

# Examples from the Field: Going Mobile to Improve Public Health

Texting4Health, Stanford University, Feb 29, 2008

CDC.gov



Interactive  
Media



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# Three Mobile Projects at CDC

- HIV Testing Centers via SMS
- Mobile Alerts from the CDC.gov Web site
- Mobile Technology for Diabetes Management

## Talk Goals:

- To share examples, results, and learning
- To generate questions



# HIV Test Centers Via SMS

## Introduction

### Purpose:

Motivate people to get tested for HIV

### How it Works

- Mobile phone user **texts their zip code to a short code**
- The zip code is matched to a database of HIV testing centers
- The user receives a text message reply with the name and number of the nearest testing center

```
HIV testing
center near you:
Gwinnett County
Health
Department, 770-
339-4283. For
more locations
call 1-800-232-
4636
```

Example text  
response

# HIV Test Centers Via SMS

## Initial Launch

Initial launch in March 2007

Public education partnership of the

- Kaiser Family Foundation,
- Viacom, and the
- CBS Corporation.

# World AIDS Day Launch

In November 2007, DHHS released a collaborative, multifaceted campaign promoting this SMS service and World AIDS Day activities and information.

Collaborators included:

- The Kaiser Family Foundation
- The National Center for Health Marketing (NCHM)
- The National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP)
- Department of Health and Human Services

# HIV Test Centers Via SMS Promotional Graphics



**Know  
your  
HIV  
status?**

Text:  
Your Zip Code

To:  
KnowIt  
or 566948

To find HIV  
Test Centers  
near you.

[www.hivtest.org](http://www.hivtest.org)

**Know your HIV status?**  
Text: Your Zip Code  
To: KnowIt or 566948  
To find HIV Test Centers near you.  
[www.hivtest.org](http://www.hivtest.org)



**WORLD AIDS DAY**  
Take the test.  
Take control.  
[www.hivtest.org](http://www.hivtest.org)

**Know Your HIV Status?**  
To find HIV Test Centers near you:  
Text: Your Zip Code  
To: KnowIt or 566948  
[www.hivtest.org](http://www.hivtest.org)

**¿Sabes si tienes el VIH?**  
Envía un mensaje de texto con: tu código postal  
A: KnowIt o al 566948  
para encontrar un centro cercano que te haga la prueba.  
[www.hivtest.org](http://www.hivtest.org)

**Add a Badge to Your Page!**

Let your friends know you support healthy choices. Grab one of the badges below and add it to your MySpace page. Simply copy the code beside the image you want and paste it in your About Me section.

	<pre>&lt;center&gt;&lt;a href="http://www.msplinks.com/MDFodHRwOi8vd3d3LmhpdnRlc3Qub3JnLw==" title="World AIDS Day. Take the test. Take control. www.hivtest.org"&gt; &lt;img</pre>
	<pre>&lt;center&gt;&lt;a href="http://www.msplinks.com/MDFodHRwOi8vd3d3LmhpdnRlc3Qub3JnP3NfY2lkPWVhpdI93YWRFZXh0ZXJlYWw0" title="Know Your HIV Status? To find HIV Test Centers near</pre>
	<pre>&lt;center&gt;&lt;a href="http://www.msplinks.com/MDFodHRwOi8vd3d3LmhpdnRlc3Qub3JnP3NfY2lkPWVhpdI93YWRFZXh0ZXJlYWw0" title="Know Your HIV Status? To find HIV Test Centers near</pre>

Take the test.  
Take control.  
[www.hivtest.org](http://www.hivtest.org)

**WORLD AIDS DAY**

# HIV Test Centers Via SMS Campaign Coverage Across Channels

## Blogs



## Web sites



## Online Newsletters



## TV News



## Proposed Best Practices for Usability

**The Challenge:** Convey the relevant information within 160 character SMS limitation without being cryptic

- Avoid abbreviations or txtng shorthand when possible (e.g. "you are" instead of "u r")
- Apply good writing principles, in spite of the limited real estate: grammar, punctuation, etc. can make a difference
- Do not rely on SMS as the sole channel: leverage phone, IVR, web, and others
- General rule: Basic usability principles still apply

