

She's one smart mom
 She's got **text4baby**



Text BABY to 511411
 Get **FREE** messages on your cell phone to help you through your pregnancy and your baby's first year



text4baby
 text4baby.org

Es una mamá inteligente
 Utiliza **text4baby**



Envía BEBE al 511411
 Recibe mensajes **GRATIS** en tu teléfono que te ofrecerán ayuda durante tu embarazo y el primer año de tu bebé.



text4baby
 text4baby.org



text4babySM

A free service of the
 National Healthy Mothers, Healthy Babies Coalition

Why Go Mobile?

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Text4baby Program Goals

- Demonstrate the potential of mobile health technology to address a critical national health priority: maternal and child health.
- Demonstrate the potential of mobile health technology to reach underserved populations with critical health information.
- Develop a base of evidence on the efficacy of mobile health interventions.
- Catalyze new models for public-private partnerships in the area of mobile health.



Why go mobile?

- > 80% of Americans have cell phones
- 18% of U.S. households are “mobile-only”
- 1.5 trillion SMS messages sent in U.S. in 2009
- Mobile phones are especially important in reaching the main target audience for Text4Baby:
 - Younger women
 - Lower income women
 - Minority women
- Many more of these women have phones than Internet and an overwhelming % use SMS

Sources: Pew Internet & American Life Project, “Degrees of Access” (May 2008); Nielsen, “Record High TV Use, Despite Online/Mobile Video Gains” (November 2008); Harris Interactive, “Cell Phone Usage Continues to Increase” (April 2008); US Centers for Disease Control, “Wireless-Only Phone Use Varies Widely Across United States” (March 2009); CTIA, “Wireless Quick Facts” (March 2009)



Cell Phone Usage in the U.S.



Demographics of cell phone users

% of all adults in each group who have a cell phone

Total	82%
Men	83%
Women	81%
Age	
18-29	90%
30-49	88%
50-64	82%
65+	57%*
Race/Ethnicity	
White, non-Hispanic	80%
Black, non-Hispanic	87%*
Hispanic, English-speaking	87%*
Household Income	
Less than \$30,000	71%*
\$30,000-\$49,999	82%
\$50,000-\$74,999	90%
\$75,000+	93%
Education level	
Less than High School	72%
High School Diploma	76%
Some College	86%
College+	90%*

* indicates a statistically significant difference.

Source: Pew Research Center's Internet & American Life Project, April 29 - May 30, 2010 Tracking Survey. N=2,252 adults 18 and older; n=1,917 based on cell phone users.



Cell Phone Use by African-Americans & Latinos



African-Americans and Latinos lead whites in their use of mobile data applications

	All adults	White, non-Hispanic	Black, non-Hispanic	Hispanic (English-speaking)
Own a cell phone	82%	80%	87%*	87%*
% of cell owners within each group who do the following on their phones				
Take a picture	76	75	78	83*
Send/receive text messages	72	68	79*	83*
Access the internet	38	33	46*	51*
Send/receive email	34	30	41*	47*
Play a game	34	29	51*	46*
Record a video	34	29	48*	45*
Play music	33	26	52*	49*
Send/receive Instant messages	30	23	44*	49*
Use a social networking site	23	19	33*	36*
Watch a video	20	15	27*	33*
Post a photo or video online	15	13	20*	25*
Purchase a product	11	10	13	18
Use a status update service	10	8	13	15
Mean number of cell activities	4.3	3.8	5.4	5.8

Source: Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older, including 1,917 cell phone users. * = statistically significant difference compared with whites



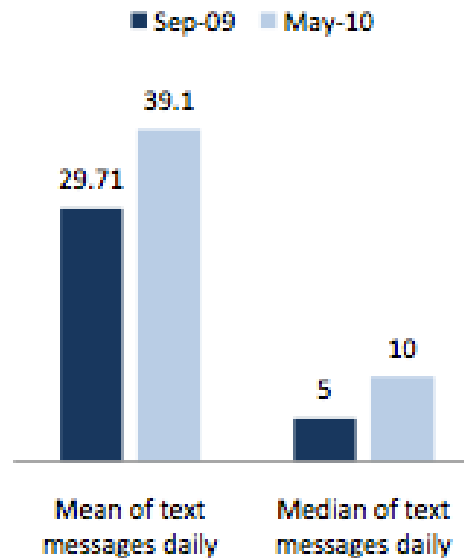
Increase in Texting

1.5 Trillion Text Messages sent in 2009 in the U.S.



Change in texting habits among adults, 2009-2010

of text messages sent and received, based on adults who text



Source: Pew Research Center's Internet & American Life Project, April 29 - May 30, 2010 Tracking Survey. N=2,252 adults 18 and older; n=1,917 based on cell phone users. And Pew Research Center's Internet and American Life Project survey from August 18 - September 14, 2009. n=2,253 adults, age 18 and older; n=1868 based on cell phone users.



