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An Enhanced Text4Baby Program: Capturing Teachable Moments Throughout Pregnancy

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Internet enabled cell phone use has continued to increase at a rapid pace. Cell phone use in the United States is now higher in the Latino and African American population than among whites (87 versus 80%) (Pew Internet & American Life Study, 2010). Text messaging on cell phones is a familiar routine of pregnant women we care for in an urban, health care setting. Considering the persistent use of cell phones by all age groups, research is ongoing to determine the potential for providing consumers with “just in time” health information.

Women are more aware of the impact of their behavior on their baby during the prenatal period. During this period of growth and change, women are often motivated to learn about the physical and emotional changes that occur in their bodies (Herrman, Rogers, & Ehrenthal, 2012). This column describes the Text4Baby program, a text-messaging project supported by the National Network of Libraries of Medicine (NN/LM) Mid-Atlantic Region (2010). The Text4Baby program’s aim is to facilitate pregnant women’s access to accurate health information by delivering it directly to the mother’s cell phone.

Launched in 2010, by the National Healthy Mothers, Healthy Babies Coalition (HMHB) Text4Baby is the first free health text messaging service that focuses on pre- and post-natal care (The National Healthy Mothers Healthy Babies

Coalition [HMHB], 2010). This successful service has caught on quickly; to date there are 135,000 women signed up throughout the United States (Bornstein, 2011). Text4Baby is made available through a partnership of community health organizations, wireless carriers, businesses, health care providers, and government health agencies. Expectant mothers may sign up for the program by sending a text message to the number 511411 with the word *BABY* or *BEBE* (for Spanish messages). Mothers are then prompted for zip code information and the due date of the child’s birth. The service continues throughout the first year of the child’s life. Subscribers receive three messages a week that offer evidence-based information relevant to the stage of the mother’s pregnancy or the child’s development.

A new program built upon the Text4Baby (HMHB) model was developed at the Eleventh Street Family Health Center at Drexel University (2009), in collaboration with a team of library/ information science researchers, and health care providers. The collaborative program was designed to encourage health information seeking among women enrolled in a group prenatal care

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program located in a medically underserved urban setting (Zach, Dalrymple, Rogers, & Williver-Farr, 2011). The objective of the new program was to provide pregnant women with a rewarding experience of finding evidence-based health information on the Internet and to explore the relationship among health information seeking, patient engagement and health literacy—a relationship which is not well understood.

Drexel's Family Health Center's Text4Baby program provided two additional text messages in addition to the three Text4Baby (HMHB) program weekly messages. The additional messages written by the multidisciplinary team were tailored to the topic of the prenatal classes that the women attended, or to other general concerns of pregnant women.

The project was approved by the Family Health Center's director and Drexel University's Institutional Review Board. Each text message had a tiny URL embedded in it that led the patient to a Web site identified by the health science librarian and nurse. The URL was an authoritative source of information that was relevant to the gestational stage of the mother's pregnancy.

The text messages were sent to the women enrolled in the prenatal group using an automated service, which identified the messages as originating from the nurse. The approach created text messages related to the Family Health Center's philosophy of healthy living during pregnancy. The embedded URLs were to specially selected portions of Web sites. The hope was that the information learned from the Web site might encourage the mother to seek additional health information independently in the future.

The group prenatal care program was scheduled to meet for 10 sessions. The orientation to the Text4Baby program took place at the beginning of the group sessions. Participation was voluntary. Participants were given instructions for how to register for the program and advised that they would receive a test message from the Text4Baby program, followed by a series of three messages a week from Text4Baby program. It was explained that if they were interested in enrolling in the Family Health Center's project, they would receive a fourth message with a URL embedded in it. The message and the URL site would be tailored to the pre-natal session that the mother would next attend. The fifth text message was a reminder of their next prenatal appointment.

During the explanation of the project, the participants were asked questions about their cell phone service and advised that this information would be used only for sending the text messages. If a woman was interested in participating in the program but did not have a cell phone, she was provided with one that had the necessary text messaging capability, using grant funds from the NN/LM.

The messages from the Family Health Center project continued throughout the child's first year of life. In addition, women received follow-up survey questions at

the group prenatal visits. The team met on a regular basis to check on the progress of the project and to make needed adjustments in the process of registering women for the program. The team also surveyed the participants as to whether they received the messages, the usefulness of the messages, how interesting the messages were, and whether the messages changed their experience of group prenatal care. Those who completed the monthly follow-up surveys indicated in general that they found the messages useful, interesting and relevant. One woman in the group was so impressed with the text messages and Web sites delivered to her cell phone, that she opened the site and shared a picture that represented what her fetus looked like in utero with the other women in the group. This clearly demonstrated the value of the text messages. The Internet connection to health information sparked more conversation within the group about fetal development. Another woman in the group commented, "The messages really helped me out with things that I didn't know about pregnancy."

The increased use of cell phone access to the Internet has already been shown to play an important role in assisting the underserved populations to manage personal health information (Jimison et al., 2008). The project described here has many implications and can be adapted for use in helping patients manage chronic diseases as well as prenatal and newborn care. As the women cared for in the prenatal program become empowered to seek more information on the Internet, it is anticipated that they may take on more responsibility for managing their own health as well as their family's health. We hope that the women participating in the Text4Baby program have experienced the value of accessing the Internet. It is important that health care providers and information technologists provide credible resources and direct patients to these sources. Text messaging is a simple and cost-effective way to achieve these goals. While nurses have long had the opportunity to engage in health promotion and education, growth in the use of smart phone technology has brought new capabilities that have the potential to bridge the digital divide to support patient health and well-being.

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