

# Major Trends in Health Marketing: How do they Apply to Genomics Communication?

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Centers for Disease Control and Prevention

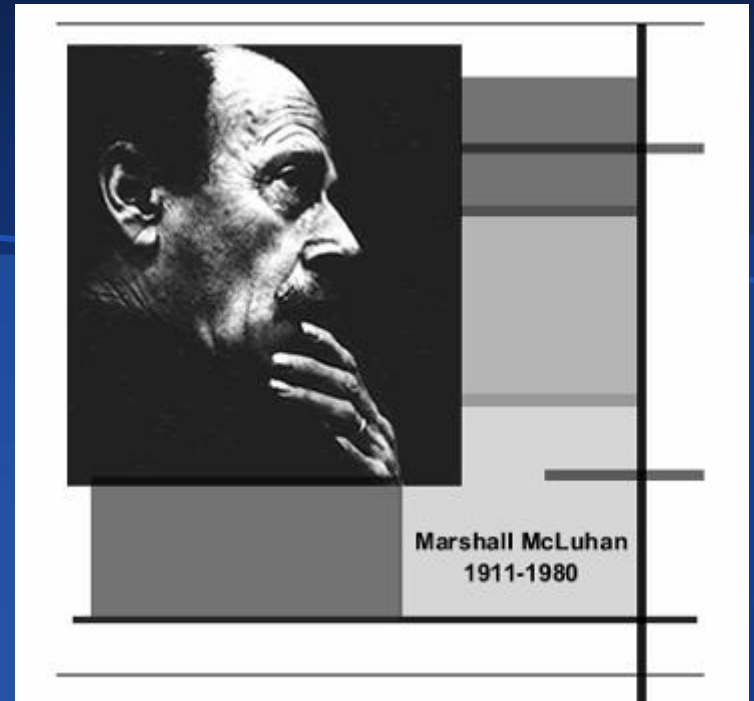
Personal Genomic  
October 17, 2008



# Trend #1

The medium is no longer the message.

Only multi-media can convey the message.





<http://www.circuitcity.com>



# Multi-Media Data Trends

- Average informed person reads or listens to 7 sources of information daily
  - Pew, 2008
- About 25% of all media use time is spent using multiple media simultaneously
  - Foehr, 2006; Papper et al., 2004
- Media “multitasking” means that Americans are accessing more media in less real time
  - Della et al., 2008