See also: Mobile Marketing Association Best Practices

<http://mmaglobal.com/bestpractices.pdf>

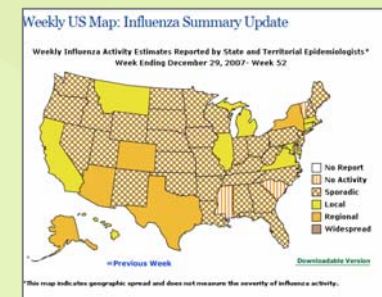
# HIV Test Centers Via SMS Credits

- The National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP)
  - Susan Robinson
  - Angie Tracey
  - Cynthia Crick
  - Erin Dixon
- The Kaiser Family Foundation
  - Tina Hoff
  - Stephen Massey
  - Kimberly Dasher
  - Jennifer Kates
  - Carmelite Souffront
  - Jen Sarche
  - Allison McKenzie
- The National Center for Health Marketing (NCHM)
  - Janice Nall
  - Ann Aikin
  - Kathleen Carey
  - Erin Edgerton
  - Nick Sabadosh
  - Sarah Hinkle
  - Tom Seibert
  - Weis Rafi
- The Department of Health and Human Services (HHS)
  - Miguel Gomez
  - Jennie Anderson



# Mobile Alerts from CDC.gov Overview

- Existing service on the CDC.gov Web site to “Get Email Updates”
- Service provided by GovDelivery
- Visitors select their subscriptions from the list of available topics on CDC.gov
- GovDelivery started offering wireless text messages (SMS) in addition email updates
- The CDC.gov team, in collaboration with Emergency Preparedness and Response, identified the “Flu” website as a good candidate to trial the new wireless service
  - Specifically, many CDC.gov visitors eagerly await updates to the **Flu maps** – with this service, they would know immediately when new ones are available



# Mobile Alerts from CDC.gov Web Interfaces

Centers for Disease Control and Prevention  
CDC en Español | Other Languages Deutsch  
CDC A to Z Index

CDC Home Diseases and Conditions

## Seasonal Flu

SEARCH

WHAT YOU SHOULD KNOW ABOUT ...

INFO FOR HEALTH PROFESSIONALS

- 2007-08 ACIP Recommendations
- Vaccination
- Antiviral Drugs
- Infection Control
- Clinical Description & Lab Diagnosis
- Free Flu Materials
- 2007 National Influenza Vaccination Week (NIVW)
- Flu Activity & Surveillance
- Training
- References & Resources

INFO FOR SPECIFIC GROUPS

OTHER FLU WEBSITES

- Avian Flu
- Pandemic Flu
- Swine Flu

### Flu Activity & Surveillance

#### Reports & Surveillance Methods in the United States

- Current United States Flu Activity Map
- Weekly U.S. Influenza Surveillance Report
- International Influenza Surveillance

PAGE OPTIONS

Text Size: - +

- Email this page
- Printer-friendly version
- Get this page on your mobile phone

Media:

- RSS

Get Seasonal Flu updates sent directly to your mobile phone.

Contact Us

888-232-6222  
cdcinfo@cdc.gov

#### Past Weekly Surveillance Reports


Years	Report for the week ending
2007 - 2008	February 16, 2008—Week 7 <input type="button" value="Go!"/>
2006 - 2007	2006-07 Influenza Season Summary <input type="button" value="Go!"/>
2005 - 2006	2005-06 Influenza Season Summary <input type="button" value="Go!"/>
2004 - 2005	2004-05 Influenza Season Summary <input type="button" value="Go!"/>

Department of Health and Human Services  
Centers for Disease Control and Prevention

### Quick Subscribe for nsabadosh@cdc.gov

Centers for Disease Control and Prevention (CDC) offers updates on the topics below. Subscribe by checking the boxes; unsubscribe by unchecking the boxes.

Access your [subscriber preferences](#) to update your subscriptions or modify your password or e-mail address without adding subscriptions.

The  icon means [Wireless Alerts](#) are available for this item.

