

# Full Report: Testing the Feasibility of an Interactive, Mentor-Based, Text Messaging Program to Increase Fathers' Engagement in Home Visitation

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## Contents

<b>Executive Summary.....</b>	<b>3</b>
<b>A. Background .....</b>	<b>4</b>
A1. Tech-based Parent Education Tools for Parents.....	4
A2. Development of Text4Dad and Text4Dad Features.....	5
A3. Text4Dad Content.....	6
A4. Developmental Pre-pilot Study of Text4Dad Messages.....	6
A5. Father Involvement in Home Visitation Programs and Services.....	7
A6. Healthy Start .....	7
A7. The Engaged Father Program.....	7
<b>B. Text4Dad FRPN Pilot Study .....</b>	<b>8</b>
B1. Study Objectives.....	8
<b>C. Methods .....</b>	<b>8</b>
C1. Description of Sites .....	8
C2. Description of Text4Dad Implementation .....	9
C3. F-CHW Training Protocol.....	9
C4. Participant Recruitment.....	10
<b>D. Methods and Procedures of Analysis.....</b>	<b>10</b>
D1. Objective 1. Descriptive Analysis of Mentor-Mentee Exchanges.....	10
D2. Objective 2. Content Analysis of Mentor-Mentee Exchanges .....	11
D3. Objective 3. Interviews with F-CHWs (n = 3) and fathers (n = 3) .....	11
<b>E. Results.....</b>	<b>12</b>
E1. Content Analysis of Text4Dad Exchanges between F-CHWs and Fathers.....	12
E2. Interviews with Text4Dad F-CHW Mentors .....	13
<b>F. Interviews with Fathers.....</b>	<b>16</b>
<b>G. Discussion .....</b>	<b>17</b>
<b>H. References.....</b>	<b>20</b>
<b>Appendices .....</b>	<b>21</b>

## Executive Summary

The Text4Dad program was implemented as an add-on module in conjunction with a larger, multi-site fatherhood program, called the Healthy Start Engaged Father program, which uses a home visiting intervention to increase father involvement. The larger, multi-site evaluation examines the implementation of the Engaged Father program, delivered by fatherhood Community Health Workers (F-CHWs), in Healthy Start home visitation programs in urban and rural areas in Michigan. Text4Dad was implemented in three of the six Healthy Start Engaged Father program sites in a 16-month implementation evaluation study funded by the Fatherhood Research Practice Network (FRPN).



Text4Dad is a text messaging program to facilitate communication, interaction, and social support between F-CHWs and the clients on their caseload. The clients enrolled in Text4Dad are low-income fathers with at least one young child, most of whom were participants in the Healthy Start Engaged Father program. The FRPN pilot study evaluation of Text4Dad had two primary objectives. First, the team examined the process of implementing Text4Dad in community settings. A key question was whether the F-CHWs would use Text4Dad, and, if so, to what degree it would be beneficial in supplementing the home visiting and group-based programs carried about by the F-CHWs. To examine this objective, the research team conducted interviews with F-CHWs and fathers who used Text4Dad to understand how well the content of Text4Dad met their needs as community health workers and program participants. Second, the team examined the usage of Text4Dad. To carry out this objective, the team conducted content analysis of the exchanges between F-CHWs and fathers to better understand the topics that are most important and engaging to men.

There are several conclusions from this short-term implementation evaluation. First, the F-CHWs found Text4Dad relatively easy to use. Second, the F-CHWs used Text4Dad to push out content to fathers on a weekly basis. Third, both the F-CHWs and fathers had positive views of Text4Dad content and felt the content was acceptable and relevant to their parenting experiences. Overall, the data suggested that Text4Dad could be implemented in community fatherhood programs, and qualitative data supported the notion that Text4Dad helped fathers stay connected to and engaged with the fatherhood program (e.g., scheduling and rescheduling appointments, staying up to date on community-based events).

Although Text4Dad was viewed to be useful and relatively easy to use, F-CHWs nevertheless required ongoing technical assistance and support from the University of Michigan (UM) research team. Although the F-CHWs used Text4Dad to push out information to fathers, there was a lower than expected level of interactivity or mentorship between the F-CHWs and fathers through Text4Dad. Content analysis of exchanges indicated that, even with coaching from the UM research team, for the most part the F-CHWs did not use Text4Dad to elicit information or interaction with fathers. Only one of the three F-CHWs used the program to provide interactive support or encouragement to fathers. In follow-up interviews, two F-CHWs indicated that they felt that social support was more appropriately delivered during the in-home visitation components of the program. One important step moving forward from the FRPN pilot study is to consider how to support the F-CHWs to fully implement the mentorship and social support components of Text4Dad. More intensive initial training in the theory and rationale of Text4Dad may be necessary to accomplish this goal.

## A. Background

### A1. Tech-based Parent Education Tools for Parents

In recent years, technology-based interventions to support parents have drawn increased attention, in part because most parents of young children have themselves grown up with technology and use the internet and mobile apps for parenting information and support (Pretorius, Johnson, & Rew, 2019). Overall, 95% of all United States adults own a cell phone, including 92% of adults who make less than \$30,000 a year (Pew Research Center, 2018). Furthermore, there is hope that such interventions can be scaled up at low cost. For example, Text4baby is a widely used example of a tech-based, parent education intervention (Evans, Wallace, & Snider, 2012; Jordan, Ray, Johnson, & Evans, 2011; Remick & Kendrick, 2013; Whittaker et al., 2012). Text4baby sends pre-programmed infant health and safety messages to parents, although primarily mothers, during the child's first year of life. The program has reached over a million families since its inception in 2010. Studies have shown that use of Text4baby is associated with improved parental self-efficacy and knowledge of infant health topics (Evans et al., 2012; Gazmararian, Yang, Elon, Graham, & Parker, 2013).

More recently, researchers have developed and pilot-tested an interactive, text-based mentorship program called NurturePA, which trains female volunteers to support postpartum mothers via tailored text messages related to child care and development, emotional support, encouragement, and local parenting resources (Martin, Weiland, & Page, 2018). NurturePA differs from Text4baby in that it is interactive, with a trained mentor who sends messages to mothers. The mothers can send questions to their mentor, and the mentor is able to respond, in turn, using the NurturePA content that is available to mentors through the curated repository of evidence-based resources and messages. The feasibility study of the NurturePA program showed that training mentors to proactively reach out to mothers was a crucial part of the intervention. Through the mentor's outreach, a large majority of mothers (77%) had at least one problem addressed by their mentor. Mentors most commonly provided emotional support (39%) and parenting advice (35%) to mothers (Martin et al., 2018).

Programs like Text4baby and Nurture PA are targeted to mothers. Several tech-based projects have recognized the benefits of providing similar tools to fathers (Balu, Lee, & Steimle, 2018, July; S. J. Lee & Walsh, 2015; S. J. Lee, Walsh, & Lee, 2019). As a part of the [Building Bridges and Bonds](#) (B3) evaluation project (Harknett, Manno, & Balu, 2017; Israel, Behrmann, & Wulfsohn, 2017), funded by the U.S. Department of Health and Human Services, Administration for Children and Families, MDRC<sup>1</sup> developed a mobile app called DadTime. DadTime was designed for low-income fathers who were participating in a father-focused parenting program, called Just Beginning, with their young child (ages 0–3) (Harknett et al., 2017). The goal of the DadTime app was to keep fathers engaged in parenting sessions by reducing their barriers to program participation, so that they attend all of the Just Beginning program sessions and receive a full dose of the in-person Just Beginning fatherhood program. A secondary goal of DadTime was to provide "booster shots" to increase participants' opportunities to practice the skills that they learned during participation in the Just Beginning sessions. An RCT study of the DadTime app is currently being conducted to determine whether DadTime helped fathers stay engaged (e.g., increased in-person session attendance rates) in the Just Beginning fatherhood program (Balu et al., 2018, July).

The focus of the current study is an evaluation of the Text4Dad program. This project was a collaboration of the University of Michigan (UM) research team and several sites of a community-based, home visitation program called Healthy Start. As background, a direct predecessor to Text4Dad was the mDad project (Project PI: Shawna J. Lee). mDad was initially targeted to military fathers, many of whom experience separation from their children due to their military responsibilities. The mDad project included development of content for an app that provided parent education to fathers of young children, combined with functionality to track infant physical and social development.

<sup>1</sup>Founded in 1974 as the Manpower Demonstration Research Corporation, "MDRC" became the official name of the organization in 2003.

through videos, pictures, and logs (S. J. Lee & Walsh, 2015; S. J. Lee, Walsh, & Lee, 2019), so that fathers could use technology to stay connected to their children during absences. Data collected on the content of mDad showed that the content was relevant to the parenting experiences of fathers. Functions of the app were perceived favorably. Fathers noted that mDad's father-friendly approach was in marked contrast to other parenting resources they had used. Moreover, they found the content well suited to their needs and interests as fathers of young children (S. J. Lee & Walsh, 2015).

## A2. Development of Text4Dad and Text4Dad Features

Recognizing some of the barriers inherent in using mobile apps, such as the high cost of developing apps, the need for ongoing updates and server support, and lack of compatibility across mobile phone platforms (i.e., Android and iOS), the UM research team adapted some of the content from mDad for a text-messaging rather than app-based approach. Following the precedent of programs such as DadTime, in which technology is embedded as an "add-on" in the context of delivering in-person fatherhood services, the UM research team tested Text4Dad within the context of an ongoing home visitation program. Specifically, in the current project, Text4Dad was developed to supplement the individual and group-based fatherhood program services and activities provided by the Healthy Start Engaged Father program. The research team developed Text4Dad as a tool that fatherhood community health workers (F-CHWs) could use to communicate with the fathers on their caseload between meetings. One goal was to use Text4Dad to facilitate the recruitment, engagement, and retention of fathers in the Engaged Father program.