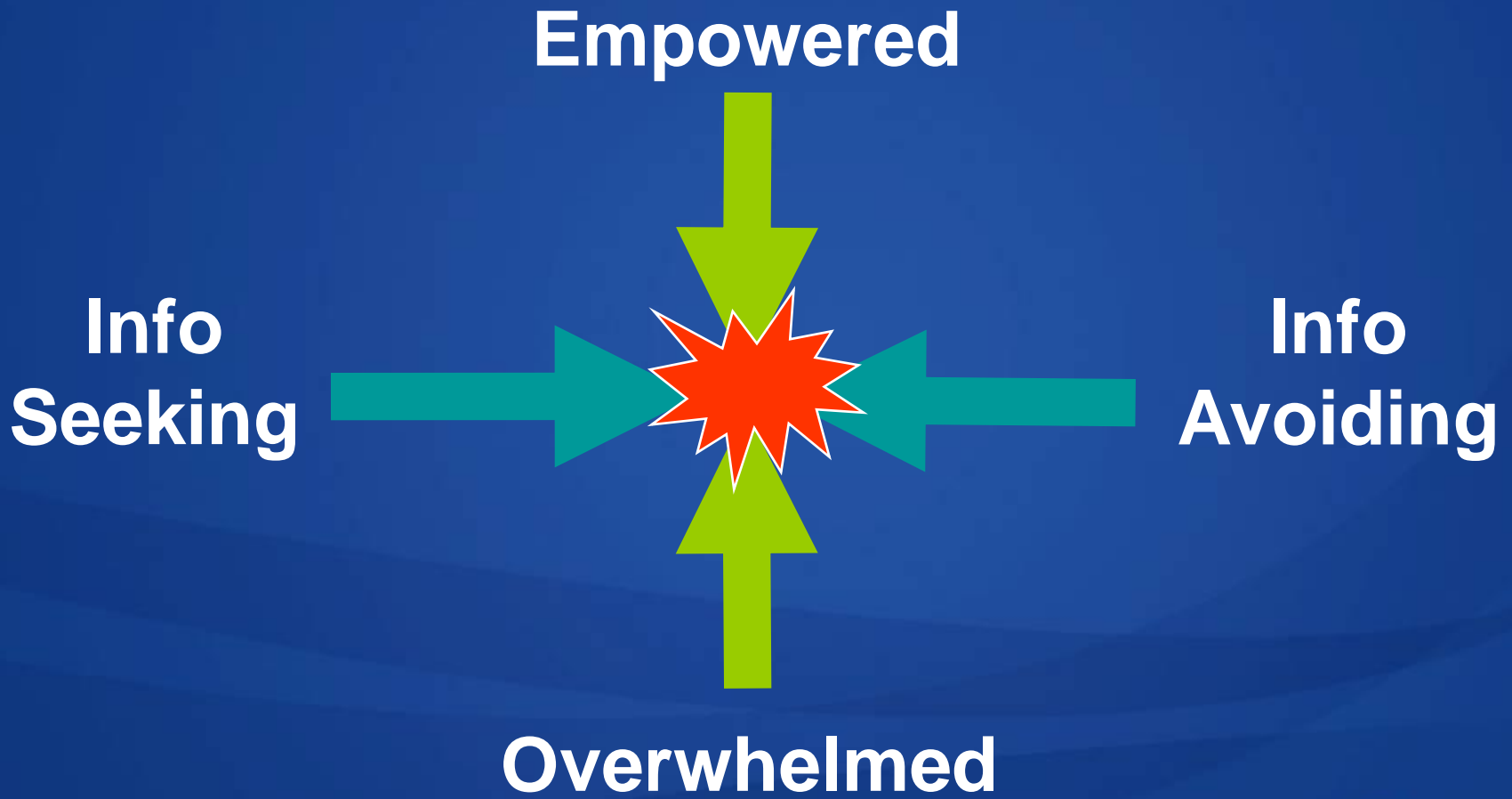




**Public Health**  
Prevent. Promote. Protect.



# Health Consumers in 2008





# Integrated Health Marketing Campaign: Seasonal Influenza Vaccination (2007 – 2008)



I'll protect my baby.

**I'LL GET A FLU VACCINE.**

Even if you're healthy, if you live with or care for people at high risk for severe complications from influenza, you should get vaccinated. Groups at high risk include infants, pregnant women, kids and adults with chronic medical conditions like asthma, diabetes, or heart disease, and adults aged 65 and older.

**DON'T GET THE FLU. DON'T SPREAD THE FLU. GET VACCINATED.**

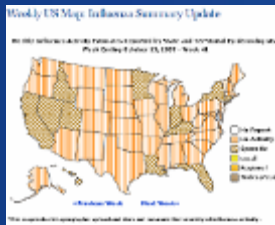
FOR MORE INFORMATION  
800-CDC-INFO

CDC

**MMWR**  
Weekly  
March 5, 2007 | Volume 35, No. 10

**Influenza Vaccination Coverage Among Children with Asthma — United States, 2004–05 Influenza Season**

In 2005, approximately 5.9% of 5 million children aged 1–18 years were reported to have current asthma (1). Children with asthma are at high risk for complications from influenza, and influenza vaccination has been determined to safely and effectively reduce rates of influenza in these children (2). Given its establishment in 1994, the Advisory Committee on Immunization Practices (ACIP) has recommended that all children with asthma aged 2–17 receive one or more influenza vaccine injections during each influenza season. However, national influenza vaccination coverage rates specifically for children with asthma have not been determined (3). Previous studies have assessed influenza vaccination rates in children with asthma at the local level using health maintenance organization and clinic group-specific information, with response rates of 19% to 47% for vaccine effectiveness in school (4,5). Another study used Behavioral Risk Factor Surveillance System (BRFSS) data to measure influenza vaccination coverage in children aged 2–17 years with one or more conditions posing them at



CDC recommends flu vaccination every year for children 6 months through 18 years.