Texting by Insurance Type



Figure 11: Text message usage by insurance type



Source: PricewaterhouseCoopers
HRI Consumer Survey, 2010



mHealth Interventions



Mobile health efforts from multiple stakeholders

Stakeholder	Target health-related issue	Who	Mobile health solution
Employer	Rising healthcare costs of self-insured employers	Safeway	Competition among locations to promote healthy lifestyles and incentives for lowering healthcare premiums for employees
Provider	Efficiency in coordinating care/physician work flow	Good Shepherd Health System	Developed own iPhone app to help physicians access patient records, track vitals, order medication and coordinate with care team
Provider	Physician to physician consultation to enhance patient care	Physicians from Duke, Harvard and JTCC	Virtual physician network for video mobile consults, starting with cardiology and oncology. Partnership among physicians at Duke University Medical Center, Harvard's Beth Israel Deaconess Medical Center, John Theurer Cancer Center (JTCC) and Zibbet, a health solutions technology company.
Health insurer	Finding physicians in network or checking claims	Aetna	Mobilizing "doc" finder and claims check
Pharma	Patient compliance in diabetes monitoring	Bayer	Digital glucose monitor (DIDGET) that integrates with the Nintendo game console
Retail pharma	Cost information and prescription management cumbersome to obtain	CVS Caremark	iPhone app for prescription drug information and member management of prescription refills, history, and retail location finder
Telecom	Bandwidth and capacity constraints on hospital networks	Verizon	4G and more robust Wi-Fi networks to allow for increased capacity for image and data transfer
Retail	Access to remote monitoring devices	Best Buy	Partnership with Meridian Health to explore consumer access to healthcare monitoring devices through retail stores and determine the opportunity to leverage existing customer service team for installation and technical support.



mHealth Outcomes



	Where	What	Result
Diabetes	Pennsylvania	Post discharge remote monitoring	42% drop in overall cost per patient ⁵
	Cleveland	Cell phone size wireless transmitter transferring vital signs to electronic health record	71% increase in number of days between office visits ⁶
Congestive heart failure	Trans-European Network-Home-Care Management System	Remote monitoring of patients who received implantable cardiac defibrillators	35% drop in inpatient length of stay; 10% reduction in office visits; 65% drop in home health visits ⁷
Chronic obstructive pulmonary disease	Canada	Remote monitoring of patients with severe respiratory illness	Reduced hospital admissions by 50%; acute home exacerbations by 55%; hospital costs by 17% ⁵

5 Max E. Stachurs, MD, and Elena V. Khasanshina, MD, PhD. "Telehomecare and Remote Monitoring: An Outcomes Overview." The Advanced Medical Technology Association, October 31, 2007, accessed July 29, 2010, <http://www.advmed.org/NR/rdonlyres/2250724C-5005-45CD-A3C0-0E00CD3132A1/0/TelehomecarereportFNL103107.pdf>.

6 "Cleveland Clinic/Microsoft Pilot Promising: Home Health Services May Benefit Chronic Disease Management." March 1, 2010, accessed on August 25, 2010, http://my.clevelandclinic.org/media_relations/cleveland_clinic_pilot_with_microsoft_promising.aspx.

7 John G.F. Cleland, MD, Amala A. Louis, Alan S. Rigby, PhD, Uwe Janssens, MD, Aggie H.M.M. Balk, MD, and others. "Noninvasive Home Telemonitoring for Patients with Heart Failure at High Risk of Recurrent Admission and Death," *Journal of the American College of Cardiology* 45, no. 10 (2005): 1664.



Epidemiologic Reviews

Text Messaging as a Tool for Behavior Change in Disease Prevention and Management

Heather Cole-Lewis* and Trace Kershaw

Accepted for publication January 25, 2010.

Mobile phone text messaging is a potentially powerful tool for behavior change because it is widely available, inexpensive, and instant. This systematic review provides an overview of behavior change interventions for disease management and prevention delivered through text messaging... Seventeen articles representing 12 studies (5 disease prevention and 7 disease management) were included.. Of 9 sufficiently powered studies, 8 found evidence to support text messaging as a tool for behavior change. Effects exist across age, minority status, and nationality...

- Greater prevalence of current nonsmoking by smokers at 6 and 12 weeks.
- Increase in frequency of blood glucose monitoring and reporting via text message.
- Greater weight loss in obese adults at 4 and 12 months.
- Greater decrease in hemoglobin A1c levels in adolescents and obese and non-obese adult diabetics.



Diabetes Management

- Yoon, 208. Outcomes: Hemoglobin A1c differed significantly between the 2 groups (P 1/4 0.001) and over time (P 1/0.011), time- group interaction significant (P 1/4 0.001), hemoglobin A1c significantly decreased over time in the intervention group (12 months, 1.32%, P < 0.05)
- Rami, 2006. Outcomes: Hemoglobin A1c improved with intervention (P < 0.05)

Smoking Cessation

- Rodgers, 2005. Bramley, 2005. Outcomes: 1) greater prevalence of current nonsmoking at 6 weeks in the intervention group (I: 28% vs. C: 13%, P < 0.0001), 2) no significant difference in Maori vs. non-Maori (RR 1/4 2.34 vs. RR 1/4 2.16), 3) 12 weeks' difference significant (I: 29% vs. C: 19%, P < 0.0001)

Weight Loss

- Haapala, 2009. Outcomes: 1) intervention group lost more weight than control group at 12 months (I: 4.5 kg/m² vs. C: 1.1 kg/m², P 1/4 0.006), 2) decrease in waist circumference at 12 months greater for intervention group (I: 6.3cm vs. C: 2.4cm, P < 0.001)
- Patrick, 2009. Outcomes: 1) intervention group lost more weight than the control group at 4 months (I: 2.88 kg vs. C: 0.91 kg, P 1/4 0.02)



About Voxiva

Leading provider of **Interactive Mobile Health Solutions** since 2001



A suite of interactive mobile health services designed to support **behavior change** and **engage people** in managing their health:





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Thank You

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