmarks.
  - Since there is room for improvement on family planning and safe sleep outcomes (particularly co-sleeping), it is worth continuing to monitor these to see if additional staff training results in improvement.
  - Although we were unable to include them in the analysis, we recommend continuing to monitor maternal depression rates. Given some concerns about the PHQ data and administration (see study limitations section), F5LA may want to consider refining the administration of the PHQ to be more consistent with guidance (i.e., self-administered), using the Edinburgh Postpartum Depression scale (EPDS; Cox, Holden, and Sagovsky, 1987) instead of the PHQ, and testing different administration methods (e.g., text-based administration between visits) for the depression measure.[4]

Study Limitations

In this section, we discuss several limitations to our evaluation, including missing data and data quality issues in regard to the fidelity and outcome domains and issues with our mixed method analytic approach due to delays in the data collection timeline.

Missing Data and Data Quality Issues

Here we discuss some of the challenges with the data since F5LA may be interested in finding ways to better capture data and assess site performance in the future. First, the evaluation was designed to gather information on the 14 elements or domains of program fidelity within the Welcome Baby Fidelity Framework. However, we lacked available data to assess site fidelity in three domains: prenatal recruitment and enrollment (Domain 6), family-centered approach (Domain 12), and provider responsiveness (Domain 14). For other domains (i.e., staff qualifications and training, supervision domains, workloads), we did not have access to full information across all sites. Data challenges also arose with the outcomes data collected to assess program outcomes in the Welcome Baby logic model. To assess parent knowledge, we proposed using the KIDI, a common scale used in the home visitation field to measure this outcome. However, during the design process, the scale was shortened and modified such that there were no benchmarks to compare findings. Moreover, as a result of the delayed rollout of the client survey component, we did not have access to enough data to examine possible site-level variation.

It is also important to note that many elements relied on self-report information that may be biased. For example, the content of home visits was based on Welcome Baby staff reports of

[4] The EPDS is tailored to assess postpartum depression and has been more commonly used among similar populations. For example, in a 2017 systematic review of assessments of screening tools for postpartum depression, three studies were identified using the PHQ and 23 using the EPDS (O'Connor et al., 2016).

what was covered in the visit. There could also have been bias introduced in the data collection methods, as we relied on Welcome Baby staff to recruit for the participant focus groups and to administer the client survey. It is possible that participants who were not satisfied with the program were less likely to be recruited for the focus groups or asked to complete the client survey.

As noted earlier, the study team determined that the extremely low prevalence rates of depressive symptoms in the SFDB meant that these data were likely not a valid representation of the true prevalence of depressive symptoms among Welcome Baby participants. There are several possible reasons for the low prevalence rates. First, clients are given the opportunity to opt out of sharing their mental health data with F5LA. While the overall opt-out rate was low, at several sites, more than 90 percent of clients opted out during some fiscal quarters. While we might expect that mothers who are not inclined to share these data are also at higher risk for mental health issues, such as depression, the low rate of depressive symptoms is consistent across all sites, including those that had high authorization rates (i.e., rates that were above 95-percent authorization). Second, the PHQ was developed to be a self-administered instrument and validated for pen-and-paper as well as electronic administration (Erbe et al., 2016). The reliability of the PHQ when administered verbally has not been well-established (Mission Health, 2018). In the Welcome Baby model, the PHQ is administered orally. The possible threats to the validity of this measure under this administration method include clients' discomfort with divulging sensitive mental health information. Indeed, in the Latino population, stigma associated with revealing potential mental health issues has been well-established (e.g., Interian et al., 2010; Interian et al., 2011; Vargas et al., 2015). We examined findings by race/ethnicity, and we did find that Latino participants were less likely to report mild or moderate depressive symptoms compared with other ethnicities. However, these rates were much lower than expected in the non-Latino population.

Delays in Data Collection

The proposed evaluation blended the collection of both qualitative data, in the form of staff interviews and focus groups with clients, with quantitative data collected via Staff and Client Surveys, home observations, and data from the SFDB. One of the goals of the evaluation was to use the qualitative data from the staff interviews and client focus groups to explain patterns found in the data collected via the quantitative means (Staff and Client Surveys, home observations, and database). However, the collection of the data from the Client and Staff Surveys and home observations was delayed and occurred after the staff interviews and participant focus groups. As a result of the discrepancy in timing of these different data collection activities, it may not be sensible to assume that the data collected at the time of the interviews and focus groups would align with the quantitative data. For example, at the time of the interviews, the staff structure may have been different from when the staff completed the Staff Survey (e.g., the Program Manager may be in place at one time and not during the other), leading to variations in program delivery and support. Therefore, the perceptions reported during

the interview phase would be different from those during the Staff and Client Survey phase. We found evidence of at least one site where this occurred and therefore are limited in our ability to use the qualitative data to help explain patterns observed in the quantitative data set.

Conclusions

Despite some limitations, we were able to provide F5LA and Welcome Baby stakeholders with data-based information on the implementation and outcomes of the Welcome Baby program. Additionally, the findings inform the home visiting field as a whole, providing rigorous analysis of the factors contributing to home visiting program retention and assessment of referral networks. Overall, the study found a large amount of variability in the degree to which individual sites achieved fidelity to the Welcome Baby model and the rate at which thresholds were met across the different fidelity domains. Similarly, sites varied widely in the completeness of their referral directories and the availability of infrastructure to facilitate successful referrals. Despite variability in the services provided across the sites, clients reported generally high levels of satisfaction with Welcome Baby services and suggested a few ways to improve the program. Further, for more than half of the outcomes measured, Welcome Baby participants exhibited better outcomes compared to regional or national benchmarks. Finally, while several factors were associated with variation in Welcome Baby program retention rates, there were few instances in which program fidelity and client outcomes were related to retention. Overall, the results of the Welcome Baby evaluation can be used by F5LA and its stakeholders to better monitor program implementation and assist in achieving program outcomes.

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