As noted earlier, Text4Dad was based on a similar technology-based approach used with new mothers in the NurturePA project (Martin et al., 2018). Relying on the expertise of the NurturePA team, Christina Weiland and Eleanor Martin from the University of Michigan School of Education, the Text4Dad team licensed the interactive, web-based platform utilized by the NurturePA program. It is important to note that although the software used by Text4Dad and NurturePA is the same, the content, approach, and populations of these programs are very different.

Text4Dad uses text messages to disseminate information to fathers. Text4Dad communication is done via a web-based portal that allows users to send messages either to an individual or to a group of individuals who are enrolled within the system. There are three key players in the Text4Dad system: (1) the administrator, who can log in and view interactions (in this case, the UM research team); (2) the fatherhood mentor or F-CHW, who enrolls fathers into Text4Dad, sends messages to fathers, and who can also initiate group text and send resource links using Text4Dad content; and (3) fathers, who are enrolled as users in the system, in this study, most of whom were participants in the Healthy Start fatherhood services. Text4Dad is interactive, in that the F-CHW mentors can disseminate text messages and engage in follow-up conversation with fathers. Fathers can reply to the messages by texting from their mobile phones. The F-CHW can reply to fathers' messages via logging into the Text4Dad system, but they are not able to send Text4Dad texts from their mobile phones.

This interactive platform had a number of potential advantages over other text messaging approaches. First, the platform provided for greater tailoring of the messages to the individual recipient. The Text4Dad mentor is able to log in to the web-based platform and view information about their mentee (Father's Profile), and then select a message from the content domain (as described below, including infant development, engagement, etc.) that is appropriate to the age of the child. The mentee can respond to the messages and an interaction can ensue, thus providing a mechanism by which mentors (in this case, F-CHWs) provide connection and social support to fathers. The Text4Dad training manual (Appendix II) provides the definition of mentoring.<sup>2</sup> The opportunity to provide F-CHWs and fathers

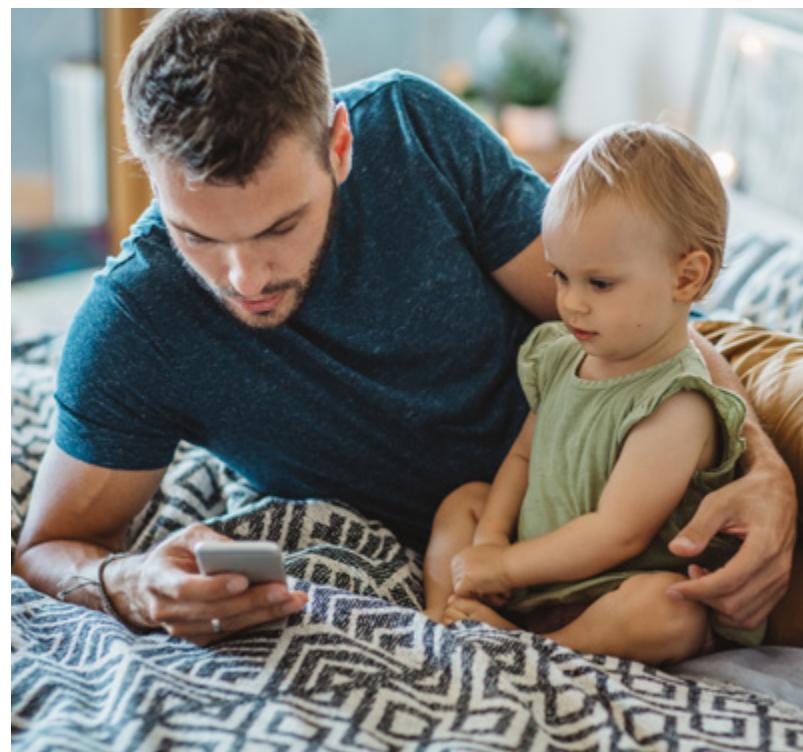
<sup>2</sup>As noted in the Text4Dad training manual: "A mentor to a father is someone who is involved, responsible, and committed (National Fatherhood Initiative, 2016). A mentor is involved with the father in that he devotes his time to the father and is interest in the things that interest the father. A mentor is responsible in that he serves as good role model for the fathers and looks out for the father's and his family's safety and wellbeing. A mentor is committed in that he is reliable and keeps his words. With this in mind, mentors in the Text4Dad program are encouraged to educate fathers about the important role they play in their children's lives, infant care and development, self-care, and coparenting (e.g., supporting the father's partner)."

with the opportunity for additional interaction via text-based mentoring and support was particularly appealing because prior work suggested that many low-income fathers lacked a significant fathering role model in their lives (S. J. Lee, Hoffman, & Harris, 2016; S. J. Lee et al., 2013; S. J. Lee, Yelick, Brisebois, & Banks, 2011). Receiving factual advice and father-infant interaction tips from a mentor like the F-CHW thus held the potential to be a more meaningful experience than receiving the same content, typically by an automated system, in the absence of such social support.

### A3. Text4Dad Content

Text4Dad content focuses on domains identified by men who participated in prior UM research team studies (S. J. Lee et al., 2016; S. J. Lee et al., 2013; S. J. Lee, Walsh, Lee, et al., 2019; S. J. Lee et al., 2011) as being important to their fathering roles and responsibilities. The following broad domains of messages were developed in Text4Dad for F-CHW mentors to use in their communications with fathers enrolled in the Healthy Start mentor program.

- **F-CHW check-in messages** – messages that offer a greeting and check-in from the F-CHW;
- **Infant development messages** – messages that supplement parent education content delivered to fathers in the home visitation component of the program, reinforce information delivered in the visit, and potentially serve as “booster shots”;
- **Father-infant interaction messages** – messages discussing developmentally appropriate activities that fathers can engage in with their infant;
- **Father-mother messages** – messages that provide fathers with suggestions for how to check in with their child's mother;
- **Father self-care messages** – messages that address common struggles of parenthood; and
- **Local services and events messages** – messages that provide events happening in the community as well as relevant resources for parents.



Separately, the UM research team curated an extensive set of web-based links to existing father-friendly, evidence-based resources on parenting, infant care, fathering, and self-care. These links “live” within Text4Dad as resources that F-CHW mentors can attach to Text4Dad messages and push out to fathers. For example, resources include links to safe sleep practices and supporting a partner during breastfeeding. See Appendix I for a complete list of the messaging content domains and the resources that were created for use within Text4Dad.

### A4. Developmental Pre-pilot Study of Text4Dad Messages

Prior to the FRPN-funded pilot study, the Text4Dad research team conducted a developmental pre-pilot study to examine the acceptability of the text message content and approach using qualitative focus groups and an online survey to examine acceptability and usability of Text4Dad messages. Early focus groups with Healthy Start fathers examined the domains of content and the content of the messages, and used feedback from fathers to refine the messages. The team also conducted an online survey during August 2017. The mean age for participants (N = 50 men) was 32. Participants rated their levels of agreement about acceptability and usability of the text messages (e.g., “As a father, I would find the text messages helpful,” “The text messages were respectful of my situation as a father,” “The

text messages were interesting") on a scale from 1 = Strongly Disagree to 7 = Strongly Agree. The text messages had overall high acceptability and usability ( $M = 6.0$ ,  $SD = .95$ ). Participants generally responded positively as exemplified by this quote: "Great advice . . . I love all the resources and information provided." Participants expressed preference for standard English over text language (e.g., "you" versus "u"). The survey respondents were majority White and were well educated, and thus not highly representative of the Healthy Start population. However, the survey results, when viewed in conjunction with small qualitative focus groups that the research team conducted with Healthy Start fathers, suggested that overall the message content and domains were acceptable to fathers from a variety of contexts.

## A5. Father Involvement in Home Visitation Programs and Services

Traditionally, services during the perinatal period, including home visitation programs, have focused on maternal and infant health and well-being. For example, most home visitation programs do not explicitly include fathers in services. Indeed, few programs exist to serve fathers—particularly low-income fathers—during pregnancy and infancy (J. Y. Lee, Knauer, Lee, MacEachern, & Garfield, 2018). This has been recognized as a gap in services by the American Academy of Pediatrics (Yogman & Garfield, 2016). To better understand fathers' service needs, the UM research team previously conducted a fathering program needs assessment in Detroit, Michigan's largest city. In interviews with service providers and a series of community dialogues with fathers, this study found that there were virtually no parenting programs or related services for men or fathers—particularly low-income fathers—during the perinatal period and beyond (S. J. Lee et al., 2016). The Healthy Start Engaged Father program sought to address this gap in services by providing father-focused outreach, home visitation, parent education, and resources to the fathers of children enrolled in the Healthy Start program.

## A6. Healthy Start

Healthy Start is a national, home visitation program that serves low-income mothers and children in approximately 100 sites throughout the United States. Healthy Start seeks to reduce infant mortality, pre-term births, and infant low birth weight, and to promote optimal health outcomes (e.g., breastfeeding) by supporting low-income mothers from the prenatal period through the first two years of the child's life. Like most maternal and child health (MCH) programs, Healthy Start focuses on mothers and children as the recipients of services. However, in 2019, the Health Resources and Services Administration (HRSA) began to require that Healthy Start programs engage 100 fathers or father surrogates per year in services and activities.

## A7. The Engaged Father Program

The Engaged Father program integrates a father-focused home visitation component into an existing maternal-child focused home visitation program for low-income parents. The Engaged Father program has three core components: (1) needs assessment and home visitation with fathers; (2) group-based fatherhood intervention; and (3) training to Healthy Start staff on reducing barriers to father involvement within home visitation services. For the first component, the F-CHWs at each site conduct home visits with fathers to provide support and parent education. For the second component, the F-CHWs implement group-based programming, such as the 24/7 Dad curriculum from the National Fatherhood Initiative. For the third activity, professionals provide capacity building and training to Healthy Start staff in order to support the integration of fathers into Healthy Start programming.

