Policy Brief: Partners for Healthy Baby Curriculum Study

Executive Summary

This secondary data analysis is a follow-up to the evaluation completed by the Georgetown University Center for Child and Human Development (GUCCHD) on the evidence base for the *Partners for a Healthy Baby* (PHB) curriculum series developed by the Center for Prevention and Early Intervention Policy at Florida State University (FSU CPEIP). The evaluation found favorable results with short-term maternal and child health outcomes in two home visiting programs—MOMobile and Early Head Start (EHS)—delivered through the Maternity Care Coalition (MCC) in Philadelphia, Pennsylvania. Maternal depression had the highest positive change for mothers who received education from the PHB curriculum.[1] In order to further analyze the relationship between the PHB curriculum itself and achieved outcomes, we looked at the extent to which home visitors used the curriculum with fidelity and at the relationship between the extent of curriculum use and maternal depression scores.

Major Findings:

- EHS home visitors implemented the PHB curriculum with higher fidelity than MOMobile—relying more heavily on using only curriculum content in all home visits rather than education materials from other sources.
- For both MOMobile and EHS, *Maternal Depression and Mom's Well-being* ranked in the top three most frequently mentioned topics by home visitors using only the PHB curriculum and using the PHB curriculum combined with other non-curriculum materials.
- When curriculum use for MOMobile and EHS were combined, *Maternal Depression and Mom's Well-being* was the second most talked about topic in total.
- Home visitors in MOMobile and EHS talked more about *Maternal Depression and Mom's Well-being* and *Support Systems* with those mothers who had previous perinatal depression and with first-time mothers.
- There were statistically significant correlations between the average amount of times home visitors talked about *Maternal Depression and Mom's Well-being* and *Support Systems* and declines in maternal depression scores over time.
- Using only the PHB curriculum for the topics of *Maternal Depression and Mom's Well-being* and *Support Systems* yielded a statistically significant decrease in depression scores over time, whereas the use of only some of the PHB curriculum or none of it for the two topics resulted in an increase in depression scores over time.

Conclusions:

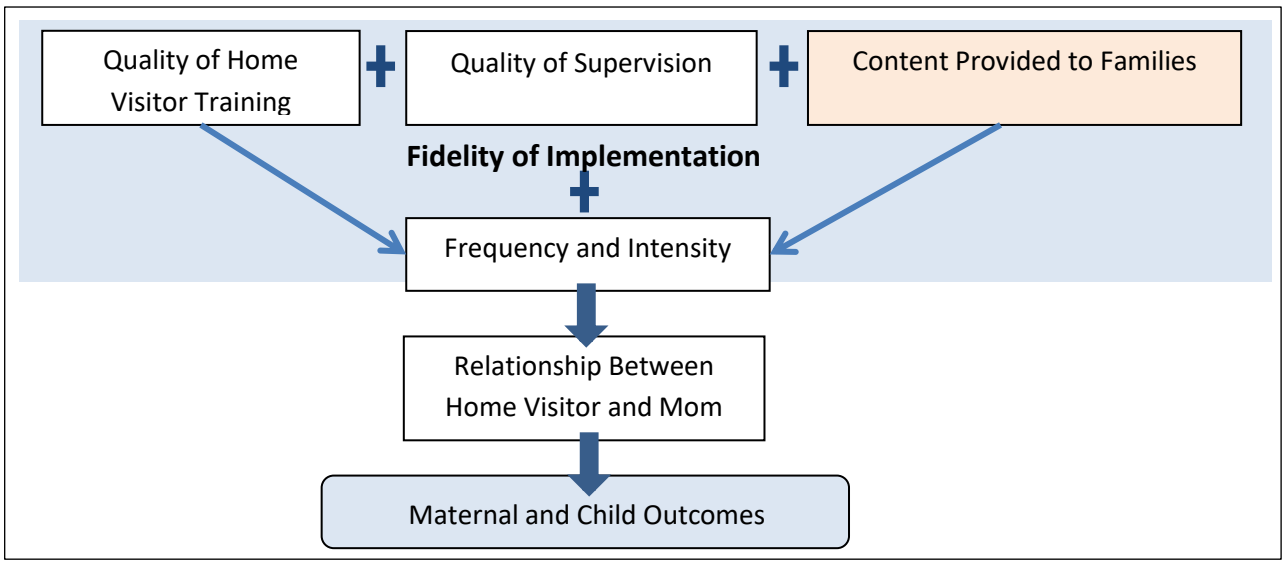
- There is evidence to suggest using solely the PHB curriculum contributes to positive short-term outcomes for maternal depression. Future long-term research is needed to further evaluate the evidence base for the PHB curriculum examining additional outcomes.

