

Text4Health: A Qualitative Evaluation of Parental Readiness for Text Message Immunization Reminders

Elyse Olshen Kharbanda, MD, MPH, Melissa S. Stockwell, MD, MPH, Harrison W. Fox, MPH, and Vaughn I. Rickert, PsyD

We conducted focus groups and individual interviews in a diverse population of parents to qualitatively explore preferences and readiness for text message immunization reminders. We used content analysis to review and independently code transcripts. Text message reminders were well-accepted by parents; many thought they would be more effective than standard phone or mail reminders. Parents preferred text message reminders to be brief and personalized. Most parents were able to retrieve sample text messages but many had difficulty with interactive texting. (*Am J Public Health*. 2009;99:2176–2178. doi: 10.2105/AJPH.2009.161364)

In the past few years, new vaccines targeting pertussis, meningitis, and human papillomavirus have been introduced to the routine immunization schedule for adolescents. Recent data from the 2008 National Immunization Survey demonstrate that, among adolescents aged 13 to 17 years, immunization rates for pertussis and meningitis were 41% and 42%, respectively. Only 37% of girls aged 13 to 17 years had received the first dose of the human papillomavirus vaccine.¹ Thus, interventions are needed to increase uptake of these vaccines. Immunization reminder-recalls have been recommended as a method to improve vaccine coverage in adolescents,^{2,3} but traditional mail and phone reminders may be problematic in populations most at risk for underimmunization.⁴ To date, text message immunization reminders have not been widely implemented and

Sample Quotes by Theme Regarding Parental Readiness for Text Message Immunization Reminders

Barriers to immunization

“I’m not gonna say that as a parent that’s not important that you’re not gonna remember [vaccines], but some parents don’t, I mean it’s just too much.”

“Thinking about older kids it is very easy to forget that they should have a yearly check-up.”

Acceptability of text message reminder-recalls

“A message I hardly hear it, when there is an e-mail I hardly read it because I get so many, but if I get a text message, Ah!”

“Sometimes when I forget to get my mail I don’t get it until the next day, so at least if I get a text I can get it right away.”

“I don’t have problems because it’s for the health of my child so I mean that’s priceless, so I don’t worry about cost.”

Response to sample text messages

“Seeing my child’s name, that’s very personal. It got my attention.”

“If I see my child’s name, I’m gonna run to the phone.”

little is known about parental readiness for these interventions. Therefore, we sought to qualitatively evaluate parental acceptance and readiness for a novel text message reminder system.

METHODS

After receiving institutional review board approval, we conducted English- and Spanish-language focus groups (n = 4) and individual interviews (n = 5) with parents of adolescents recruited from the waiting rooms of 3 urban community health centers and 2 private practices in New York City. Parents were invited to participate if they had a cell phone and at least 1 child aged 10 to 19 years.

After we obtained their written informed consent, parents completed a brief demographic survey. English-language focus groups were moderated by E. O. K.; Spanish-language focus groups were conducted by a native Spanish speaker. Both moderators were experienced in this methodology. Individual interviews were conducted by H. W. F. Covered topics included barriers to immunization and preferences for and acceptability of text message immunization

reminder-recalls. Examples of questions included: “How would you feel about getting a text message that your child was due for a vaccine?” “What would you like the message to say?” “How could the message let you know it is important to bring your child in for a vaccine?” “Would there be any problems getting a text message from your child’s physician?”

In an interactive exercise, sample text messages were sent to all parents. Parents were asked to use their own phones to open, read, and respond to sample text messages. Focus groups and interviews were recorded and professionally transcribed. Two team members used content analysis to review and independently code all transcripts; the other team members then reviewed the codes. Through an iterative process, dominant themes emerged. All participants received a \$25 check card.

RESULTS

Parents (n = 28) ranged in age from 30 to 64 years (mean = 44.6; standard deviation = 9) and were racially/ethnically diverse (4 African American, 18 Hispanic, 4 White, 1 Asian, 1 other).

Sample Immunization Reminder Text Messages

Call 212–234-7528 now to schedule an appt. for Chris at Audubon clinic. He is due for vaccines. To receive message in Spanish, text ESPANOL
Chris necesita vacunarse. Por favor llame a la clínica Audubon al 212–234-7528 para hacer una cita. Si no quiere recibir mensajes, responda QUIT
Your daughter will be due for her second HPV vaccine in 3 wk! Please call Audubon at 212–456-3970 for appt. To stop reminders, text QUIT



A text message being sent via an iPhone. Photograph by Kim Kulish. Printed with permission of Corbis.