## B. Text4Dad FRPN Pilot Study

FRPN provided \$25,000 for a pilot study of Text4Dad. The subaward agreement ran from June 1, 2018, through September 15, 2019. For the purposes of completing the final report, we analyzed Text4Dad data available through July 31, 2019, resulting in a study period of 14 months.

### B1. Study Objectives

The main objective of this evaluation was to examine the process of implementation of Text4Dad, as an "add-on" module to the multi-site Healthy Start Engaged Father program. Three sources of data were collected and analyzed: interviews with F-CHW mentors, interviews with fathers who used Text4Dad, and content analysis of the de-identified and anonymized exchanges between F-CHWs and fathers. The study had three primary objectives.

**Objective 1:** To describe the nature of engagement with the Text4Dad program, such as how long fathers use the program, how often F-CHW mentors and fathers exchange messages, and who (F-CHW mentor or father) most commonly initiates interactions.

**Objective 2:** To describe the content of the exchanges, for example, what are the most common topics of the text messaging exchanges and how often and what kinds of resource links the F-CHW texted to fathers.

**Objective 3:** To describe the results of semi-structured interviews with F-CHW mentors and fathers related to their experiences in the program. For fathers, we asked whether Text4Dad related to their utilization of services. We asked mentors about factors that impacted their use of Text4Dad, what they saw as the benefits of the program to their fatherhood program, what they perceived as barriers to using Text4Dad, and if the implementation support they received from the UM team was adequate.



## C. Methods

### C1. Description of Sites

Three of the six sites participating in the Healthy Start Engaged Father program multi-site evaluation agreed to participate in the Text4Dad add-on FRPN pilot study. Participation in the Text4Dad FRPN pilot study required the F-CHW at each site to agree to use Text4Dad in conjunction with the other fatherhood services being offered, and to participate in Text4Dad training and supervision by the University of Michigan research team. Hereafter, these sites are referred to as Site 1 (small urban), Site 2 (large urban), and Site 3 (small urban). To implement Text4Dad, F-CHWs invited fathers from their caseloads to participate in the Text4Dad program. This included existing clients on the caseload when Text4Dad was introduced to the site, as well as new clients who enrolled subsequent to the initiation of the Text4Dad project. There is also variability in the intensity of services delivered to families and the fatherhood program activities carried out at each site, as described below.

**Site 1:** This Healthy Start program operates out of the MCH Division of a county Health Department. This Health Department has been a Healthy Start site since 2014. This Healthy Start program seeks to reach 250 pregnant mothers and 250 postpartum mothers, totaling 500 participants per year to provide in-home visits, care coordination, education, and outreach. The fatherhood program has been operational since 2015. The fatherhood program is comprised of one full-time F-CHW who provides one on one case management services, home visitation services, and community workshops. The F-CHW works directly with the father or father figure of the child enrolled in Healthy Start, in addition to other fathers that express interest in receiving services or would benefit significantly from the services provided. During FY19 (from October 1, 2018 through September 30, 2019), this F-CHW had an individual caseload of 38 fathers. This F-CHW conducted 99 home visits and held 11 group-based activities. Please note that this F-CHW was on paternity leave for 12 weeks during summer 2019, as which time his caseload was put on hold until his return to work.

**Site 2:** This Healthy Start site runs out of a non-profit public health entity and has been a Healthy Start site since 2014. This program seeks to reach 1,000 participants per year, including 500 pregnant women and 500 postpartum mothers, through home visits, case management, education, and outreach. This site has the newest fatherhood program of the three sites engaged in the FRPN Text4Dad pilot study, with implementation of the fatherhood program in summer 2018. This site has one part-time F-CHW. During FY19 (from October 1, 2018 through September 30, 2019), this program served 67 fathers. This F-CHW conducted 35 home visits. This F-CHW held 14 group-based activities.

**Site 3:** This Healthy Start program operates out of the MCH Division of a county Health Department. This Health Department, which has been a Healthy Start site since 1998, seeks to reach 250 pregnant mothers and 250 postpartum mothers totaling 500 participants per year who are provided with in-home visits, care coordination, education, and outreach. The fatherhood program began in November 2016 with one full-time F-CHW hired in March 2017. During FY19 (from October 1, 2018 through September 30, 2019), this F-CHW had an individual caseload of 64 fathers. This F-CHW conducted 170 home visits and 39 group-based activities.

## C2. Description of Text4Dad Implementation

The first three months of the project involved activities such as finalizing content for the Text4Dad platform, developing the Text4Dad mentor training manual, and establishing procedures for recruitment and incentives for the participants at each of the three Text4Dad sites. Text4Dad F-CHW training took place in fall 2018, and Text4Dad was launched at Sites 1 and 2 in October 2018. Due to staffing shortages and other factors, Site 3 did not begin implementing Text4Dad until late spring 2019, with the first message sent out in June 2019. This report includes data from all three sites, noting that the start dates varied across site (see Table 2, "number of days of use of Text4Dad"). As noted in section C3, the UM research team provided training and support to the sites. The research team sent to the F-CHWs weekly emails with sample messages and ideas for sending content to their Text4Dad caseload. The research team also provided ongoing technical assistance through monthly learning community meetings. Technical assistance phone calls were scheduled as needed.

## C3. F-CHW Training Protocol

There were four main components to the F-CHW training protocol: (1) a mentor training manual, created by the UM research team; (2) in-person training sessions, conducted by the UM research team; (3) ongoing monthly CHW learning community meetings with UM research team and F-CHWs; and (4) weekly "reminder" emails sent by the UM research team to the F-CHWs on Monday morning, suggesting Text4Dad content that could be sent to fathers.

The mentor training manual (see Appendix) emphasizes validating fathers' experiences, normalizing parenting challenges, and demonstrating empathy as ways to engage in effective mentorship with fathers. The manual notes the importance of tailoring and customizing pre-made messages to ensure that they meet the needs of the fathers. It

also includes detailed steps on the technical aspects of using the Text4Dad system, including screenshots for how to enroll fathers and enter their information into Text4Dad.

The UM research team conducted at least one 1.5-hour-long, in-person training session with each F-CHW prior to their use of the program. The team went over the training manual with the F-CHWs, then demonstrated the Text4Dad software, including how to enroll fathers in the program, how to send text messages to fathers, how to tailor messages before sending, and how to use the Text4Dad resources and link those to messages. During these sessions, the UM research team also discussed the sites' recruitment plans, incentive structures, and timeline for launching the program.

The UM research team conducted monthly F-CHW learning community meetings related to Text4Dad. These meetings were usually about one hour in length. These meetings involved troubleshooting any problems that F-CHWs were encountering in using the system and discussing ways to use Text4Dad to effectively engage and support fathers. Finally, in addition to the monthly team learning community meetings, the UM research team sent out detailed messages once per week to remind F-CHW mentors to "nudge" fathers with Text4Dad. These email messages included specific content that the F-CHWs could send to fathers.

#### C4. Participant Recruitment

The research team sought to have each F-CHW recruit 30 fathers to participate in the Text4Dad program. [Table 1](#) shows the study enrollment sample size based on the data analyzed for this report. The F-CHWs achieved that goal with a total enrollment of 108 fathers. The research team provided modest incentives to the F-CHW mentors and fathers who participated in the program. Specifically, the research team provided \$50 Visa gift cards for the F-CHWs once per month for approximately the first six months of the program to thank them for supporting the program. The research team also provided a \$25 gift card to fathers to encourage their enrollment in the program. Although some of the F-CHWs used this option, it was clear that the F-CHWs provided incentives to some but not all of their participating fathers. Also, Site 2, the large urban site, did not provide incentives to fathers, choosing to enroll individuals in a different fashion.

**Table 1. Study Enrollment Sample Size**

	<b>Site 1</b>	<b>Site 2</b>	<b>Site 3</b>
Analysis of mentor–mentee exchanges	n = 32	n = 45	n = 31
Semi-structured interviews with selected mentees *Conducted with fathers selected from row above	n = 0	n = 0	n = 3*
Semi-structured interviews with mentor F-CHWs	1	1	1

## D. Methods and Procedures of Analysis

### D1. Objective 1. Descriptive Analysis of Mentor–Mentee Exchanges

To conduct descriptive analysis of the F-CHW-father exchanges, the research team used the administrative or "backend" user data stored in the Text4Dad platform. The backend user data included the time and date when messages were sent, the content of the exchanges, and resource weblinks (e.g., links to websites with pertinent information, as described in section A3) that were attached to messages sent by the F-CHWs. The research team used de-identified transcripts for analysis of the exchanges to code the nature, timing, and duration of exchanges. Names were removed from the transcripts. Coders were blind to the site and to the F-CHW.



## D2. Objective 2. Content Analysis of Mentor–Mentee Exchanges

Content analysis of transcripts of the backend user data (described in D1) examined the types of issues that were addressed in the exchanges; whether mentors provided evidence-based guidance on parenting issues; and whether mentors offered support and resources to fathers, and, if so, what types of support and resources were offered to fathers.

For data analysis pertaining to objectives 1 and 2, the research team based the coding procedures on those developed by Eleanor Martin and Christina Weiland of the NurturePA team (Martin et al., 2018). Martin and Weiland (2018) conducted a feasibility study of a text messaging program that used the same software platform as Text4Dad. An RCT evaluation of NurturePA is currently underway. (The introduction of this report provides background on NurturePA; the discussion section provides some comparison of NurturePA and Text4Dad.) Martin and Weiland trained the Text4Dad research team in their content coding procedures and data abstraction process, and those procedures were adapted for the Text4Dad FRPN pilot.