Background

The purpose of this secondary data analysis is to supplement the evaluation completed by the GUCCHD to research the contribution that using the PHB curriculum series at FSU with high fidelity can make to short-term maternal and child health outcomes. MCC, which ~~had~~ has~~?~~ been using PHB as their exclusive curriculum for more than a decade, was chosen by GUCCHD for the two-year evaluation. MCC's services were delivered through the MOMobile program, a home grown approach to home visiting, and through EHS. Highly trained community health workers received training from FSU in how to use the PHB curriculum with fidelity and outcomes were tracked over a 12 month period. Three outcome areas in which the PHB curriculum was thought to be particularly robust were evaluated including: maternal depression, breastfeeding, and safe sleep. Strong positive findings in all three outcome areas were demonstrated with use of the PHB curriculum. We wanted to further investigate the role of curriculum in producing positive~~?~~ health outcomes, specifically with maternal depression—the outcome found to have the highest positive change in the evaluation completed by GUCCHD.

The inconsistent results in the evaluations of home visiting models to produce desired outcomes have led researchers to explore the role various program components play in the contribution of outcomes. Parent engagement and home visitor-parent relationships,[2] the social context, the frequency of visits and the supervision of home visitors[3] are all factors that researchers have investigated to impact the outcomes produced by home visiting programs. There is, however, inadequate research on the relationship between curriculum use (what home visitors talk about) and desired maternal and child health outcomes. Our theory of change for affecting maternal and child health outcomes (Figure 1) includes the frequency and intensity of home visits, the home visitor-mother relationship, and the content (curriculum) provided to families, which are all influenced by the quality of training and supervision and the degree to which the program is implemented with fidelity. We focused on the factor of curriculum content in this study by examining the extent to which MOMobile and EHS home visitors, who were trained by FSU implemented the PHB curriculum with fidelity. We also investigated the relationship between fidelity of PHB curriculum use and changes in maternal depression scores.

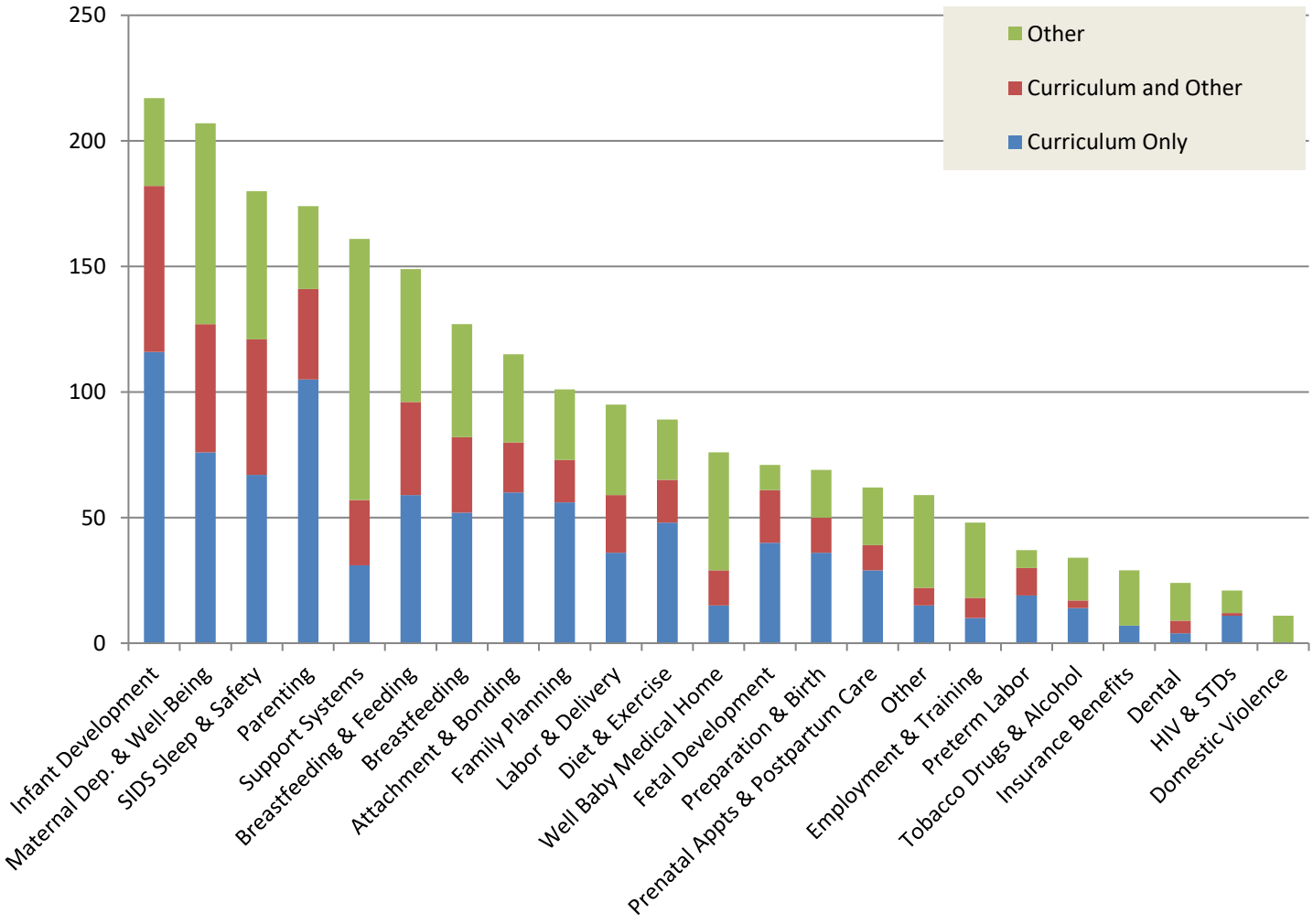
Figure 1: Theory of change model for maternal and child health outcomes through home visiting



