Denver Health and Hospital Authority (Denver, Colorado)

Using Text Messaging to Reduce Teen Pregnancies

Overview

In a relatively short period of time, text messaging has become the preferred channel of basic communication between adolescent youth and their peers. According to the Pew Research Center, the typical American youth who texts sends 1,500 text messages a month.[1] Whether employed through a cell phone, computer, or web-based application on a handheld device, text messaging has become an indispensable communication tool for today's youth. The median youth texter sends 60 texts per day—with even higher rates for youth of color—and 63% of youth text daily.[2] Recent research denotes that using cell phones for sexual health programming can increase access to sexual health resources and information and reduce risky sexual behavior.[3,4] Using text messaging to enhance or provide health education is a promising concept for promoting healthy behaviors in youth.

For Denver youth, the promotion of healthy sexual behavior is needed. Data from the Colorado Department of Health and Environment indicates that the teenage birth rate in Denver, Colorado in 2009 was 52.9 live births per 1,000 females ages 15-19, well above the statewide rate of 35.1[5] and the nationwide rate of 34.3.[6] In Denver, teen birth rates for youth of color, particularly Hispanic youth, are also much higher than the average.

Program Description

To help alleviate the rate of teenage pregnancy within the Denver metropolitan area, the Denver Health and Hospital Authority, through a cooperative agreement with the U.S. Department of Health and Human Services' Office of Adolescent Health, implemented Wyman's Teen Outreach Program (TOP®) with a supplemental text messaging component. TOP® targets 12-18 year old youth through a nine-month youth development intervention that includes a community service learning component, and is an evidence-based program model proven to reduce teen pregnancy.[7] The text message enhancement is based on social norms strategy and social cognitive theory and is designed to engage, reinforce, facilitate, and sustain the norms, attitudes, and healthy behaviors that are taught through the face-to-face TOP® program.

During the 2011-2012 and 2012-2013 school years, 221 youth ages 14-18 participated in the TOP® program with text message enhancement in the Boys & Girls Clubs of Metro Denver sites. Text messages were sent

outside of school hours and before 9PM and message responses were reviewed during business hours. The four sections of the text messaging curriculum include:

1) **Core Curriculum,** five to seven pre-scripted text messages per week for the 30-week curriculum corresponding to the TOP® lesson taught during the week through the Boys & Girls Clubs of Metro Denver;
2) **Summer Curriculum,** three to four pre-scripted text messages per week for 13 weeks over the summer months following the end of in-club TOP® programming to reinforce TOP® lessons;
3) **Event-based Messages,** text messages for clubs and service learning project reminders and club event information; and
4) **Ad-hoc Messages,** responses to unsolicited incoming messages (e.g. requesting information about the TOP® program) to be sent out in a systemized way on an as-needed basis.

Based on feedback from local youth and youth-serving professionals as well as input from youth who had completed the TOP® program in other states, these messages include a combination of quizzes, myth/fact questions, polls, fun facts, quotes from celebrities and music artists, resources, websites, and videos. The text message curriculum was updated during Summer 2012 with input from youth who had completed the TOP® program in the first year.

Program Impact

Year 1 and mid-year Year 2 data are currently available. For Year 1 from October 2011 to May 2012, 15,726 messages were successfully sent to 98 youth. In response to outbound quizzes, myth/fact questions, surveys, polls, and other text messages requesting feedback, 1,364 inbound text messages were received. The number of inbound responses per participant was similar across club sites. Females (14.1 inbound msgs/participant), 16 year olds (14.1 msgs), and those identifying as non-Hispanic (12.3 msgs) had higher rates of responses compared to other demographic groups (male, 9.0 msgs; Hispanic, 10.1 msgs). By category of message, quizzes elicited the highest response rate (20.8%) followed by myth/fact questions (17.9%).

In addition, qualitative feedback was collected via text, anonymous participant satisfaction forms, and in-person interviews. Year 1 participants stated that “I liked everything”, “[The texts] tell me things I didn’t know”, “[The texts tell me] there are safe ways to have sex”, “I liked the fun facts. They were not really just fun. I learned a lot from them and it was good to get those when you were not having TOP®”, and “Since I share a phone with my sisters, I would read it to them and we’d all argue – that’s a fact – no that’s a myth - and then I’d tell them the answer”. Quotes and fun facts were the two most popular types of texts.

Mid-year data from Year 2 shows similar text message response trends. From September to December 2012, 9,073 messages were successfully sent to 123 youth. There were 910 inbound responses to outbound

messages requesting feedback. As in Year 1, females (8.5 inbound msgs/participant) and 16 year olds (11.6 msgs) had higher rates of responses compared to other demographic groups (male, 6.0 msgs; other age groups, 4.0 to 10.7 msgs). Myth/fact questions and quizzes remained the two message types most likely to elicit responses (36.3% and 26.5%). However, unlike in Year 1, the number of inbound responses per participant varied across club sites (Club B: 21.7 msgs vs. Club D: 3.1 msgs) and youth identifying as Hispanic were more likely to respond (9.3 msgs vs. 5.7 msgs).

Final data will be available in 2015, but Year 1 interim results are promising. As a result of the text messaging curriculum enhancement, we expect to find that the addition of a text message supplement to the TOP® program will result in increases in factors that protect youth from pregnancy (e.g. numbers of supportive relationships, self-efficacy to use contraception and refuse unwanted sex, etc.) and reductions in sexual and social risk behaviors associated with pregnancy (e.g. program engagement, utilization of contraceptive clinic services etc.). In Year 1, intervention youth (receiving text message enhancement, N=109) to control youth (receiving TOP® alone, N=136) were compared at 9 months (71%, N=175 retention). The average intervention participant received 120 texts. Among other outcomes, interim data show changes from baseline for sex without condom (intervention: 25.6% to 18.4%; control: 34.1% to 42.9%), mean partner number (1.66 to 1.18; 1.32 to 1.36), and sex without contraception (27.0% to 22.9%; 24.4% to 24.4%).

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