## D3. Objective 3. Interviews with F-CHWs (n = 3) and fathers (n = 3)

The research team conducted interviews with the F-CHWs (see Appendix III for the interview protocol) to assess F-CHWs motivation to use Text4Dad, and whether they felt Text4Dad enhanced fathers' participation in other components of the Engaged Father program. Based on the content analysis results (described below) showing low levels of F-CHW and father interactivity through the Text4Dad platform, the research team also asked questions of the F-CHWs' perceptions of Text4Dad as a way to provide social support to fathers and how they saw Text4Dad facilitating the other services delivered through the Engaged Father program.

The UM research team conducted one interview with the F-CHW at each site. Three interviews were conducted with fathers who used Text4Dad (see [Table 1](#)). The UM research team conducted one father interview and a F-CHW conducted two father interviews. Interviewers used a semi-structured interview protocol (see Appendix IV) created by the UM research team. Interviewers asked about fathers' perceived acceptability of the Text4Dad approach and content. Interviewers asked whether Text4Dad helped the fathers to feel more connected to the F-CHW, whether fathers felt that Text4Dad provided them with a source of social support, and whether Text4Dad helped the father feel motivated to engage in other components of the fatherhood program.

Analysis of the qualitative interviews was loosely based on the procedures described in grounded theory analysis, which is an inductive method where the understanding of phenomena is grounded in data. In the FRPN pilot study, the principal investigator and co-investigator conducted the telephone interviews with F-CHWs and identified key themes from the interviews. Then, after independently identifying the key themes as they had emerged in our interviews, the two individuals compared notes on the themes. The research team identified consistencies and inconsistencies that emerged in the interviews. Through this iterative process, the research team identified important concepts and key themes and triangulated the interview data with the content analysis to provide preliminary assessment of whether Text4Dad had ancillary effects on fathers' participation in the Engaged Father program.



## E. Results

### E1. Content Analysis of Text4Dad Exchanges between F-CHWs and Fathers

**Table 2. Summary of F-CHWs–Father Exchanges**

	Total	Site 1	Site 2	Site 3
1. Number of days of use of Text4Dad, from enrollment of first father to July 31, 2019 (day that data was collected for analysis)		288 days*	48 days	275 days
2. Number of fathers enrolled in Text4Dad	108	32	45	31
3. Total number of exchanges, initiated by F-CHW	1,241	411	315	515
4. Average number of exchanges, for each father	12.1	12.8	7	16.6
5. Total number of exchanges, initiated by father	11	0	0	11
6. Topic of exchange, initiated by father	Scheduling and discussing community events; physical needs**.	N/A	N/A	Clarification about events; confirm meeting times; ask for a pair of dress shoes; father told mentor that he was able to get a housing voucher, mentor said congrats; asking for bus tokens; father mentioned being sick and mentor offered emotional support.
7. Number of online resources offered	7	1 (paternal postpartum depression link)	2 (flyer for event; registration for focus group)	4 (bedtime routines, self-care and work/life balance, bonding with new baby, and infant massage)
8. Most common topics	Local or community-based events	1. Local or community events 2. Attachment and bonding 3. Self-care	1. Local or community events 2. Coparenting 3. Development	1. Local or community events 2. Check-in or scheduling home visitations 3. Development

\* Note: This F-CHW was on paternity leave from his job for 12 weeks in the middle of this project.

\*\* Physical needs included needing dress shoes, getting a housing voucher, asking for bus token.

\*\*\* An exchange is the initiation of an interaction—in other words, when a text message is sent, usually by the F-CHW. It is called an exchange because each message offers the possibility of an interactive exchange between the F-CHW and the father.

[Table 2](#) summarizes the primary analyses conducted for this report. As described in Appendix I, the Text4Dad codebook, exchanges are the initiation of an interaction via sending a first text message. An exchange can consist of one message, i.e., the F-CHW sends a message and there is no response. An exchange can consist of multiple messages, i.e., the F-CHW sends a message and the father responds, or the F-CHW follows up with an additional prompt or question. The first row shows the number of days that F-CHWs utilized Text4Dad, beginning with the first day that site implemented the program and ending on the day that data was pulled for the analyses reported herein. As mentioned elsewhere in this report, the mentor at Site 2 started implementation of Text4Dad at a later date than the other two sites, thus resulting in fewer days of implementation overall. As seen in row 2, 108 fathers were enrolled across all three sites. Even though Site 2 started enrollment later than the other two sites, Site 2 was able to enroll more fathers, possibly because this site is located in a larger urban area compared to the other two sites. Row 3 indicates the total number of exchanges (i.e., initiation of a contact by sending a first Text4Dad message to participant). Site 3 enrolled fewer fathers but initiated a larger number of interactions with the fathers who enrolled in the program. This is supported by the data in line 4, which shows that Site 3 had on average of 16.6 exchanges per father, as compared to 12.8 at Site 1 and 7 at Site 2. The lower number of exchanges per father at Site 2 can be explained in part by the fact that they implemented Text4Dad later than the other sites. As discussed in more detail below, at Sites 1 and 2, no fathers initiated any exchanges with their F-CHW through Text4Dad, whereas 11 exchanges were initiated by the F-CHW at Site 3. Row 6 shows the topics of exchanges initiated by fathers. Row 7 shows that the F-CHWs overall did not offer many resources through the resource links embedded within Text4Dad. Row 8 shows the most common topics about which the F-CHWs texted their fathers. Again, Appendix I shows the categories of the topics of exchanges, based on the messaging content that the research team created for Text4Dad.

The key result from the analysis of the exchanges between F-CHWs and fathers enrolled in Text4Dad was that, for the most part, two of the F-CHWs (Site 1 and Site 2) did not use Text4Dad to initiate sustained interactions or mentorship with the father. Nearly all of the exchanges for these F-CHWs consist of one text message being sent to a father, with no effort to elicit a response from the recipient and no response received, thus no interactive exchange taking place. F-CHWs from Site 1 and Site 2 used Text4Dad mainly to communicate with fathers in a one-way format. The F-CHWs at Sites 1 and 2 used Text4Dad primarily to provide information on events, as did Site 3. However, Site 3 used the check-in messages to a much greater degree than did Sites 1 and 2. Thus, it was not surprising that the F-CHW at Site 3 had marginally more interactive exchanges, since this F-CHW was using Text4Dad to check in with some of the fathers on his caseload. As discussed in more detail below, interviews with the F-CHWs confirmed that F-CHWs at Sites 1 and 2 mainly saw the purpose of the Text4Dad platform as a useful tool to communicate information to fathers, but not necessarily to engage in interaction or support with fathers.

Notably, when fathers did initiate the exchange (although there were very few), the topic was typically related to getting physical needs met (e.g., needing dress shoes, getting a housing voucher, asking for bus tokens). This provides some limited evidence that, if used in a more interactive format, Text4Dad may provide F-CHWs with opportunities to provide additional support to fathers as needs arise.

## E2. Interviews with Text4Dad F-CHW Mentors

### E2a. Theme 1: Enrolling Fathers in Text4Dad

F-CHWs confirmed that, consistent with the goals of the research team, they used their fatherhood program caseload to enroll fathers into the program. Text4Dad was pitched as part of the larger Healthy Start program, an added service provided to fathers enrolled in the home visitation program. CHWs also used home visits to promote and discuss Text4Dad with fathers.

- Site 1, on the process of enrolling and recruiting fathers: “*First thing was the dads I already had, and adding that to their caseload. Then there was as we add new dads I add them. When I add a new dad to caseload, I add them to Text4Dad. I don’t pitch it as separate from Healthy Start . . . It’s a part of what we do in the Healthy Start program . . .*”
- Site 2: “*It’s exciting because there’s so much good information—but I don’t want to flood them with information.*”
- Site 3: “*Text4Dad is a good way to get information such as about jobs out to fathers, especially those who might not partake consistently with home visits. It’s a good way to promote their engagement.*”

Overall, the F-CHWs felt that the program was easy to use although it could take some time to get used to the platform and some of its features (e.g., adding new fathers or creating new groups of fathers). The F-CHW at Site 1 in particular pointed to some limitations of the web-based platform, and said that he preferred to engage in text exchanges with his clients using his personal mobile device. That said, he still appreciated being able to send out parent education and event messages via Text4Dad.

- Site 1: “*There is no thread, chat room, between you and client. You have to option up a new message to respond. I can’t reply from my phone. You have to keep creating a new message to respond. I would need mobile access to reply from my phone or something like that. We’re on the go too much. Sometime I respond to the client from my regular phone if I see that they had messaged me through Text4Dad.*”

Some of the information required for tailoring the content (e.g., the child’s date of birth) was not readily accessible at Site 2, thus they adapted forms to include this information. F-CHWs felt that the program was well received as a means to let fathers know that the F-CHWs care for them and they belong to the Healthy Start community.

F-CHWs reported that they sent out weekly messages to fathers enrolled in Text4Dad. F-CHWs sent out a variety of messages, including parent education, community-based events (e.g., backpack giveaways, conferences, workshops). Per parent education messages, F-CHWs tended to focus on one or two topics or domains (e.g., attachment, coparenting, caregiving). Consistent with the research team’s content analysis of the exchanges between F-CHWs and fathers, most F-CHWs indicated that they did not use Text4Dad as a mentoring and support tool but rather to stay in contact with fathers and engage them (e.g., send reminders) with parenting information and resources.

- Site 1: “*Even when I text from my regular phone, there is a low response rate. We never know where these dads are in their lives on any given day, they have bad days for weeks on end. If we aren’t texting them with I got money for you, then they aren’t going to respond. Persistence is key. That said, sometimes I text them and then they say hey thanks for texting I was looking for your number . . . Healthy Start is voluntary. I take that same approach with Text4Dad. We can’t reprimand them for not using Text4Dad how we want them to use it. They get the info and they use it maybe they don’t, but we keep delivering it to them. I think of it as that kind of concept—it’s there for them to use if they want it.*”

## **E2b. Theme 2: Training from the UM Team**

F-CHWs agreed that the mentor training, learning community meetings with the research team, and weekly email reminders were very helpful.