Program Fidelity

Fidelity of implementation is a critical influence in our theory of change for achieving desired maternal and child health outcomes. Fidelity—the degree to which a program is implemented properly as intended by the developers—is an important piece in the evaluation of evidence-based home visiting models.[4] In this secondary analysis, we looked at fidelity as the extent to which home visitors in MOMobile and EHS used the curriculum during their visits. For each mother, home visitors in both programs documented how many times they talked about each topic and whether they used the PHB curriculum only ('curriculum only'), the PHB curriculum combined with other non-curriculum materials ('curriculum and other') or only other materials with no curriculum use ('other'). Figures 2 and 3 show the distribution of this breakdown for MOMobile and EHS separately, and Figure 4 shows the distribution for MOMobile and EHS combined.

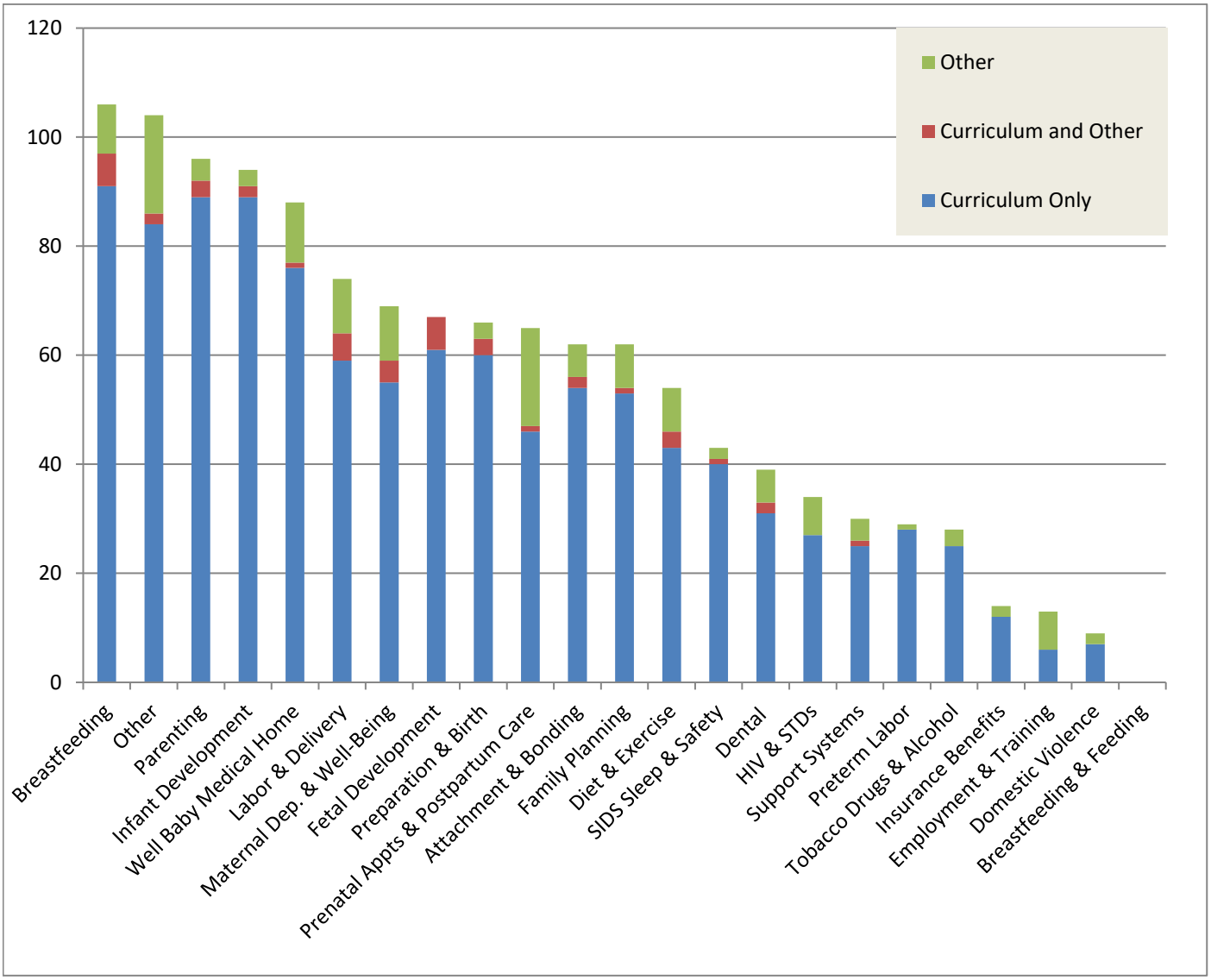
Figure 2: Frequency of the distribution of topics by source used by home visitors in MOMobile for all home visits