**I GOT VACCINATED**

**DON'T GET FLU. DON'T SPREAD FLU.**

[www.cdc.gov/flu](http://www.cdc.gov/flu)

Get Children Vaccinated Against the Flu

Protect yourself, and your family from flu.

Don't let the flu slow you down. Get vaccinated.

our vaccinations.

**Whyville**

Population: 144 Million

Sign Up

What You Can Do

Get Vaccinated

Get Wireless Alerts

Flu Activity

Seasonal Flu updates sent directly to your mobile phone.

**Get Wireless Alerts**

Get Vaccinated | Wireless Alerts | Flu Activity



# Multi-Media Genomics Communication

- To increase personal genomics awareness
  - Use multiple channels to reach the public
  - Mediate message through partners
  - Make information accessible for seekers
  - Generate info demand among non-seekers
- Research the most effective channels





## Trend #2

Information sources are shifting from experts and authorities to communities and peers.



# Shift from Experts to Communities

- Internet genetics info-seeking affected by perceived accuracy, source credibility, and comfort with online genetics information
  - Bernhardt et al., 2002; 2004
- Traditional media are among the most trusted sources of information, but...
- Social media are increasingly viewed as trusted sources; “person like me” = trusted
  - Edelman, 2008



The New York Times



Traditional Media (vertical)

Most trusted = People Like Me  
- Edelman trust barometer



Aim for the "Sweet Spot"

Social Media (horizontal)



# Today's Consumer Decisions

Amazon.com: Samsung BD-P1500 1080p Blu-ray Player: Electronics - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.amazon.com/Samsung-BD-P1500-1080p-Blu-ray-Player/dp/B0014H16V0/ref=dp\_ob\_title\_ce?ie=UTF-8

The New York Times - Breaking News, ... Free Personal Finance Software, Onlin... Amazon.com: Samsung BD-P150...

### Product Description

**Manufacturer's Description -- July 20, 2008**  
Experience the blu-ray difference with the SAMSUNG BD-P1500. The BD-P1500 lets you have it all - watch your favorite DVDs and blu-ray discs or listen to CDs with the highest-quality audio.

Full 1080p resolution gives you the most outstanding HD image quality. Enjoy a richer, bolder color palette via extended gamut YCC technology. HDMI 1.3 transmission bandwidth capabilities ensure the strongest signal fidelity, while the Ethernet connection lets you easily check for the latest firmware upgrades online. Control all your Samsung AV devices from one remote, via AnyNet+ technology. And advanced audio compatibility, including DD+ and True-HD, offers premium



16.9" (W)  
3.3" (H)  
10.8" (D)

DVD (25 GB versus 4.5 GB). A dual-layer

Amazon.com: Samsung BD-P1500 1080p Blu-ray Player: Electronics - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.amazon.com/Samsung-BD-P1500-1080p-Blu-ray-Player/dp/B0014H16V0/ref=dp\_ob\_title\_ce?ie=UTF-8

The New York Times - Breaking News, ... Free Personal Finance Software, Onlin... Amazon.com: Samsung BD-P150...

### Customer Reviews

33 Reviews

|         |      |
|---------|------|
| 5 star: | (15) |
| 4 star: | (10) |
| 3 star: | (2)  |
| 2 star: | (3)  |
| 1 star: | (2)  |

**Average Customer Review**  
★★★★☆ (33 customer reviews)

Share your thoughts with other customers:  
[Create your own review](#)

#### Most Helpful Customer Reviews

103 of 106 people found the following review helpful:

★★★★★ **Fine, basic player**, June 5, 2008  
By [Kevin Moore "Kevin Moore"](#) (Natick, MA USA) - [See all my reviews](#)  
I've been using this for 2 weeks now, and it's my first blu-ray player (no PS3). The good stuff: Excellent look, not too loud, amazing picture and sound. Working ethernet and USB port. (I haven't had to download any firmware or code updates, but I'm sure it'll work fine.)