- Site 2: “*The training was really good. You just need to be taught on it. Joyce was able to provide that. I reached out to her a couple of times throughout after initial training just for things that I needed support with.*”
- Site 3: “*The support team is awesome . . . team was responsive to site’s needs. Monday reminder emails were right away, timely, and consistent. The consistent and responsive support system is really key.*”

F-CHWs indicated that they were open to using the program for mentoring purposes, but additional support (e.g., funding, training, incentives, staff, better reply system) may be necessary. With regard to the reply system, the Text4Dad system is accessed through a web-based portal. Currently, there is no app and Text4Dad is not integrated

with the user's mobile phone (e.g., the Text4Dad system is not integrated with iPhone text messaging). Therefore, the F-CHW must login to the web to use Text4Dad. Replying through this system may not be as user-friendly in a context where F-CHWs are already communicating with fathers through their personal mobile device's text messaging system. See comment above from F-CHW at Site 1.

- Sites 1 and 3 both indicated that support for and interaction with fathers was perhaps best implemented through in-person visits rather than through text messaging.
- Site 2: *"I like the sending out the messages approach and leaving contact to home visits. In terms of interaction via text, I don't think Text4Dad is the best way to do it. I think it is best to do that during the home visits."*

Thus, it may be inferred that at least some F-CHWs see text messaging as a less optimal format for providing social support to fathers. That said, Site 1 and Site 2 did not actively try to use the program for providing mentoring and social support. One goal moving forward is to support them in this activity. For example, the F-CHWs may see texting as a more valuable form of mentorship and social support to fathers who are not highly engaged in the home visitation component of services.

### **E2c. Theme 3: Process of Using Text Messages**

Consistent with the content analysis of the exchanges between F-CHWs and fathers, F-CHWs reported they did not usually receive a response from fathers to the Text4Dad messages, especially in relation to parent education messages. However, as noted in the results above, only one of the three F-CHWs used the check-in messages to elicit responses. Fathers were more likely to respond to messages about a community-based event (e.g., RSVP) or home visitation (e.g., scheduling an appointment with the F-CHW). F-CHWs felt that fathers may not respond to the text messages for several reasons. The fathers are working and thus too busy to respond, they received all the information needed and understand without follow-up questions, and the fathers' lives are hectic.

With regard to integrating Text4Dad content into home visits, there were mixed responses. One F-CHW (Site 3) said he uses Text4Dad to introduce a parenting topic that is then discussed during home visits. Another F-CHW (Site 1) said that there is not necessarily a tie between Text4Dad content and what is discussed during home visits, although he will remind fathers in person to read messages and reach out to him with any follow-up questions.

One F-CHW (Site 1) also said that he communicates regularly with fathers via text using his personal mobile device. In such cases, these exchanges would not be captured within the Text4Dad system. Thus, it may be that F-CHWs are using text messaging as a form of support much more frequently than we were able to capture in our current analysis, but they are doing so with the ease of their personal mobile devices rather than via logging in to the Text4Dad system (as noted earlier, accessed via a web-based portal).

F-CHWs reported that they modified the conversation prompts to make it more personal and customized to the fathers enrolled in their programs. F-CHWs reported and/or displayed (via their use of the platform) different patterns regarding use of resource links. Some F-CHWs regularly embedded resource links, whereas others reported not using the resource links.

### **E2d. Theme 4: Relevance of Text4Dad to the Fatherhood Program Population**

F-CHWs liked the text message content and felt the messages were relevant to their fathers. However, there is no systematic way of knowing whether fathers opened the messages, how helpful the messages were to the recipients, and how engaged fathers were with the messages. Using check-in messages that elicit a specific response from the recipient may be one strategy for F-CHWs to learn whether fathers are receiving the messages. The F-CHWs may need more support from the UM research team to be intentional about using check-in messages that elicit responses

from their users, as it appears that only the F-CHW at Site 3 used this approach. Thus, F-CHWs did not get responses from fathers via Text4Dad. One potential way to address this issue is to continue efforts to train F-CHWs regarding using Text4Dad to supplement exchanges with fathers that occur during home visits. Additional suggestions from F-CHWs to improve Text4Dad content were:

- To develop features that allow the F-CHW to directly respond to fathers' text messages from a mobile phone. Currently, F-CHWs can only respond via Text4Dad. F-CHWs are in the community doing home visitations, so logging in to a website may not be a practical form of everyday communication. Sometimes F-CHWs used their own phones to respond to fathers instead. This exchange would not be captured in the Text4Dad system.
- To add content related to adjustment and coping for older siblings when welcoming a new baby.

#### **E2e. Text4Dad F-CHW Learning Community Meetings**

The research team also conducted monthly learning community meetings with the fatherhood program F-CHWs. The meetings provided technical assistance from the University of Michigan research team on the use of Text4Dad. Through these meetings, we noted the following:

- Site 1 indicated that, early on in their process of implementing Text4Dad, it was challenging to enter the father and child information on the Text4Dad platform.
- Site 3 indicated they were getting good feedback from fathers when they met in person ("really appreciate the article; I was wondering about this information but didn't know how to get that information; wasn't sure that information was out there"); and that the content pushed out via Text4Dad contributed to good conversations during in-person visits.
- Site 3 asked about adding a section for older children expecting a new sibling (sister/brother), to help them to deal with having a new family member.
- Site 3 indicated that a limitation of Text4Dad was that they do not know if the father saw the message that was sent out.

## **F. Interviews with Fathers**

The interviews conducted with fathers were shorter and overall less informative than the interviews with the F-CHWs. The UM research team conducted one father interview. Two additional interviews were conducted by the F-CHW at Site 3.

As noted previously, the content analysis suggested that most of the fathers did not use Text4Dad for interaction and exchanges. Specifically, they did not commonly reply to the messages sent by the F-CHWs. This may be because, in large part, as noted earlier, the F-CHWs did not send check-in messages or attempt to elicit responses with questions or queries. Furthermore, as noted in the interview by the F-CHWs, the fathers are busy, often hard to locate, and may rarely respond to messages or phone calls sent through any format. That said, they reported satisfaction with Text4Dad overall. Fathers noted that they learned information that they did not know.

- Father #1: "*She's pregnant, we don't have anything, you know, and the program helped with every, uh, two-thirds of what we needed. Nice. That's why we here, you know.*"
- Father #2: "*But the reason I signed up for this is because the, what the lady was saying sounded informational. Plus I was new to the being a father, so I wanted to get all the information I could.*"
- Father #2: "*It kinda taught me what not to do, how to do it 'cause I am more from my child but all heard her. But I don't know how else to explain it but it helped. I mean my, my lady is, well, 'cause there's a few things she didn't know, you know, safe rules and stuff like that. So yeah, it was very helpful.*"

- Father #3: *"Honestly, I mean for, for dads that need a lot of help, like it to me, it helps."*

Fathers reported that they felt Text4Dad was useful for staying in touch with their F-CHW, scheduling or getting reminders about meetings, and learning about upcoming community events. The reminders seemed especially useful to fathers, who reported being very busy with many competing activities.

- Father #2: *"It helped a lot because even if I couldn't make an event, we was still able to keep in contact and he was still able to, you know, lead up with me." [Note: "He" refers to the F-CHW.]*
- Father #3: *"So, um, I try to, personally, I try to stay in contact with [F-CHW] as much as possible, but yeah. Well, when like there's an event or a job that come up, I get it on the Text4Dad."*

One father noted that one of the reasons he didn't reply to messages was that he had multiple jobs and very little time, and although he did not have time to respond to the messages he still found them helpful.

- Father #3: *"I work from 3:00 PM to 1:30 in the morning. And since I've relocated from where I was saying when I first started the job, I mean I'm not as tired when I get home, but it still takes me a little bit to wind down from the night from the day. So I don't end up getting to sleep till like two, two 30, three o'clock, something like that."*

One interpretation is that the fathers found Text4Dad content useful and informative. Based on the analysis of interviews with the F-CHWs and the content analysis of the exchanges between F-CHWs and fathers, the research team tentatively concluded that Text4Dad was useful in keeping the fathers connected to and engaged with services. However, a notable limitation is that this conclusion is drawn based on the perceptions of a small number of fathers who were highly involved with the fatherhood program and willing to do an interview.

## G. Discussion

We learned a number of important lessons from the short-term FRPN pilot study. From an implementation standpoint, the F-CHWs found the technical aspects of Text4Dad relatively straightforward. The monthly learning community sessions held by the research team highlighted some specific challenges, such as Site 2 indicated that entering the child's birthdate was a hassle because doing so meant having to change their agency's form in order to obtain this information. Site 2 also indicated that it took longer than expected to learn to navigate the site, but in the personal interview at the end of the FRPN pilot study period, this person indicated that Text4Dad was easy to use with some practice. However, overall the F-CHWs reported high levels of satisfaction with the technical support and the quick resolution of problems.

Another limitation of Text4Dad that was noted by one F-CHW is that interaction can be inconvenient because the F-CHW has to log in to the Text4Dad website in order to respond to fathers via Text4Dad. Although logging in to the website could be done via a mobile phone, communication would have to be via the Text4Dad web platform. One F-CHW (Site 1) indicated that they preferred the ease of the personal mobile device for texting with fathers on their caseload. Thus, one recommendation could be to create an app for F-CHWs to more easily and fluidly send out and respond to communications via Text4Dad. In addition, it may be useful to explore ways to support the F-CHWs in accessing the web, for example, via tablets rather than small handheld devices. Such procedures may facilitate ease of use of Text4Dad.