MOMobile PHB Curriculum Use

As seen in Figure 2, there is variability in the extent of curriculum use by MOMobile home visitors. The top three topics spoken the most by MOMobile home visitors using 'curriculum only' were: *Infant Development* (n=116), *Parenting* (n=105), and *Maternal Depression and Mom's Well-being* (n=76). When looking at just the use of 'curriculum and other', home visitors also spoke the most about *Infant Development* (n=66) and *Maternal Depression and Mom's Well-being* (n=54) along with *SIDS* (n=51). For some topics like *Support Systems,* MOMobile home visitors relied more on 'other' (n=104) than any curriculum use. On average for all the topics across all home visits, MOMobile used 'curriculum only' 39 times.

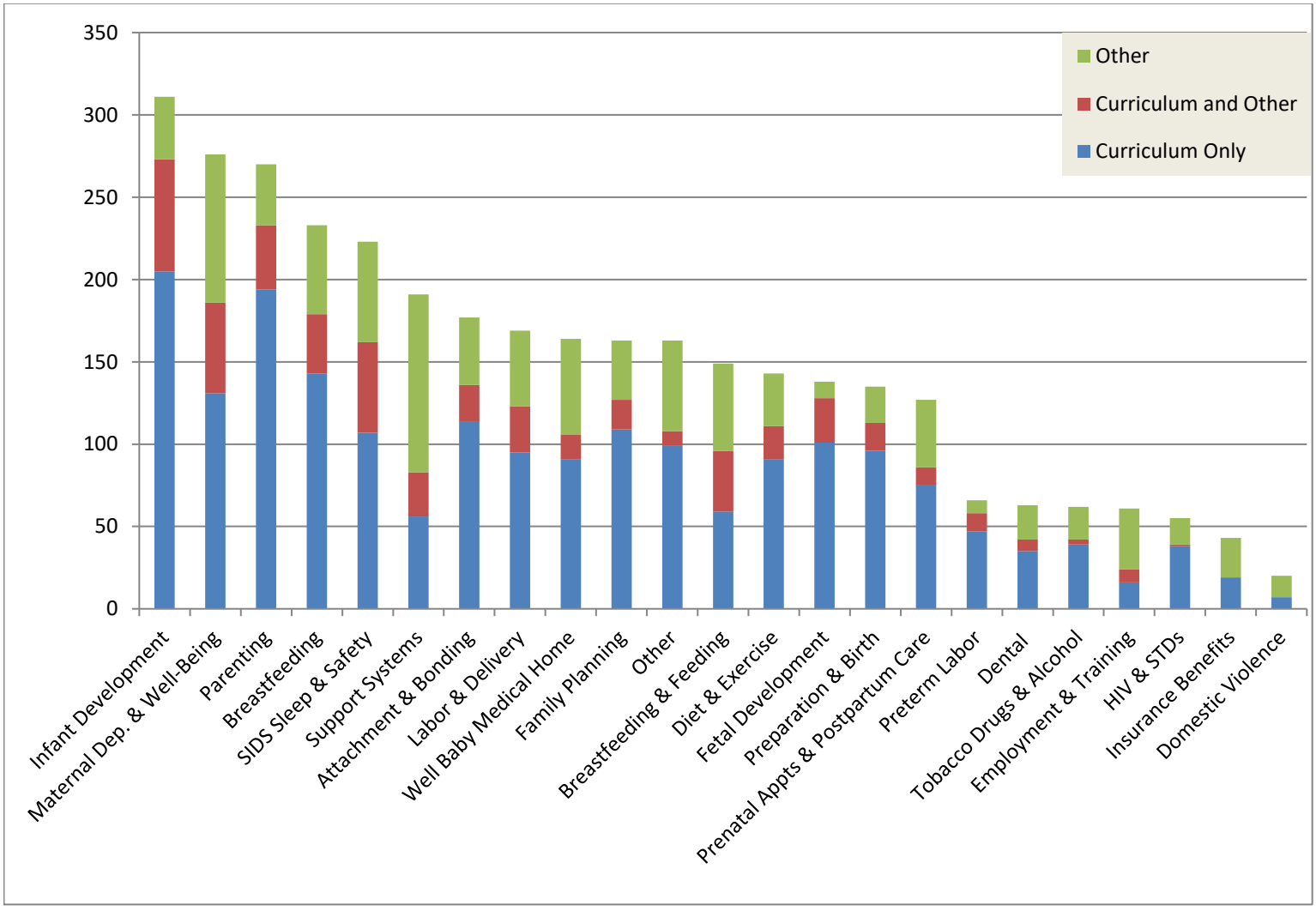
Figure 3: Frequency of the distribution of topics by source used by home visitors in EHS for all home visits



