NEWBORN HOME VISITING PROGRAM (NHVP) EVALUATION

In 2004, the New York City (NYC) Health Department launched the Newborn Home Visiting Program, a free and voluntary program. NHVP connects trained public health advisors (PHA). PHAs are trained para-professionals who conduct voluntary home visits with new mothers and babies who deliver in certain hospitals and live in the Health Department's Neighborhood Health Action Center service areas in the South Bronx, East and Central Harlem, and North and Central Brooklyn. NHVP also serves mothers who live in Department of Homeless Services (DHS) shelters. NHVP offers two home visiting models: the Traditional Model (TM), established in 2004,and the Shelter Initiative Model (SIM), established in 2015. Both models educate parents on safe sleep, infant feeding, environmental and community resource connections to improve infant and family health. Families who agree to participate in TM recieve one to two home visits and a follow up telephone call from a home visitor. Families who agree to participate in SIM are offered up to three visits from a home visitor and a maternal depression screening.

PROGRAM REACH - 2017

Table 1 highlights NHVP's level of success in 2017. NHVP considers a case successful if the PHAs complete at least one in-person interview with the client. Factors such as client refusal of services or inability to locate a client account for the discrepancy between eligible clients and clients served (see Appendix I). Breastfeeding clients from both models are eligible for two breastfeeding observation visits from a PHA who is also a Certified Lactation Consultant (CLC) or from a Public Health Nurse who provides general clinical assistance and breastfeeding support. Breastfeeding mothers are also eligible for enrollment in Mobile Milk, a text messaging service developed by the NYC Health Department to encourage and support breastfeeding.

TABLE 1: NHVP PROGRAM REACH (JANUARY 2017 – DECEMBER 2017)

Clients eligible to receive NVHP services (N=6,040)	Traditional Model (N=4,420)	Shelter Initiative Model (N=1,620)
Clients successfully visited by NHVP	2,426 (55%)	1,274 (79%)
Of those visited, clients breastfeeding at initial visit	2,186 (90%)	750 (59%)
Of those breastfeeding at initial visit, clients who received both observation visits	1622 (74%)	245 (33%)

NHVP EVALUATION

In order to support safe sleep practices, NHVP provides cribs to participating families as well as education on safe sleep practices. NHVP also provides external referrals for clients with potential health or social issues that require further, specialized attention. The external referrals most frequently made are "landlord letters" to private landlords or to the Department of Homeless Services regarding environmental conditions in the home (e.g. rodents, mold or peeling paint), and to NYC's Department of Housing Preservation and Development (HPD) regarding window guard deficiencies. Lastly, NHVP screens any child under age three residing in the household for potential developmental delays, and makes referrals to the NYC Health Department's Early Intervention (EI) program for further evaluation. Table 2 outlines the types of referrals and interventions supported by NHVP and the number of families receiving interventions.

TABLE 2: FAMILIES RECEIVING REFERRALS AND INTERVENTIONS BY NHVP (JANUARY 2017 – DECEMBER 2017)

Clients successfully referred by NHVP	Traditional Model (N=2,426)	Shelter Initiative Model (N=1,274)
Clients who were provided Pack 'n' Play	336 (14%)	210 (16%)
Cases where Landlord Letter was generated	84 (3%)	257 (20%)
Cases where referral to HPD was generated	77 (3%)	1 (<1%)
Cases where referrals to Early Intervention (EI) were generated	17 (1%)	28 (2%)
Number of children screened for EI concerns, of families that have residents less than 3 years old in the home	439	378
Of those breastfeeding, number of clients referred to a nurse for lactation support	32 (2%)	74 (10%)
Of those breastfeeding number, number of clients subscribed in Mobile Milk	1,053 (48%)	216 (29%)

NHVP EVALUATION OVERVIEW

In 2016, the NYC Health Department contracted the Rutgers University Bloustein Center for Survey Research to evaluate NHVP. The evaluation used a quasi-experimental design that compared a random sample of clients who received NHVP's TM services to a control group of women who did not receive NHVP services. For the control group, NYC birth certificates were used to draw a sample of women who gave birth in the same time period and had similar demographic characteristics to the TM clients. (i.e., number of prior live births, nativity, Medicaid status, race and ethnicity, education and age).

Due to rapid scale up of SIM, and because SIM is open to all DHS clients with an infant 0-2 months of age regardless of borough or breastfeeding status, the NYC Health Department was unable to obtain a comparable control group for SIM clients from NYC's population of homeless mothers. Instead, a descriptive study compared this population's health needs and behaviors with the low-income, high needs TM population (TM clients). The evaluation included a 12-page questionnaire (available on request) that asked NHVP clients about the following topics:

- Satisfaction with and utility of NHVP visits
- Healthy infant care knowledge and behaviors (safe sleep and breastfeeding)
- Health behaviors and conditions prior to, during and after birth and delivery
- Service referrals
- Home environmental conditions

Trained interviewers conducted the telephone-based survey in English and Spanish from April 2017 through December 2017, six to nine months after the child's birth. Upon survey completion each participant received a $20 gift card.

The TM sample size was n=407 (56 percent response rate) and the sample size for the control group was n=398 (57 percent response rate). The sample size for SIM was n=119 (42 percent response rate).

NHVP EVALUATION FINDINGS

a. NHVP education and impact: TM and SIM

Among TM and SIM respondents, over 92 percent rated their interaction with NHVP home visitors as excellent, very good or good. Among TM respondents, breastfeeding education was the most highly rated program component (96.0 percent rated it as very or somewhat helpful). TM respondents were more likely than SIM respondents to agree or strongly agree that participation in the program influenced their decision to prolong breastfeeding (77.2 percent of TM vs. 58.5 percent of SIM, p = .001).