The content analysis of the exchanges between F-CHWs and fathers suggested that the F-CHWs used Text4Dad mainly to push out information to fathers. The most popular topic was community-based events and meetings. Based on the content analysis and the interviews with F-CHWs and fathers, these text communications were perceived to help fathers stay engaged with the in-person fatherhood program activities (e.g., scheduling visits,

rescheduling visits, reminders about fatherhood program events). This aspect of Text4Dad was appreciated by the F-CHWs. F-CHWs uniformly felt that Text4Dad was useful and added value to their fatherhood programming.

Importantly, both F-CHWs and fathers had positive views of Text4Dad content and felt the content was acceptable and relevant to fathers' parenting experiences. Yet, it was also evident from interviews and analysis that the F-CHWs were not using all of the features of Text4Dad. For example, the F-CHWs were not making use of the weblinks to resources that are embedded within Text4Dad. Thus, a recommendation for future development of Text4Dad is to implement more examples in weekly reminder messages to F-CHWs about embedding content in the information pushed out to fathers. Even though the UM research team implemented training and support of the Text4Dad mentors, one conclusion to draw from this is that additional training and support may be necessary in order to fully make use of the content within the Text4Dad system. This might involve showing the mentors how to connect specific home visiting content into the Text4Dad system—in other words, integrating the home visiting education content with Text4Dad more directly.

Although Text4Dad was relatively easy to use and well regarded by the users and participants, there was a lower than expected level of interactivity through Text4Dad. The research team had anticipated that Text4Dad could be used to send out reminders about meetings and events, but more importantly, it could be a tool to provide mentoring and social support to fathers in between sessions. However, only one of the three F-CHWs used the program to provide support or encouragement to fathers. For the most part, the F-CHWs did not use Text4Dad to elicit information or interaction with fathers. In follow-up interviews, two of the F-CHWs indicated that they preferred in-person home visits as the primary mechanism for providing social support.

We note several structural factors that may have been related to the lower levels of interactivity and support implemented by the F-CHWs via Text4Dad. For example, Site 2 implemented Text4Dad much later than the other two sites and as a result, only 48 days had elapsed between when this program starting using and enrolling fathers in the Text4Dad program and the data extraction for data analysis and report writing. Similarly, Site 1 had an interruption in services during the study period, due to the F-CHW's paternity leave, that may have factored into his ability to fully capitalize on the Text4Dad program. Thus, for both Sites 1 and 2, additional time may have been necessary for these teams to fully utilize the system. Both of these factors point to an underlying issue regarding programmatic capacity. Healthy Start is a small, community-based program. Each site had only one full-time F-CHW to deliver services. It may be difficult to implement additional programming in the context of already time-strapped organizations, and such programming is likely to be highly impacted by organizational factors, such as shortages of staffing and funding.

Moving forward, one very important step for the research team is to further consider what kind of support and assistance would be most useful to help the F-CHWs to fully implement Text4Dad to capitalize on the interactivity of the platform. Another critical point to consider is identifying more effective ways to elicit responses from fathers enrolled in the program to ensure that regular interactions and conversations about parenting are taking place between F-CHWS and fathers. The UM research team is carefully analyzing the Text4Dad messaging content with this in mind. It may be that training the F-CHWs to elicit interaction may be insufficient, and the elicitation of interaction (e.g., ending each message with a question or a prompt for the father to respond) must be embedded within all of the Text4Dad content so that it is "automatic" once a message is sent.

### **Brief Comparison/ Contrast of NurturePA and Text4Dad**

As noted earlier, Text4Dad was based on a similar program developed by NurturePA and currently being evaluated by Christina Weiland and Eleanor Martin. NurturePA trains female volunteers to support postpartum mothers through text messages on child care and development, emotional support, and local parenting resources (Martin et al., 2018). Through the mentor's outreach, NurturePA differs from Text4Dad in a number of important ways. Structurally,

NurturePA is much further along in its development and is currently being studied in an RCT funded by the Administration for Children and Families. NurturePA is supported by a non-profit organization that has dedicated staff and financial support. From a process standpoint, the NurturePA mentors never meet their new mother mentee. The contact between mentors and mentees is entirely done via the NurturePA online system. Mothers are recruited via hospital staff at the time of their child's birth. The staff of NurturePA devote significant time and resources to training and supporting the mentors (Martin et al., 2018). The demographic characteristics of NurturePA are markedly different from the demographics of Text4Dad participants. NurturePA is implemented as a universal program in hospitals, and the population of users is skewed towards White, middle-class women. Healthy Start programs target populations that experience disparities in birth outcomes. Women enrolled in Healthy Start are Medicaid-eligible as a criterion for enrollment. Because Text4Dad is for the partners of these women, it is oriented toward a socioeconomically disadvantaged population of low-income, young men.

Therefore, it may be that the challenges of engaging young, low-income men are one factor explaining the differences in outcomes among these two programs, specifically the differences observed in the feasibility study of NurturePA which showed a relatively high level of interaction via NurturePA. Mothers in NurturePA were recruited from hospitals, and thus the presence of the medical establishment may have lent credibility to NurturePA that encouraged mothers' willingness to enroll in the program as well as mothers' willingness to respond to and ask questions of their NurturePA mentor.

Finally, NurturePA mentors are volunteers who were extensively trained by a professional staff. One lesson learned from the FRPN pilot study of Text4Dad is that the UM research team may need to implement even stronger training and support to mentors in order to facilitate the high levels of engagement seen in NurturePA. Paradoxically, the fact that Text4Dad was embedded within an existing program in which fathers were meeting with their F-CHW mentors fairly regularly may have undermined the use of Text4Dad as a tool for engagement, since two of the three mentors said they felt that home visitation was more appropriate for social support and interaction. The demands of their full-time jobs may have made it a bit more challenging for the F-CHWs to use Text4Dad as an engagement tool.



## Conclusion

As of April 2019, HRSA has stipulated that Healthy Start programs involve 100 fathers or father surrogates per year in services and activities. Thus, Healthy Start programs may be motivated to use a program such as Text4Dad to expand their services to engage harder-to-serve fathers. The research team is actively working with the Healthy Start program sites to bolster Text4Dad implementation and use. The implementation study results reported herein point to numerous important future directions for strengthening Text4Dad, in order to help Healthy Start programs reach their father engagement goals.

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## Appendix I

### Text4Dad Codebook for Mentor-Father Interactions

This codebook provides individual codes, their definitions, and methods of application for the Text4Dad team to employ when coding mentor–father interactions captured on the Text4Dad online platform created by Change-it-Forward. The codebook was primarily adapted from Martin, Weiland, and Page (2018). Revised versions of the codebook are forthcoming as the Text4Dad team further delves into the collected data and discuss individual codes to reach consensus.

Date and time of first exchange or date father enrolled:	Indicate the date and time of the first exchange between a mentor and father or when the father first enrolled into the program
Date and time of last exchange:	Indicate the date and time of the last exchange between mentor and father
Total number of exchanges:	Calculate the number of exchanges, the unit of analysis, that occurred between the first and last messages in the father's transcript. Exchanges are primarily defined as when the mentor first initiates a conversation within a given week (e.g., the parent education messages that goes out each Monday morning)
Who initiated the exchange:	Code 1 if mentor and code 2 if father
Total number of turns:	Count the total number of back-and-forths between mentor and father within an exchange
Length of exchange:	Count the number of days within an exchange
Topics of exchange:	Code in the following manner: <ol style="list-style-type: none"> <li>1. Attachment and bonding: attachment and bonding between father and baby</li> <li>2. Caregiving: crying, feeding, sleeping, general caregiving</li> <li>3. Development: physical, social and emotional, language, cognitive development</li> <li>4. Play: play activities between father and baby, benefits of play</li> <li>5. Coparenting with the female partner: ways to create a coparenting team, supporting mother of the baby</li> <li>6. Self-care for fathers: ways to engage in self-care, mental health information, important role of fathers</li> <li>7. Program functioning: enrollment, data collection, termination, or other program-related questions or comments</li> <li>8. Check-in or scheduling home visitations</li> <li>9. Local or community-based events and resources or online resources</li> <li>10. Other</li> </ol>
Problems mentioned by father:	Code 1 if a problem is mentioned by father and code 0 if a problem is not mentioned by father within an exchange
Support offered by mentor:	Code 1 if a mentor provides support and code 0 if a mentor does not provide support in response to the problem raised by the father within an exchange

Types of supports mentor offered in response to a problem raised by the father:

Code in the following manner:

1. Personal advice: mentor offers advice or tips based on personal experience or the experience of others
2. Professional recommendations: mentor offers information or recommendations from official sources, such as the American Academy of Pediatrics
3. Website: mentor provides a link to a website
4. Product recommendations: mentor recommends a certain product
5. Brainstorming: mentor helps the father think through a plan to address a problem he is having
6. Emotional support: mentor offers words of affirmation, encouragement, empathy, or support or helps normalize a parenting challenge the father is facing.
7. Referral: mentor refers father to an outside resource
8. Phone call: mentors schedules or speaks with the father on the phone
9. Other

## Appendix II

### Selected Content from the Text4Dad Training Manual

This document serves as a training guide and manual for Text4Dad mentors who are Community Health Workers (CHWs) in the Michigan Healthy Start Engaged Father program. The guide briefly outlines basic principles of mentorship, tips, and strategies for mentoring fathers or father figures, and provide a step-by-step guide to mentors on how to implement the Text4Dad program with fathers enrolled in the Healthy Start home visiting program. Questions and comments related to this training guide and manual should be addressed to the program director, Dr. Shawna J. Lee ([shawnal@umich.edu](mailto:shawnal@umich.edu)), or the graduate student research assistant, Joyce Y. Lee ([joyceyl@umich.edu](mailto:joyceyl@umich.edu)).