EHS PHB Curriculum Use

EHS relied more heavily on curriculum use than MOMobile. Using 'curriculum only', EHS spoke the most about *Breastfeeding* (n=91), and like MOMobile, they also spoke more about *Parenting* (n=89) and *Infant Development* (n=89). EHS implemented the PHB curriculum with more fidelity using 'curriculum only' for all the topics across all home visits 46 times on average and using little non-curriculum sources. When looking at all the topics across all home visits, EHS home visitors used 'curriculum and other' only on an average of two times and used 'other' on an average of six times. MOMobile home visitors, however, used 'curriculum and other' on an average of 20 times and 'other' on an average of 30 times.

Figure 4: Frequency of the distribution of topics by source used by home visitors in MOMobile and EHS for all home visits



MOMobile and EHS Combined

When looking at MOMobile and EHS together (Figure 4), *Maternal Depression and Mom's Well-Being* remains in the top three most discussed topics using 'curriculum and other,' and it is the second most mentioned topic when all sources are combined. With the combined data, the top three topics spoken the most by MOMobile and EHS home visitors using 'curriculum only' were: *Infant Development* (n=205), *Parenting* (n=194) and *Breastfeeding* (n=143). On average, the amount of times home visitors talked about all the topics across all home visits in relation to the extent of PHB curriculum use were: 86 times with 'curriculum only', 22 times with 'curriculum and other', and 40 times with 'other'.

'Other' non-curriculum materials as referrals

Interviews conducted across sites showed that home visitors were unanimously favorable about the breadth of information covered by the curriculum, its accuracy of information, writing style and language, graphics and organization of topics. However, they also reported using supplemental materials to meet clients' individualized needs for in-depth information. The need for supplemental information varied by topics and by clients. Home visitors reported they used supplemental materials to inform clients about local resources. Supplemental materials were also used to answer clients' in-depth questions on various topics and to support multiple conversations about the same topic with clients.

The social context in which home visiting programs are implemented is an important factor in achieving positive outcomes. Specifically, in settings where community resources are present, outcomes are more favorable when programs refer and link parents to those existing resources.[3] This is typical of many home visiting programs when it comes to topics such as mental health care,[3] and this was evident within MOMobile and EHS as *Support Systems* and *Domestic Violence* were two of the topics in which home visitors used supplemental materials for referrals to local resources. This is a possible explanation for MOMobile's high use of 'other' materials (n=104) when talking about *Support Systems.*