Fifty-seven percent completed college, 29% graduated high school, and 14% did not complete high school. Most (86%) reported having previously received a text message, but only 1 parent had received a text message from a medical provider. Most parents reported their texting frequency to be once per week or less.

Parents described their busy home and work lives, unfamiliarity with adolescent vaccine recommendations, and practice-related factors as barriers to timely immunization. They reported relying on annual physicals, personal vaccine records, provider recommendation, and school requirements to keep up to date with immunizations (see the box at the top of the previous page.)

Parents were uniformly interested in receiving text message immunization reminders and many preferred them to mail or phone reminders. Parents suggested that reminders should be simple, short, and personalized. In general, parents felt that they would act on these text messages. Potential problems with text message reminders, noted by a minority of parents, were cost and difficulty of using cell phones. In an interactive exercise, most parents were able to retrieve sample text messages (see the box at the bottom of the previous page) and read and understand their content, but many were unable to reply.

DISCUSSION

We found that text message immunization reminders would be well-accepted in a diverse population of urban parents. We were also able to identify key preferences regarding text message content. We observed that the majority of parents were able to open, read, and understand English- or Spanish-language text messages.

Although prior studies have evaluated the effectiveness of text message reminders on travel vaccine series completion,⁵ no-show rates,^{6,7} diabetes self-management,⁸ and smoking cessation,^{9,10} none of these studies reported on acceptability of receiving health-related text messages. Furthermore, many of these studies were conducted outside the United States, or in populations who frequently send and receive text messages. We are not aware of other US-based research on health-related text messaging systems with parents of adolescents, who may be new adopters of this technology. Our research was conducted with English- and Spanish-speaking urban parents; thus, our findings may not apply to other communities. Although our study population may be unlikely to utilize text messaging for personal needs, parents still welcomed receiving text

messages from health care providers as a method to improve on-time vaccination for their adolescent children. ■

About the Authors

Elyse Olshen Kharbanda and Melissa S. Stockwell are with the Division of General Pediatrics, Department of Pediatrics, College of Physicians and Surgeons, and the Heilbrunn Department of Population and Family Health, Mailman School of Public Health, Columbia University, New York, NY. Harrison W. Fox is with the Division of General Pediatrics, Department of Pediatrics, College of Physicians and Surgeons, Columbia University. At the time of the study, Vaughn I. Rickert was with the Heilbrunn Department of Population and Family Health, Mailman School of Public Health, Columbia University.

Correspondence should be sent to Elyse Olshen Kharbanda, MD, MPH, 622 West 168th St, VC402, New York, NY 10032 (e-mail: eo85@columbia.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints/Eprints" link.

This article was accepted May 6, 2009.

Contributors

E. Olshen Kharbanda had primary responsibility for the study design, data collection, data analysis, and article preparation. M.S. Stockwell and V.I. Rickert assisted with study design, data analysis, and editing of the article. H.W. Fox assisted with data collection, data analysis, and editing of the article.

Acknowledgments

We would like to thank Oscar Peña and Raquel Andres for their assistance with the Spanish-language focus groups.

Human Participant Protection

This study was approved by the Columbia University Medical Center institutional review board.

References

- Centers for Disease Control and Prevention. National, state, and local area vaccination coverage among adolescents aged 13–17 years—United States, 2008. *MMWR Morb Mortal Wkly Rep.* 2009;58(36):997–1001.
- Vaccine-preventable diseases: improving vaccination coverage in children, adolescents, and adults. A report on recommendations from the Task Force on Community Preventive Services. *MMWR Recomm Rep.* 1999;48(RR-8):1–15.
- Middleman AB, Rosenthal SL, Rickert VI, Neinstein L, Fishbein DB, D'Angelo L. Adolescent immunizations: a position paper of the Society for Adolescent Medicine. *J Adolesc Health.* 2006;38:321–327.
- Daley MF, Steiner JF, Brayden RM, et al. Immunization registry-based recall for a new vaccine. *Ambul Pediatr.* 2002;2:438–443.
- Vilella A, Bayas JM, Diaz MT, et al. The role of mobile phones in improving vaccination rates in travelers. *Prev Med.* 2004;38:503–509.
- Fairhurst K, Sheikh A. Texting appointment reminders to repeated non-attenders in primary care: randomised controlled study. *Qual Saf Health Care.* 2008;17:373–376.