#### Most Recent Customer Reviews

★★★★★ **Nice Product**  
easy to use and has great picture in 1080 if your tv supports 1080. love samsung products. this is a great blue ray for the money.  
Published 1 day ago by Kevin M. Bennett

★★★★★ **AMAZIN**  
the samsung blu ray is well worth getting

# Today's "News"



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Hot Topics » O.J. Simpson • Steve Fossett • Economy • Debates • Fact Check • more topics »

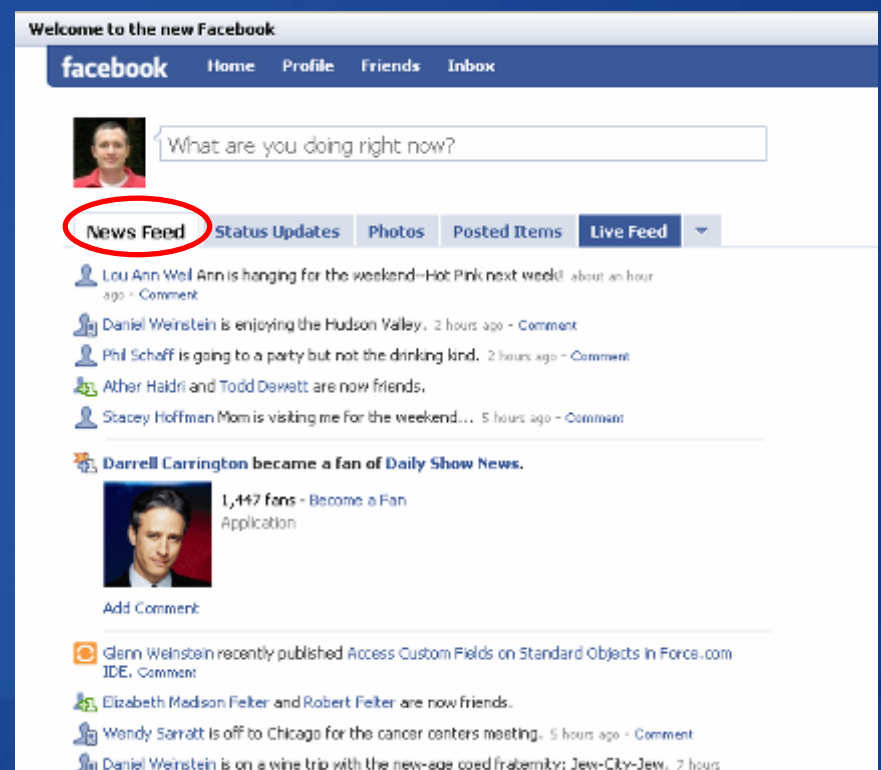
updated 4:56 p.m. EDT, Sat October 4, 2008 Make CNN Your Home Page

### Latest News

- O.J. Simpson found guilty on all counts | Videos
- U.S. helicopters collide while landing in Iraq 46 min
- Ticker: Palin says Obama pals with 'terrorists'
- Obama calls McCain's health plan 'out of touch'
- Morales: Keep U.S. anti-drug 'spies' out of Bolivia 48 min
- Europe told to act like U.S. on credit crisis
- U.S. halts plan for Iran diplomatic post, AP says
- People: Howard Stern, longtime girlfriend marry
- U.S. reports 4 pirate attacks off Somalia
- Lightning bolt tells man pumping gas
- Texas man building house with hay, mud
- Birds abandon Ike's devastation, leaving silence
- Man loses 550 lbs., gains bride
- Man kills in laws with firebomb, police say
- Naked girl snowboards get icy reaction
- U.S. says al Qaeda in Iraq mastermind dead
- IReport.com: Surviving a handshake with Obama
- CNN Wire: U.S. choppers collide in Iraq

## \$700 billion bailout: Will it work?

The \$700 billion bailout plan signed into law Friday may get banks to start lending to each other again. But it remains to be seen how long that will take to jumpstart an ailing economy.



Welcome to the new Facebook

facebook Home Profile Friends Inbox

What are you doing right now?