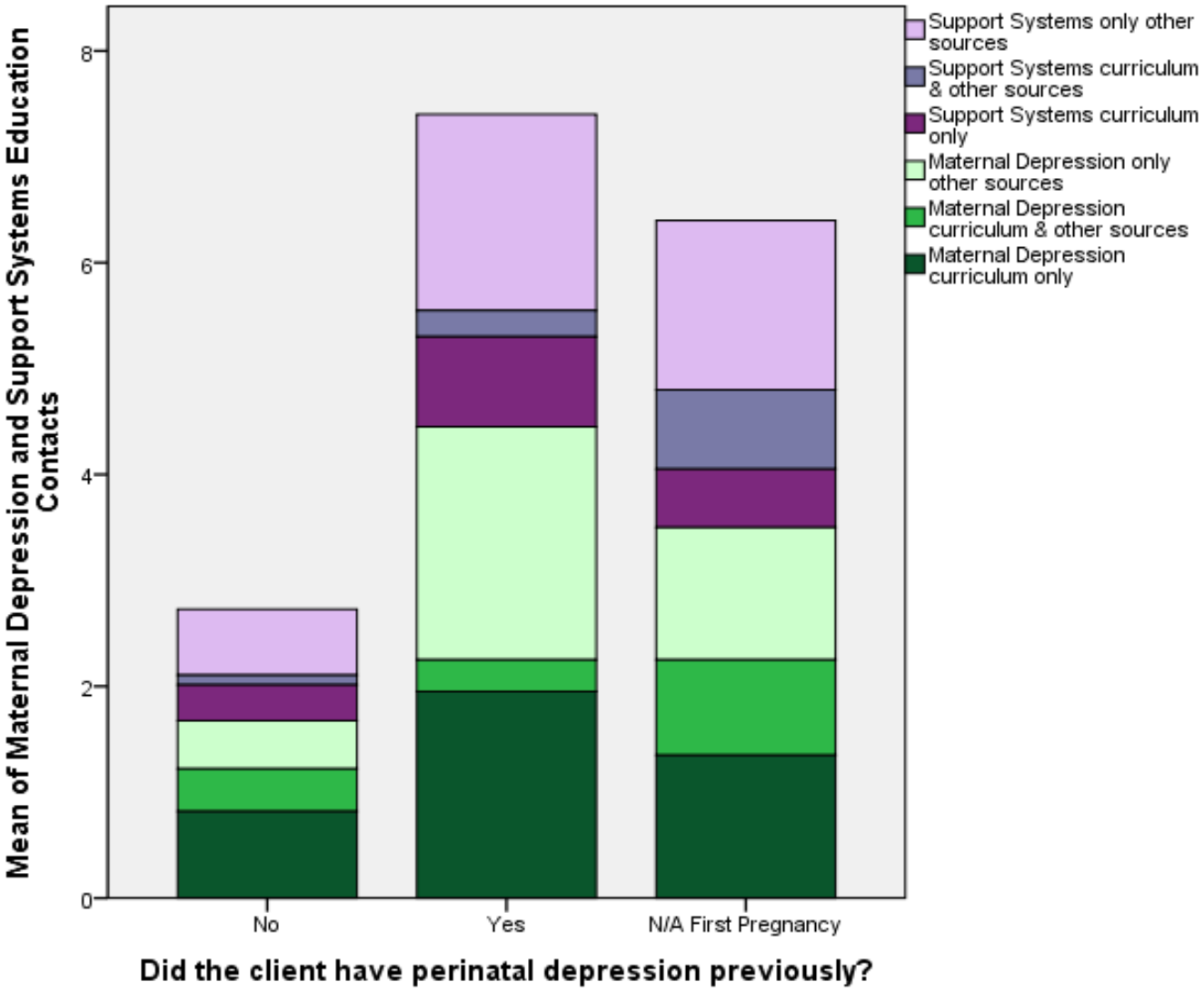
Adapting Curriculum to Needs of the Mother

As seen in the previous figures, there is great variability in the frequency of which topics were spoken about (or not spoken about) by home visitors. Unlike other home visiting curricula, PHB is not structured in a way that dictates the dose and timing of topics to be discussed by home visitors during each visit. Home visitors are allowed to adapt the curriculum contents and handouts they use during each visit depending on the needs of the mother. Fidelity and flexibility in implementation are not mutually exclusive, and flexibility in home visiting programs is necessary to allow home visitors to adapt their visits to address the current and urgent needs of the families they work with.[5]

This was the case for MOMobile and EHS home visitors who were working with mothers who had experienced perinatal depression in a previous pregnancy. Figure 5 shows home visitors spoke about *Maternal Depression and Mom's Well-being* and *Support Systems* more on average with mothers who had perinatal depression previously and with those who were first time mothers. A one-way between subjects ANOVA was conducted

to compare the effect of contacts on *Maternal Depression and Mom's Well-being* and *Support Systems* for those mothers who had previous perinatal depression, those who did not have it and those who are pregnant for the first time. The differences were statistically significant between no previous perinatal depression and previous perinatal depression and between no previous perinatal depression and first-time pregnancy.