Among SIM respondents, the most highly rated program component was smoking education (88.6 percent of TM vs. 98.8 percent of SIM, p =.005). SIM respondents were also more likely than TM respondents, to report that NHVP's educational information on pest control was very or somewhat helpful (80.2 percent of TM vs. 92.7 percent of SIM, p =.008).

TM and SIM respondents reported that participation in the program expanded their knowledge of safe sleep (94.9 percent for TM and 94.0 percent for SIM) and of home safety (98.8 percent for TM and 95.6 percent for SIM) and improved overall confidence in taking care of a baby (96.6 percent for TM and 98.8 percent for SIM).

b. Evaluation Findings: TM Outcomes Results

TM respondents were significantly less likely than the control group to identify unsafe sleep practices as safe. TM respondents were significantly more likely than the control group to report practicing safe sleep habits listed below. There was no significant difference in bed-sharing between the two groups reported.

1. TM respondents most often placed their babies on their backs to sleep (71.2 percent of TM respondents vs. 58.7 percent of the control group, p< .001).

2. TM respondent's baby usually slept only on a safe sleep surface such as a crib, bassinet, or pack 'n play (39.2 percent of TM respondents vs. 32.1 percent of the control group, p=.040).

3. TM respondent's baby usually slept without excessive bedding[1] (41.4 percent of TM respondents vs. 32.0 percent of control group, p=.006).

4. There was no significant difference between TM and control group respondents for bed-sharing.

The majority of TM and control respondents reported ever breastfeeding (96.1 percent of TM respondents and 95.2 percent of the control group). Among mothers who initiated breastfeeding, 90.3 percent of TM respondents and 86.1 percent of control group respondents were still breastfeeding at eight weeks postpartum, although this difference was not statistically significant. TM respondents who breastfed were more likely than control group respondents to breastfeed for at least 12 weeks (84.4 percent of TM respondents vs. 76.3 percent of control group, p=.005) or for 24 weeks or longer (64.4 percent of TM vs 56.3 percent, p=.022 of control group). The difference in breastfeeding duration was greater for TM mothers who received at least one breastfeeding observation visit (71.7 percent were still breastfeeding at 24 weeks postpartum).

1 Defined by AAP as at least one blanket, toy, cushion, pillow, or bumper pad

In terms of home environmental safety, compared to the control group, TM respondents were more likely to report living in homes with window guards (94.9 percent of TM respondents vs. 86.5 percent of the control group, p <.001). There were no significant differences in other environmental hazards or protective factors in the home, including smoke or carbon monoxide detectors, rodents, peeling paint or mold.

c. Evaluation Findings: SIM Descriptive Results

Maternal mental and physical health outcomes were significantly different between SIM and TM respondents. A larger proportion of SIM respondents compared to TM respondents had anxiety (11.1 percent of SIM vs. 2.0 percent of TM, p<.001) or depression symptoms (8.8 percent of SIM vs. 3.4 percent of TM, p=.016). The NHVP used the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder (GAD-7) tools to screen for postpartum depression and anxiety, respectively. In terms of physical health, SIM respondents were significantly more likely than TM respondents to have missed their postpartum checkup (21.0 percent of SIM vs. 12.5 percent of TM, p=.021). Lastly, SIM respondents were significantly more likely than TM respondents to report pre-pregnancy diabetes (13.4 percent of SIM vs 7.0 percent of TM, p=.026).

SIM and TM respondents were equally likely to place their babies on their back to sleep and identify safe sleep behaviors. However, SIM respondents were more likely to report that their baby slept alone in a crib or bed (88.1 percent of SIM vs. 79.7 percent of TM, p=.038).

DISCUSSION

The Traditional Model (TM) outcomes showed strong programmatic impacts on different measures of safe sleep knowledge and behavior. While it is not possible at this time to directly evaluate program impacts for Shelter Initiative Model (SIM), it is promising that safe sleep knowledge and behavior findings were similar between TM and SIM clients. Given these findings, NHVP will explore expanding TM eligibility to include non-breastfeeding mothers in Brooklyn and the Bronx.

The NHVP evaluation also highlighted the impact of breastfeeding support on continued breastfeeding. For TM clients, breastfeeding duration was longer for women who received at least one breastfeeding observation visit. In response to this finding, NHVP will explore barriers to completing breastfeeding observations and identify possible solutions. For example, prioritizing early postpartum visits or extending time with individual clients as needed.

NHVP clients reported that participation in the program changed their behavior or knowledge base regarding home environment concerns. However, while program participants were more likely to use window guards, no other differences were found between Traditional Model (TM) and the control group in terms of home environment conditions. NHVP will explore barriers to preventing and addressing pest, mold and lead

exposure. NHVP will also continue to strengthen their referral process for home environment concerns.

The stresses and challenges faced by families living in shelters are linked with adverse maternal mental and physical health outcomes. Evaluation results for shelter clients showed a need for greater maternal health support. SIM clients were more likely than TM clients to have pre-pregnancy diabetes, depression or anxiety symptoms, and/or to have missed their postpartum checkup. NHVP will continue to identify clients who need assistance beyond NHVP and connect them with appropriate resources.

Limitations with the evaluation included that all responses were self-reported, and the presence of desirability bias is possible. Additionally, outcome evaluation findings mirror NHVP eligibility and are not generalizable.

Overall satisfaction with the program was high and promising client outcomes were reported in several areas. The NHVP evaluation identified concrete modifications that the program can make to increase impact and better meet client needs. Overall, satisfaction with NHVP was high and promising client outcomes were reported across several areas. These findings highlight NHVP's current success in communities served.

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