**News Feed** Status Updates Photos Posted Items Live Feed

- Lou Ann Wel Ann is hanging for the weekend—Hot Pink next week! about an hour ago • Comment
- Daniel Weinstein is enjoying the Hudson Valley. 2 hours ago • Comment
- Phil Schaff is going to a party but not the drinking kind. 2 hours ago • Comment
- Ather Haidri and Todd Dewett are now friends.
- Stacey Hoffman Mom is visiting me for the weekend... 5 hours ago • Comment

Darrell Carrington became a fan of Daily Show News.

1,147 fans • Become a Fan Application

- Glenn Weinstein recently published Access Custom Fields on Standard Objects in Force.com IDE. Comment
- Elizabeth Madison Felter and Robert Felter are now friends.
- Wendy Saratt is off to Chicago for the cancer centers meeting. 5 hours ago • Comment
- Daniel Weinstein is on a wine trip with the new-age coed fraternity: Jew-City-Jew. 7 hours ago



# Today's TV

CDC TV - Baby Steps: Learn the Signs. Act Early - Mozilla Firefox

http://www.cdc.gov/CDCTV/BabySteps/

**CDC** Centers for Disease Control and Prevention  
Your Online Source for Credible Health Information

Search

ABC Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

**CDC-TV**

**BABY**  
**STEPS**  
Learn the Signs. Act Early.

**Share this Video**

**Link:**  
[www.cdc.gov/CDCTV/BabySteps/](http://www.cdc.gov/CDCTV/BabySteps/)

**Embed:**

```
<embed src="http://www.cdc.gov/CDCTV/BabySteps/BabySteps_eb6_308" width="500" height="375" id="cdc" mode="transparent"></embed>
```

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Facebook | Jay M Bernhardt - Mozilla Firefox

http://www.facebook.com/home.php?ref=logo#/profile.php?id=100001111111111

Home Profile Friends Inbox

Sep 30

Write something about yourself.

**Basic Information**

Networks:  
Atlanta, GA  
Centers for Disease Control and Prevention

Relationship Status:  
Married to Sheryl Ball Bernhardt

Current City:  
Atlanta, GA

Elizabeth Madison Felter wrote at 10:15 AM  
Love the picture of Nate (how big he is!) but her... fortunately I'M not any older...;-)  
Wall-to-Wall - Write on Elizabeth's Wall

**CDC TV - Baby Steps: Learn the Signs. Act Early**  
Source: cdc.gov

Early recognition of developmental disabilities such as autism is key for parents and providers. CDC realized the impact on families and invested in a campaign to help parents measure their children's progress by monitoring how they play, learn, speak and act.

“ The latest episode of CDC-TV's series called "Health Matters" is now available. Check it out here. ”

Add Comment





# Social Media for Health Promotion



**CaringBridge** Free, personalized websites that support and connect loved ones during critical illness, treatment and recovery.

Home | Our Service | How to Help | Donate | Partners | Newsroom | About

Connection, love and support when you need it most

PLAY VIDEO

Visit a CaringBridge website

Personal Stories [View All Stories](#)

**Delivering a miracle.** Amy Taylor was pregnant with her son when she was diagnosed with breast cancer. Amy says CaringBridge "kept me going." [Amy's journey](#)

**A community of comfort.** Bob Ming passed away following a courageous fight with brain cancer. "CaringBridge not only helps the sick," explains his son, Matthew, ... [Raising my Bob](#)

Create a CaringBridge website

It's free! Get started now, or take a tour and see how easy it is.

Get Started | Take a Tour



**CDC** Centers for Disease Control and Prevention  
DEPARTMENT OF HEALTH AND HUMAN SERVICES

CONTACTING CDC.GOV

Send Message | Forward to Friend  
Add to Friends | Add to Favorites  
Bookmark Page | Mark User  
Add to Group | Kick User

Centers for Disease Control and Prevention  
1600 Clifton Rd.  
Atlanta, GA 30333, U.S.A.  
1-800-CDC-INFO  
Public Inquiries: (404) 639-3534 / (866) 311-3435

MySpace URL:  
[http://www.myspace.com/cdc\\_health](http://www.myspace.com/cdc_health)

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.

Know Your HIV Status?