- CDC Office of The Director
- Emergency Preparedness and Response
- Avian Flu
- CDC Washington
- Cancer
- E. coli
- Environmental Health
- HIV/AIDS
- Health Marketing
- Injury, Violence & Safety
- Malaria
- Men's Health
- National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)
- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP)
- National Center for Health Statistics
- National Institute for Occupational Safety and Health (NIOSH)
- National Office of Public Health Genomics (NOPHG)
- Nutrition and Physical Activity (DNPA)
- Oral Health
- Partners Portal
  - CDC Partners Portal Home
  - CDC Partnership Fact Sheets
  - Events

# HIV Test Centers Via SMS Custom Help Pages

Overview of service and how  
to sign up

Email formats for the major  
wireless carriers  
(e.g. 4045551212@vtext.com)

The screenshot shows the CDC website's 'Seasonal Flu' page. The header includes the CDC logo and navigation links. The main content area is titled 'Stay Informed—Anytime, Anywhere with Wireless Alerts'. It explains that users can receive 'Seasonal Flu Activity Report or News & Highlights' via text messages. A 'Subscribe Now!' button is prominently displayed at the bottom of the main content area. The footer contains contact information for the CDC.

The screenshot shows the 'Don't Know Your Phone's Email Address?' section of the CDC website. It provides a list of wireless carriers and their corresponding email address formats. A disclaimer states that CDC does not charge for the service but that wireless carriers may charge a fee for email or text messages. The footer includes contact information for the CDC.

Your Wireless Carrier or Cell Phone Provider	Your Phone's Email Address (example: 4041234567@vtext.com)
Verizon	YourPhoneNumber@vtext.com
Cingular	YourPhoneNumber@mobile.mycingular.com
AT&T	YourPhoneNumber@mobile.att.net
T-Mobile	YourPhoneNumber@tmomail.net
Sprint	YourPhoneNumber@messaging.sprintpcs.com
Nextel	YourPhoneNumber@messaging.nextel.com
MCI On East Coast	YourPhoneNumber@vtext.com (service provided by Verizon)

# Mobile Alerts from CDC.gov

## Mobile Subscriptions Stats

### Email Subscriptions – Mobile Alerts



Date Sent	Number Delivered
10/19/2007	173
12/28/2007	629
1/11/2007	688

# HIV Test Centers Via SMS Flu Map Views

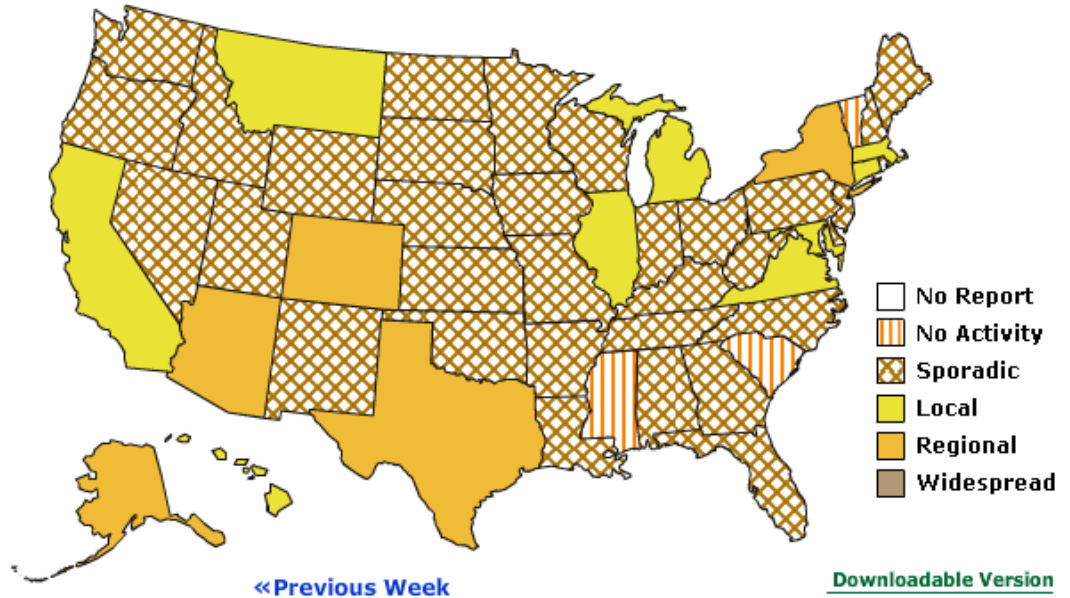
## Weekly Flu Map

October 1, 2007 –  
January 9, 2008

- Nearly 350,000 views
- 118,263 views of map independent of flu update
- 3.4 minutes spent on flu map page

### Weekly US Map: Influenza Summary Update

Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists\*  
Week Ending December 29, 2007- Week 52



\*This map indicates geographic spread and does not measure the severity of influenza activity.