7. Downer SR, Meara JG, Da Costa AC, Sethuraman K. SMS text messaging improves outpatient attendance. *Aust Health Rev.* 2006;30:389–396.
8. Franklin VL, Greene A, Waller A, Greene SA, Pagliari P. Patients' engagement with "Sweet Talk" – a text messaging support system for young people with diabetes. *J Med Internet Res.* 2008;10(2):e20.
9. Rodgers A, Corbett T, Bramley D, et al. u smoke after txt? Results of a randomised trial of smoking cessation using mobile phone text messaging. *Tob Control.* 2005;14:255–261.
10. Obermayer JL, Riley WT, Asif O, Jean-Mary J. College smoking-cessation using cell phone text messaging. *J Am Coll Health.* 2004;53(2):71–78.

The NYC Condom: Use and Acceptability of New York City's Branded Condom

Ryan C. Burke, MPH, Juliet Wilson, MSc, Kyle T. Bernstein, PhD, MPH, Nicholas Grosskopf, EdD, CHES, Christopher Murrill, PhD, MPH, Blayne Cutler, MD, PhD, Monica Sweeney, MD, and Elizabeth M. Begier, MD, MPH

We assessed awareness and experience with the NYC Condom via surveys at 7 public events targeting priority condom distribution populations during 2007. Most respondents (76%) were aware of NYC Condoms. Of those that had obtained them, 69% had used them. Most (80%) wanted alternative condoms offered for free: 22% wanted ultra-thin, 18% extra-strength, and 14% larger-size. Six months after the NYC Condom launch, we found high levels of awareness and use. Because many wanted alternative condoms, the Department of Health and Mental Hygiene began distributing the 3 most-requested alternatives. (*Am J Public Health.* 2009;99:2178–2180. doi:10.2105/AJPH.2008.152298)

On February 14, 2007, via a high-profile media campaign, the New York City Department of Health and Mental Hygiene (DOHMH) introduced the NYC Condom. The NYC Condom, the first specially packaged condom unique to a municipality ([http://](http://www.nyc.gov/condoms)

www.nyc.gov/condoms), is a lubricated, standard-size, Lifestyles (Ansell Healthcare, Red Bank, NJ) brand male condom. The month following the launch, DOHMH distributed 5 million NYC Condoms to city organizations and businesses. Subsequently, average monthly distribution stabilized at 3.4 million condoms.

The program began receiving anecdotal reports from organizations that the public wanted DOHMH to also distribute larger-size condoms for free. To inform programmatic decision-making, we conducted a survey of sexually active New Yorkers to measure awareness of and experience with the NYC Condom, and demand for and experience with other male condoms.

METHODS

We conducted a street intercept survey during July through September 2007 at 7

large public events in New York City, where attendees largely consisted of people of color and gay persons (e.g., Gay Pride Events, African American Day Parade), to target groups with higher HIV prevalence. New York City residents aged 18 years and older were eligible to participate. For systematic recruiting, we used a time-space sampling methodology.¹ We identified a designated intercept line at each event, and assigned each person crossing the line an interviewer. The anonymous in-person questionnaires were administered onsite via handheld-assisted personal interview Pocket PCs (Hewlett-Packard Development Company, LP, Palo Alto, CA) and respondents were offered \$4 transit card incentives.

We obtained NYC Condom awareness with the following question: "In the past 12 months, have you seen or heard about condoms in

TABLE 1—Characteristics of Survey Respondents and NYC Condom Awareness and Use by Demographic Category: New York City Residents Aged 18 Years and Older, 2007

Demographic	No. (%)	% Who Had Seen or Heard About NYC Condoms in Past 12 Mo	% Reporting NYC Condom Use ^a
Gender			
Men	201 (69.6)	83.1	57.5
Women	88 (30.4)	59.1	37.3
Race/ethnicity			
White	45 (15.4)	77.8	34.3
Black	139 (47.6)	69.8	50.5
Hispanic	85 (29.1)	82.4	62.3
Other	23 (7.9)	87.0	65.0
Sexual behavior in past 12 mo			
Women reporting sexual intercourse with men only	88 (30.4)	59.1	37.3
Men reporting sexual intercourse with women only	116 (40.1)	77.6	46.7
Men reporting sexual intercourse with men only	85 (29.4)	90.6	70.1
Total no. of sexual partners in past 12 mo			
1	150 (51.2)	68.0	35.6
2	44 (15.0)	79.5	71.4
3 or more	99 (33.8)	86.9	65.1
Education			
High school graduate or less	94 (32.1)	73.4	64.7
Some college	77 (26.3)	74.0	64.2
College graduate or more	122 (41.6)	79.5	38.1
Employment			
Employed for wages or salary or self-employed	244 (83.3)	76.6	52.2
Not employed	49 (16.7)	73.5	55.6

Note. NYC = New York City.
^aLimited to respondents that had picked up an NYC Condom.