**ENERGIZE YOUR LIFE**

CDC's Latest Blog Entry [\[Subscribe to this Blog\]](#)

March is Stroke Injury Awareness Month. [\(View more\)](#)

March 13 is World Kidney Day - Protect Your Kidneys. [\(View more\)](#)

Are You At Risk for Deep Vein Thrombosis? [\(View more\)](#)

Tap Water - Where Does It Come From and Is It Safe to Drink. [\(View more\)](#)

HEALTHY: A Growing Issue for Women and Girls. [\(View more\)](#)

[\[View All Blog Entries\]](#)

About CDC



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Send a friend an @tag now

Are you a great web developer? [Come work for us!](#)

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Join Now - Get Support!

DailyStrength.org is the largest, most comprehensive health network of people sharing their advice, treatment experiences, and support. Keep a wellness journal, read members' stories, and chat with new friends. Come in and explore! Join one of over 500 [Support Groups](#) now!

Popular Communities [View All](#) Latest Activity

ABCEDEFGHIJKLMNOPQRSTUVWXYZ

Mental Health | Physical Health | Personal Challenges

144 new activities | 144 new tagged | 144 new tagged



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Today's Top Postings

**"In summary, Sermo is a highly intellectual, vibrant, live community for doctors."** - [@sermonet](#) (Sermo member)

Welcome to the only online community where physicians around the nation exchange the latest medical insights with each other and improve patient outcomes - 24/7.

- Free - Always
- Hard-hitting clinical posts
- Information is safe and secure
- Physicians only

Join Sermo

Take a Tour

**Metformin use in pregnancy**  
I have a 26 year old patient currently 27 weeks gestation who has been on metformin prior to becoming pregnant. She was on 2500mg until her addition dose increased to 3000mg this week. I asked why and she said that she was having withdrawal symptoms.

**Sigmal Abcess**  
Just saw an 19 year old who came in for nasal obstruction a 3 weeks. Had been seen at Urgent Care and treated for "sinusitis" with Amoxicil and then Azelox, but it did not improve. She denies any trauma but reports it lasted about for about 4 days.

**Boz, go, erik, don't ask!**  
I saw a notice in my hospital's doctors lounge that said the USA Today had an article referencing this NEJM article. Now, although I don't consider SAND or the USA Today the bastion of strong journalism, an awful lot of people read that darn thing.

**Brown reflux + bites**  
21 yr old returning from a multiple day camping trip. C/o "possible spider bite" to left ant thigh. He states the lesion first appeared about 7 days into trip.

Sermo announces a strategic collaboration with Pfizer.



# Social Media for Genomics Communication

- To increase personal genomics awareness
  - Message through vertical & horizontal media
  - Mine horizontal media for consumer data
  - Use experienced peers as spokespeople
- Clinical personal genomics communication
  - Peer messages drive expert engagement
  - Expert messages validated horizontally
- Research vertical and horizontal balance



## Trend #3

Mass media and interpersonal communication have converged into tailoring and micro-media.



# What is Tailoring?

- "Tailoring is any combination of information or change strategies intended to reach one specific person, based on characteristics that are unique to that person, related to the outcome of interest, and have been derived from an individual assessment."

– Kreuter, MW, and Skinner, CS (2000)



# Tailoring Messaging Data Trends

- Mass media-based approaches to behavior change have had limited effectiveness
  - Snyder et al., 2004
- Enhanced relevance and salience increases likelihood of behavior change
  - Rimer & Kreuter, 2006
- Tailored messages are more likely to be perceived as relevant and salient
  - Kreuter & Wray, 2003; Rimer & Kreuter, 2006
- Tailored messages have effectively changed diet, physical activity, immunization, etc,
  - Kreuter & Wray, 2003



# Tailored Message Strategies

For all the right reasons

**Introduction**

John, we hope that as you head towards October 2, you have maintained your strong overall desire to be free from smoking... The bar chart on the right highlights where most of your motivation to quit comes from. For you, it comes in great supply, mostly from meaningful, internal reasons (the tall white bar). It's great that you are motivated by so many things you find of personal value — especially your health... Let's take a closer look at what you told us is important to you as you prepare to quit.