Figure 5: Average number of times MOMobile and EHS home visitors spoke about *Maternal Depression and Moms Well-Being* and *Support Systems* with mothers who had a history of perinatal depression



An analysis of variance showed that the effect of the topics *Support Systems* and *Maternal Depression and Mom's Well-being* on history of perinatal depression was highly significant, [$F(2, 114) = 9.46$, $p<.01$].

Post hoc comparisons using the Bonferroni criterion indicated the mean difference for previous perinatal depression was significantly different than no history of perinatal depression (M = 4.67, SE = 1.25). The mean difference for first time pregnancy and no history of perinatal depression was also significant (M=3.67, SE= 1.25).

PHB Curriculum Topics and Change in Depression Scores

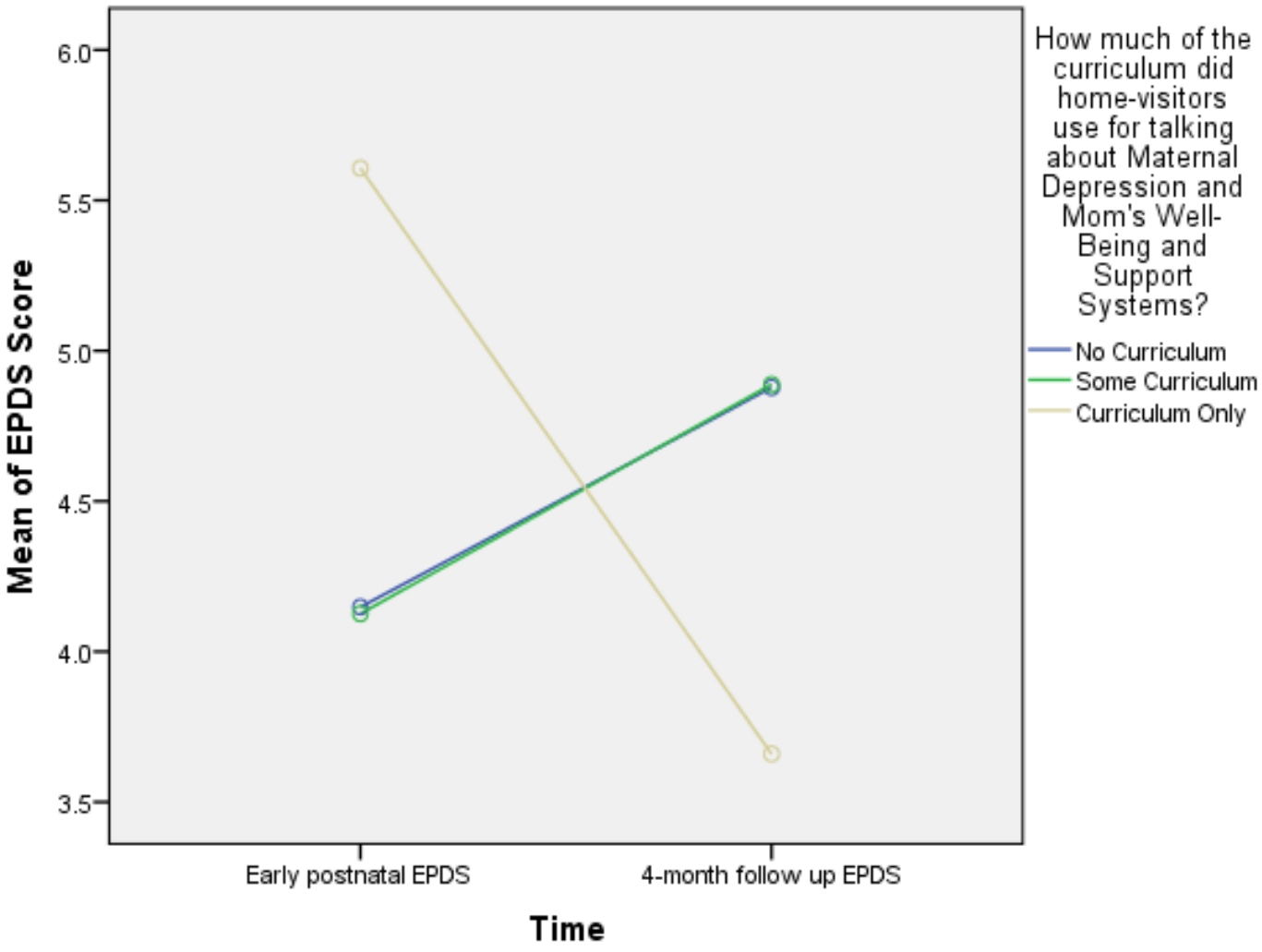
Since *Maternal Depression and Mom's Well-being* along with *Support Systems* were talked about frequently with mothers who had previous perinatal depression and the most within MOMobile, we examined the relationship between these two topics and changes in depression scores from prenatal to early postnatal/4-month follow-up for mothers receiving MOMobile services. A cut-off of 12+ on the Edinburgh Postpartum Depression Scale (EPDS) was used to indicate high depressive symptoms. Bivariate correlations were used to determine whether or not there was a relationship between the topics and the outcome of maternal depression scores (summarized in Table 1). The relationship between the average number of times home visitors educated on the two topics and the decreases in EPDS score from prenatal to early postnatal/4-month follow-up were all statistically significant.