#### Who is a mentor?

A mentor to a father is someone who is involved, responsible, and committed (National Fatherhood Initiative, 2016). A mentor is involved with the father in that he devotes his time to the father and is interest in the things that interest the father. A mentor is responsible in that he serves as good role model for the fathers and looks out for the father's and his family's safety and well-being. A mentor is committed in that he is reliable and keeps his words. With these in mind, mentors in the Text4Dad program are encouraged to educate fathers about the important role they play in their children's lives, infant care and development, self-care, and coparenting (e.g., supporting the father's partner).

#### What are some tips and strategies to mentor fathers?

**Present yourself as a peer mentor.** Many men do not want to come across as if they are "in need." This may be particularly true for parenting. Fathers may be reluctant to open up about their parenting challenges. Try approaching fathers as a *peer* mentor who is there to provide support and friendship in a non-threatening and non-judgmental way. As part of this approach, it may be helpful to share with the father that you have some experience being a father and that you would be happy to listen and talk about what he is currently going through.

**Listen with empathy to build trust.** Building trust comes before giving advice. Text4Dad is approximately six weeks. As such, there is a need to balance the process of building trust and providing advice. In general, take time to listen to and empathize with the father and his experiences. Be open to what the father shares about his parenting challenges and successes. This will help build rapport with the father. Once you have a good understanding of where the father is coming from, you can try sharing your recommendations and suggestions. This approach positions you to be able to provide advice and guidance that is appropriate for the father's situation. Further, the father may be more willing to accept your suggestions after you have taken the time to listen with empathy.

**Normalize parenting challenges.** Parenting can feel challenging and overwhelming for many parents, and fathers are not an exception. Fathers in the program may experience blame, guilt, uncertainty, or worries related to parenting when something goes wrong, reflecting on their past, or focusing too much on their shortcomings. It is important for you to help normalize some of these experiences as a way to reduce fathers' parenting stress and anxiety. You may consider sharing a similar experience you might have had, sending a link to a helpful article or video, or reassuring the father that everything will be okay and that this is a common thing parents experience.

**Highlight the father's strengths.** Many of the fathers in the Healthy Start Engaged Father program may be facing multiple barriers to stay involved and engaged in the home visitation program and ultimately in their children's and families' lives. You, as a mentor, play a vital role in helping fathers identify their strengths. Mention the assets and strengths you see in the father. Encourage him to keep pressing in and moving forward and that he is going a great job. Praise him for being an awesome father and that he is making an important contribution to his children and family. Let the father know that you believe in him, his skills, and parenting abilities.

## How do I implement Text4Dad?

Text4Dad is a mobile-based, text-messaging parent education intervention that uses text messages to disseminate parenting information to fathers. It is an interactive program in that mentors disseminate the text messages and engage in follow-up conversation with fathers. The primary goals of Text4Dad are to increase fathers' involvement in the Healthy Start program, enhance mentors' father-friendly practices, and promote social network and support provided to fathers. These are accomplished by increasing father's parenting knowledge and decreasing their parenting stress; increasing mentors' empathy in listening and relating to fathers' feelings and experiences, as well as their knowledge about mentoring fathers; and increasing supportive mentor-mentee interactions. Moderators, including characteristics of the father, mentor, and child, can influence the intervention process. The following theory of change outlines these points and steps:

**Text4Dad message delivery.** Regular messages may be chosen from six different parenting categories, including attachment and bonding, caregiving, playing, child development, self-care, and coparenting. Each of these parenting categories are also divided into child age, ranging from 0 to 15 months. For day 1 of the week, mentors may select a single parenting topic and choose 1 regular message—either an informational or a practical message—on that parenting topic that appropriately maps onto the child's age.

In general, the text messages created for Text4Dad serve as recommendations. They do not reflect variability in child development or parenting behaviors. The text messages are meant to serve as guides and starting points for mentors to further tailor the messages based on each father's needs. Relatedly, note that many children may not meet developmental milestones outlined by experts, and this is normal. If a father is overly concerned with his child not meeting the developmental milestones introduced in the text messages, encourage him to speak with a professional, such as his child's pediatrician.

When tailoring text messages, please feel free to use and share your personal experiences but use your professional judgment when doing so. Ask whether the content you are about to share is appropriate for the father in the Text4Dad program, as well as okay for you to share (i.e., does not trigger negative emotion or distress). Storytelling and story sharing can be a potentially effective and powerful tool in peer mentoring programs, but setting healthy boundaries is necessary so that you could maintain professionalism while providing necessary and helpful services and resources to the fathers you serve.

**Timeline.** For each week, example text messages that may be sent to a father are included. Specifically, this template created with a father of a 1.5-month-old infant in mind but can be adapted for fathers with children of different ages. The father's name is Dante and his baby's name is Jaylin.

	<b>Monday</b>	<b>Thursday</b>	<b>Friday</b>
<b>Week 1:</b> Attachment	<p><b>Text 1:</b> Regular Message (Informational or Practical)</p> <p><b>Opt-in/out, welcome, &amp; brief pretest messages</b></p> <p><b>Regular Message (Informational):</b> Hi Dante, this week I'd like to talk with you about the topic of attachment and bonding with Jaylin. Bonding with Jaylin is a two-way street that comes from spending time together &amp; getting to know each other. It means that you &amp; Jaylin will share a special closeness.</p>	<p><b>Text 2:</b> Resource Link Message</p> <p><b>Resource Message:</b> Good morning Dante, I know you've mentioned not feeling bonded with Jaylin yet. That's normal. It took me a good 6 months to bond with my baby girl, Alia. Just keep caring for Jaylin and feelings will follow eventually.</p> <p>You may want to check out this weblink to learn how you as a dad can bond with Jaylin: <a href="http://raisingchildren.net.au/articles/dads_bonding_video.html/context/1020">http://raisingchildren.net.au/articles/dads_bonding_video.html/context/1020</a></p>	<p><b>Text 3:</b> Check-in Message</p> <p><b>Check-In Message:</b> Hey Dante, I'm checking into see how you and Jaylin are doing. How helpful was the link I sent you on Thursday about bonding? Text your response back: 1=Yes, 0=No.</p>
<b>Week 2:</b> Child Development	<p><b>Regular Message (Practical):</b> Hey Dante, hope you had a good weekend. This week, I'd like to talk with you about the topic of Jaylin's development. Because babies can only see a few feet ahead of them at this age, when you talk to Jaylin, get close so he can see your face.</p>	<p><b>Resource Message:</b> Hi Dante, I know you were interested other aspects of Jaylin's development. Check out this website for a helpful and brief introduction to newborn (1-2 months) development: <a href="http://raisingchildren.net.au/articles/baby_development_2_months.html#Newborn">http://raisingchildren.net.au/articles/baby_development_2_months.html#Newborn</a></p>	<p><b>Check-In Message: Dante,</b> remember that you play an important role in Jaylin's development. On Monday, I suggested getting closer to Jaylin's face when talking. Were you able to try this? If so, how did Jaylin respond?</p>
<b>Week 3:</b> Caregiving	<p><b>Regular Message (Informational):</b> Good morning, Dante! Hope things have been going well. This week I'd like to talk with you about the topic of taking care of Jaylin.  There's nothing more peaceful than a sleeping baby. At this age, Jaylin won't have a set sleeping schedule yet and that's normal.</p>	<p><b>Resource Message:</b> You can ensure safe sleep for Jaylin. Check out this website to learn about how dads can help with their babies' safe sleep: <a href="https://www1.nichd.nih.gov/sts/news/downloadable/Pages/infographic_dads.aspx">https://www1.nichd.nih.gov/sts/news/downloadable/Pages/infographic_dads.aspx</a></p>	<p><b>Check-In Message:</b> Hey Dante, it's not easy being dad. The early years are tough because of lack of sleep and fatigue. These make it challenging to be a dad, but you're doing a great job. How are you feeling today?</p>

<b>Week 4: Self-Care</b>	<p><b>Regular Message: (Practical):</b> Good day Dante, we've been talking a lot about Jaylin, but I want to shift gears a bit and talk with you about the topic of self-care.</p> <p>You don't have to cruise through fatherhood alone. Talk to someone you trust. You may learn you're not alone and get some helpful ideas to cope when things are difficult.</p>	<p><b>Resource Message:</b> Hey Dante, research shows that dads can get the baby blues or postpartum depression too. Check out this article for more info: <a href="https://www.webmd.com/depression/news/20100518/dads-get-postpartum-depression-too#1">https://www.webmd.com/depression/news/20100518/dads-get-postpartum-depression-too#1</a></p>	<p><b>Check-In Message:</b> Hi Dante, can you share one thing you did this week to engage in self-care?</p>
<b>Week 5: Coparenting</b>	<p><b>Regular Message (Informational):</b> Good morning Dante! I hope you had a great weekend!</p> <p>This week, we'll focus on supporting your partner and working together with her to parent Jaylin. In general, when your partner is well rested, she will be much better able to care for Jaylin.</p>	<p><b>Resource Message:</b> When Alia came, my partner and I had to make a lot of adjustments. It wasn't easy because we were tired and didn't agree on some things. But, talking it out helped.</p> <p>You can do a lot to support your partner during this time. Check out this article on ways dads can support moms: <a href="https://www.bellybelly.com.au/men/how-you-can-help-mum-after-your-babys-birth/">https://www.bellybelly.com.au/men/how-you-can-help-mum-after-your-babys-birth/</a></p>	<p><b>Check-In Message:</b> Hey there Dante, are you finding what you learn in the home visitation program helpful? What are you learning about coparenting that would support your partner or help the two of you raise Jaylin together?</p>
<b>Week 6: Play</b>	<p><b>Regular Message (Practical):</b> Hello Dante, hope you, your partner, and Jaylin have been well. This week is the last week of Text4Dad and we'll go out with a bang by talking about playing with Jaylin!</p> <p>Play tummy time with Jaylin a few minutes each day: Get down to his eye level, make eye contact, and lift your head up while lying on your stomach. Tummy time is good for Jaylin's development.</p>	<p><b>Resource Message:</b> Playing is beneficial for babies. There are different ways you can play with Jaylin.</p> <p>Check out this YouTube video of dads playing with their babies for inspiration: <a href="https://www.youtube.com/watch?v=oUa43itowag">https://www.youtube.com/watch?v=oUa43itowag</a></p>	<p><b>Check-In Message:</b> Good afternoon Dante, were you able to get in some tummy time with Jaylin this week?</p> <p><b>Brief post-test and termination (thank you for participating) message</b></p>

Note: Week 1's Monday messages will include several messages, including the opt-in/out message, welcome message, and brief pretest message. Similarly, Week 6's Friday messages will include a brief post-test and termination messages.