**FOR YOUR HEALTH**  
When you shared with us that you are very interested in quitting because you have been diagnosed with a smoking-related illness, you showed us that you are ready to make a change, no matter what the situation. Let's briefly look at what you told us about your current health picture:

- Cardiovascular disease - smoking increases blood pressure, decreases exercise tolerance and increases the tendency for blood to clot.
- High blood pressure - smoking increases the risk of vascular complications (for example, heart disease and stroke) in people who already have hypertension.

**FOR YOURSELF**  
One of the reasons you want to quit smoking is because you are tired of feeling disappointed in yourself. You aren't alone...

**FOR YOUR BANK ACCOUNT**  
We're glad to hear that you are tired of spending your money on cigarettes. Let's do some quick math. You've been spending over \$144 each month to smoke. That's over \$1757 in just one year!

**Characteristics that cause text/images to appear (based on participant survey responses):**

|  |   |
|--|---|
| Name, Quit Date                                    | Overall motivation to quit                      |
| Intrinsic/Extrinsic motivation to quit             | Self-rated reason to quit                       |
| Specific motivations within overall reason to quit | Personal Health History                         |
| Financial Loss (cigarette amount x cost)           | Framing of Feedback<br>- (Loss for this sample) |

**Your Disease Risk**  
THE SOURCE ON PREVENTION

my results: Disease Type

**Cancer**  
**Diabetes**  
**Heart disease**  
**Osteoporosis**  
**Stroke**

**Cancer—Stomach cancer**

**Results: Stomach cancer**  
Compared to a typical man your age, your risk is **above average**

**Screening Tip**  
There is no good screening test for stomach cancer.

Above average risk doesn't mean you'll definitely get cancer. It's just an estimate based on your risk factors, some of which you may not be able to change. If you have any concerns, talk to a doctor.

Because you're under 40, your risk result is not as accurate as it is for those who are 40 and over. [More >>](#)

**8 ways to prevent disease**

**What is...?**  
Prevention  
Risk  
A Screening Test

**How to...**  
Estimate Risk

**Community Action**

**Your risk is above average**

**Watch Your Risk Drop**  
You have 2 things you can do to lower your risk. To see what your risk could be, click on a box and watch your risk drop:

- Stay cigarette free. [\[Tips\]](#)
- Cut back on salt. [\[Tips\]](#)

Stomach cancer has few controllable risk factors. But it's still important to know your risk and how these factors relate to it. Choose a healthy lifestyle to protect against stomach cancer as well as other diseases.



# Mobile Health Communication



**1-800-CDC-INFO**

**Texting4Health Conference**  
Using SMS to Motivate Behavior Change

**Know your HIV status?**  
Text: Your Zip Code  
To: KnowIt or 565948  
To find HIV Test Centers near you.  
[www.hivtest.org](http://www.hivtest.org)



# Mobile Tailored Interventions

- Weitzel, Bernhardt, Usdan, et al. (2007)
  - Used mobile devices for daily surveillance
  - In RCT, treatment group got SMS messages tailored to drinking status and risk behaviors
  - Significant reductions in alcohol use and negative outcome expectations compared to comparison group receiving non-tailored SMS
- More research on mobile applications



# Tailored Genomics Communication

- Goal: Provide genomics information, tests, and tools where, when, and how people (or patients) want them and need them
- Can tailor on demographics, psychographics, psycho-social beliefs, communication factors, individual abilities, individual preferences, etc.
- Research most effective tailoring variables



# Tailoring on Personal Genomics?

- "Tailoring is any combination of information or change strategies intended to reach one specific person, based on characteristics that are unique to that person, related to the outcome of interest, and have been derived from an individual assessment."

– Kreuter, MW, and Skinner, CS (2000)



# Reviewing the Trends

- Multi-media messaging for reach
- Expert and peer messages for relevance
- Tailored messages for impact



# Thank you from the CDC National Center for Health Marketing!

[www.cdc.gov/healthmarketing](http://www.cdc.gov/healthmarketing)

[jbernhardt@cdc.gov](mailto:jbernhardt@cdc.gov)