## The Goals

### Goal

Support *active* and *skillful* **diabetes management**

- Develop a mindset necessary for active engagement
  - Proactive attitude
  - Sense of control and empowerment
- Develop a set of skills necessary for management
  - General reflective thinking
  - Understanding of diabetes

## The Approach

- Approach:** Leverage the strengths of mobile and web technologies to support **reflective thinking** skills and **social interaction** with healthcare providers
- Continuation of existing research project started at **Georgia Institute of Technology** and leveraging their MAHI (Mobile Access to Health Information) system

# Mobile Technology for Diabetes Management

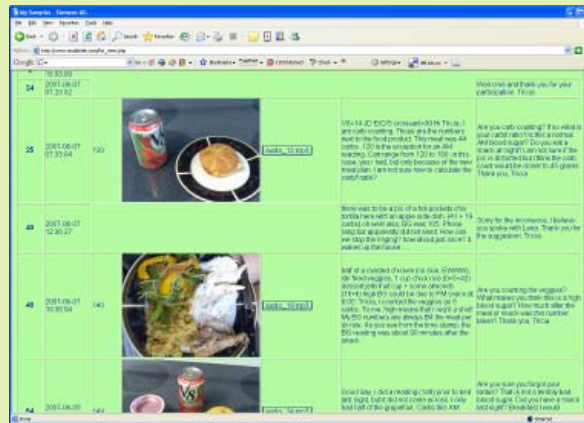
## MAHI (Mobile Access to Health Information) Architecture

### User

Glucometer with custom bluetooth transmitter



Web Site displays user uploaded data and HCP feedback



### Healthcare Provider

Web Browser interface – enables HCP to reply to user entries



Wireless data upload

Mobile Phone with camera, text logging, bluetooth, and wireless upload capabilities

# Mobile Technology for Diabetes Management Deployment Study

- 49 individuals enrolled in diabetes education program
  - St. Clare's Hospital Diabetes Education Center, Dover, NJ
- 25 experimental group, 24 control group
- Recruitment criteria:
  - age (below 65)
  - experience owning and using a cell phone (over 1 year)

# Mobile Technology for Diabetes Management Measures

## **Emotional**

- Health Locus of Control Questionnaire
- Diabetes Quality of Life Questionnaire

## **Cognitive Skills**

- Diabetes understanding

## **Behavior**

- Change in actual behavior
- Achievement of goals

## **Numerous Qualitative Measures**

# Mobile Technology for Diabetes Management

## The Measures – Analysis to Date

### Health Locus of Control questionnaire

- Significantly more MAHI users switched from external locus of control (viewing others or chance as sources of change) to **internal locus of control** (viewing self as the agent of change)

### Achievement of Goals

- Significantly more MAHI users **achieved their personal diet goals**

**No difference between experimental (MAHI) and control groups for:**

- Diabetes Quality of Life questionnaire
- Diabetes Understanding
- Change in Actual Behavior

# Mobile Technology for Diabetes Management

## Next Steps...

### CDC Teams Review Existing GaTech Research (2008)

- Review of data and methodology by diabetes domain experts
- Usability evaluation of MAHI technologies
- Health communications: Review existing health messaging approach and develop recommendations for improvements
- Secondary research about use of mobile technologies by older adults

### Then:

- Incorporate changes into MAHI system and approach
- Conduct another study with the MAHI system (2008-2009)
- Analyze data and report findings (2009)

# Mobile Technology for Diabetes Management Credits

## Georgia Tech/GVU

- Elizabeth Mynatt
- Lena Mamykina
- Jiten Chhabra
- Daniel Greenblatt

## Nation Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)

- Veronica Davison
- Dr. Lawrence Barker
- Dr. Edward Gregg
- Angela M Green Phillips
- Dr. Ann Albright
- Darlene Thomas

## The National Center for Health Marketing (NCHM)

- Ann Aikin
- Erin Edgerton
- Scott Mullins
- Janice Nall
- Nick Sabadosh