**Supervision and feedback.** Either Dr. Lee or Joyce will serve as the supervisors and will regularly monitor mentor-father interactions on the text messaging platform. Online supervision, which most likely will be in email, will be provided to mentors each week with detailed feedback on areas of strength and areas to improve. Supervision will be centered around building rapport, providing social support (e.g., demonstrating empathy and responsiveness), being professional, mentoring, normalizing parenting experiences, delivering developmentally appropriate parent education information, and checking in or following up with the father. Supervision will also address fidelity to the Text4Dad timeline.

**Change-it-Forward software platform.** The text messaging platform is the tool mentors will use to send Text4Dad text messages to fathers in the Healthy Start program and engage in ongoing interactions with them. The platform can be accessed on computers with internet connection. As part of the enrollment process, mentors will include fathers' demographic information in the following platform page.

[Images of software removed for copyright purposes.]

Next, mentors will include the child's information, as shown in the following page. Including the child's date of birth is important, as this will help determine developmentally appropriate text messages and resources.

[Images of software removed for copyright purposes.]

Once enrollment is complete, mentors will use the following page to send text messages and engage with fathers on a weekly basis. This page allows for tailoring and sending text messages, scheduling alerts, and embedding resource links into text messages. The conversation prompts field should be used to select a regular premade text message among six parenting topics (i.e., self-care, coparenting, caregiving, play, child development, attachment and bonding). The domain field will automatically populate the appropriate parenting topic based on which conversation prompt the mentor chooses. The text message field allows the mentor to tailor the regular premade text message based on the father's needs. The resource referrals field provides options for mentors to select text messages with resource links that map onto the six parenting topics.

[Images of software removed for copyright purposes.]

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## Appendix III

### Semi-Structured Interview Questions For Text4Dad F-CHWS

#### Introduce the purpose of this interview:

Thank you for meeting with me today. I am going to ask you some questions that will help us in our research related to the Text4Dad program. The questions will revolve around acceptability and usability of the program. The questions will not be personal, but please know that you do not have to answer any that you do not want to. This interview is voluntary and the discussion is confidential. The discussion is recorded, but when it is transcribed, your name will be removed from the audio file to maintain confidentiality.

#### Ask: Do you have any questions?

[5 MINUTES]

#### First I'm going to start with some questions about fathers enrolled and participating in your Text4Dad program.

- [Optional]: What is your name?
- [Optional]: What Healthy Start site are you from?
- Who were your fathers and, on average, how many children did they have?
- Again, on average, did the fathers live with their spouse/partner/mother of the child or some of their children?

[25 MINUTES]

#### Now I'm going to ask some questions about what it was like for you to be a mentor in the Text4Dad program and its user interface (i.e., Change-it-Forward).

##### Program (general)

[For interviewer reference] Usability means how easy the program was to use for you as a mentor, for example, how well you were able to navigate the online user interface and how easy it was to understand the structure of the text messaging system.

[For interviewer reference] Acceptability can refer to the content of the messages, for example, did the content of the messages seem appropriate to you as a mentor and did they seem relevant to the fathers' experiences. Acceptability can also refer to whether this approach overall (the use of text messaging) is appropriate for you as a mentor or the Healthy Start fathers.

- What was your overall impression of the Text4Dad program? For example, did you find the online interface easy to use?
  - Did you experience barriers in navigating the online user interface?
- What was your strategy for enrolling or recruiting fathers in the Text4Dad program? For example, did you use your caseload to find dads who might be interested in participating in it?
  - For example, how did you announce the launching of the program (i.e., verbal promotion of the program to dads)?

Next, I'm going to ask you some questions about your experience as a mentor in the Text4Dad program. This section will cover your experience of the Text4Dad training and actually mentoring the fathers in your program via the Text4Dad user interface.

## Training and Mentoring

- What was your experience with the Text4Dad training with Shawna/Joyce?
  - Did you wish for additional training to be available throughout the program?
- How was the level of support from Shawna/Joyce?
  - What types of feedback from Shawna/Joyce was helpful?
- How often would you have wanted to receive feedback from Shawna/Joyce?
- What were the strategies you used to mentor fathers enrolled in the Text4Dad program?
  - How many times, on average, did you communicate with fathers?
    - On average, how often did the fathers in Text4Dad respond to your messages?
  - What questions did fathers bring up?
    - Why did they contact you?
    - How did you respond to the fathers when they reached out to you with questions (e.g., did you send articles? off-hand/personal advice? Referral to other resources/personnel?)?
  - Were you able to use nonjudgmental attitude, empathic language, and words of encouragement/support with dads?
  - Did you have any challenges to responding to fathers? For instance, when fathers asked questions, were you able to respond right away?
    - What do you think our team can do to support you?
- What was your relationship with the fathers enrolled in Text4Dad like?
  - What sort of effect do you think you have had/will have on the fathers who enrolled in Text4Dad?

Finally, I will ask you a number of questions about the content of the Text4Dad messages.

## Text Messages

- Did the messages have all the content you expected to have?
- Were the messages father-friendly? If so, how so?
  - If the messages were not father-friendly, how might we improve them?
- Were the messages age-appropriate for your fathers' children?
- Were the resources and weblinks father-friendly and useful?
  - If the resources were not father-friendly, how might we improve them?
- Were the resources and weblinks age-appropriate for your fathers' children?

In closing, I have a few more general questions for you.

[5 MINUTES]

## Conclusion

- Do you have anything else about your experience using Text4Dad you would like to share?
- How else can we improve the program?
- Would you share this program with another CHW or professionals focused on supporting fathers and their families?

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**Important points for interviewers:** Sometimes the conversation will get off-topic. When appropriate, please redirect using probes that aim to discuss that participants' parenting and its link to the Text4Dad program.

**Probes for more information:**

- Would you explain that further?
- Would you give me an example of what you mean?
- Is there anything else you want to say about that?
- Please describe what you mean.
- Tell me/us more, or what experiences have you had that make you feel that way?



## Appendix IV

### Semi-Structured Interview Questions For Fathers

#### Introduce the purpose of this interview:

Thank you for meeting with me today. My name is \_\_\_\_\_, and I here to ask you some questions that will help us in on our research related to the Text4Dad program. The questions will involve around acceptability and usability of the program. The questions will not be personal, but please know that you do not have to answer any that you do not want to. This interview is voluntary and the discussion is confidential. The discussion is recorded, but when it is transcribed, your name will be removed from the audio file to maintain confidentiality. The interview will take approximately 30 minutes and you will receive a \$25 Visa gift card at the end for successfully completing the interview.

#### Ask: Do you have any questions?

#### [5 MINUTES]

First, I'm going to start with some questions that ask about you.

- What is your name?
- How many children do you have?
- How old are your children?
- Are any of them currently living with you?
  - If not, how often do you see them?
- Do you live with your spouse/partner/mother of your child or some of your children?

#### [20 MINUTES]

Now I'm going to ask some questions related to your experience being part of the Text4Dad program.

#### Program Enrollment

- How did you hear about the Text4Dad program?
- What made you want to enroll and participate in the Text4Dad program?
- How easy was it to enroll in the Text4Dad program?

Next, I'm going to ask you some questions about your experience with your Text4Dad mentor. Specifically, this section will cover your experience interacting with the mentor.

#### Interacting with Mentors

- How many times a week did the mentors send out Text4Dad messages to you?
- When you followed up with a reply message, how soon did your mentor respond to you?
  - How satisfied were you with the mentor's response?
- What follow-up questions did you typical have in response to the messages?
- How do you think interacting with the mentors via text message impacted your engagement with the Healthy Start home visitation program?
- What aspect of the mentor's response did you find most helpful?

Finally, I will ask you a number of questions about the content of the Text4Dad messages.

### Text Messages

- Did the messages have all the content you expected to have?
- Were the messages father-friendly? If so, how so?
  - If some of the messages were not father-friendly, how might we improve them?
- Were the messages age-appropriate for your child?
- Were the resources and weblinks father-friendly and useful?
  - If the resources were not father-friendly, how might we improve them?
- Were the resources and weblinks age-appropriate for your child?
- On average, how often did you click the resources/ weblinks sent to you?
- How do you think the messages helped you support your partner's and baby's health?
- How do you think the messages help you develop as a father or improve your parenting?

In closing, I have a few more questions for you.

### [5 MINUTES]

### Conclusion

- Do you have anything else about your experience using Text4Dad you would like to share?
- How else can we improve the program?
- Would you share this program with another father?

This concludes our interview. Thank you so much for taking the time to answer these questions. I very much appreciate your time.

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**Important points for interviewers:** Sometimes the conversation will get off-topic. When appropriate, please redirect using probes suggested below.

### Probes for more information:

- Would you explain that further?
- Would you give me an example of what you mean?
- Is there anything else you want to say about that?
- Please describe what you mean.
- Tell me more, or what experiences have you had that make you feel that way?