Table 1: Correlation between the mean of *Maternal Depression and Mom's Well-Being* and *Support Systems* education contacts and changes in EPDS score from early postnatal to 4-month follow-up (MOMobile)

Bivariate Correlations for MOMobile	
Support Systems from PHB curriculum only & EPDS Change from Prenatal to 4-month follow-up	r(71)=-.23, p=.05
Maternal Depression and Mom's Well-being and *Support Systems* from PHB curriculum only & EPDS Change from Prenatal to 4-month follow-up	r(70)=-.28, p=.016
Maternal Depression and Mom's Well-being and *Support Systems* from all sources & EPDS Change from Prenatal to Early Postnatal	r(70)=-.33, p=.005

Multivariate tests controlling for prenatal EPDS score showed a statistically significant relationship between changes in EPDS scores over time from early postnatal to 4-month follow-up and the degree of PHB curriculum use (Figure 5) when looking at MOMobile and EHS together. There were decreases in EPDS scores over time for mothers who received solely the PHB curriculum for the combined topics of *Maternal Depression and Mom's Well-Being* and *Support Systems* whereas mothers who received only some of the PHB curriculum materials or none at all on the two combined topics saw an increase in EPDS scores over time.

Figure 5: Degree of curriculum use for *Maternal Depression and Mom's Well-Being* and *Support Systems* and changes in EPDS score from early postnatal to 4-month follow up



There was a significant decrease in depression scores over time for parents receiving only the PHB curriculum for *Maternal Depression and Mom's Well-being* and *Support Systems* and a significant increase in depression scores over time for mothers who received only some or no curriculum content [F(2,97)=3.93, p=.023].

Study Limitations

Missing data on curriculum use for participants enrolled in the study for MOMobile decreased our sample size by 29 (n=73 instead of n=102), which led us to combine the data for MOMobile and EHS for greater power—potentially confounding our results. There were also missing data on prenatal, postnatal and 4-month EPDS scores (n=25, 23 and 37 respectively) that possibly limited the effects we saw between PHB curriculum use

and changes in depression scores. Furthermore, missing data on demographic information of study participants did not allow for further sub-analysis.

Implications for Research, Practice and Policy

This analysis provides groundwork for further research in the role of home visiting content in affecting maternal and child health outcomes. To further explore PHB and research-informed curricula as evidence-based, future directions in this research would require a larger grant and a longer time period for follow-up. Based on this study, some implications for policy, practice and research include:

- *Research:* Identifying another strong community partner with a long history of implementing evidence-based home visiting models and which has a strong data and evaluation infrastructure in place—but one that has not yet used the PHB curriculum. If possible, randomized groups of home visitors and their supervisors to a concurrent active comparison group: one group should use the PHB curriculum while the other group should implement another similar curriculum (i.e., Growing Great Kids).

- *Practice:* In addition to the high quality training that FSU already provides on the curriculum, develop a comprehensive supervisors' training in how to help staff achieve mastery and how to support ongoing use of the curriculum "with fidelity."

- *Policy:* Given the inconsistent evidence in the long-term outcomes of home visiting programs, including curriculum content in the evaluation of evidence-based home visiting models could expand the research of what program components contribute to desired outcomes. Home visiting programs federally funded by the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) require the use of a list of evidence-based home visiting models—not all of which have a required curriculum. Further research and evaluation of curriculum contents could create a list of evidence-based curricula for home visiting programs to choose from.

References

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