



# HEALTH MARKETING

for a Healthier Nation and a Healthier World



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# Customer-Centered and Cutting Edge



Although the United States spends more on health than any other country in the world, we are less healthy than most developed nations. In fact, the United States ranks far behind many of the world's healthiest nations. Perhaps one reason for our poor performance is inherent in our traditional approach to health care: as a country, we have invested a great deal in treating diseases but have under-invested in preventing them. Although most people agree that protecting people's health before they become ill is the wiser practice, we as a nation have yet to commit to this principle.

The Centers for Disease Control and Prevention (CDC) is committed to health protection, which includes promoting good health, preventing disease, and being prepared for threats. For us to achieve these goals, all people need to have access to health information and interventions that will enable them to take steps to protect their health. Health marketing, with its focus on creating, communicating, and delivering health information and interventions, is essential to meeting this need.

To communicate health information and to market intervention products in ways that genuinely motivate people, health marketing draws on the social and behavioral sciences and from the scientific fields of health promotion, social marketing, and health and risk communication. Health marketing makes information highly accessible and customer-centric so that people can find health information and interventions when they need them, where they wish to find them, and in the ways they prefer to engage with them. In recent years, this has meant that health marketing has had great opportunity to employ its expertise in innovative message delivery using new technologies, such as mobile devices, streaming media, and web-based communications. In short, health marketing ensures that CDC's health information and interventions are "people-centered."

And more than that, health marketing delivers CDC health information and interventions in ways that inspire people to want to make good health choices and share their enthusiasm with others. In many of the success stories you'll read here, you'll see how health marketing is changing our nation's mind-set about health. For instance, how "tweens" at the social network, Whyville, took charge to get their virtual flu vaccination and then encouraged their grandparents to do the same. Or how users at CDC.gov use health greeting cards to spread CDC's health protection messages to friends and family.



I am heartened to see that the desire to make health protection central to the discussion about health appears to be growing throughout our country. In 2008, CDC partnered with the Association of State and Territorial Health Officials (ASTHO) and the National Association of County and City Health Officials (NACCHO) to create the Alliance for the Healthiest Nation. Partners who join the alliance pledge to act at every level to foster good health in our nation. In less than one year, hundreds of organizations and individuals have taken this pledge and are now making good on their promise.

This is just the beginning. CDC and its partners are now spreading their health protection messages throughout the country and around the world. To find out how you can get involved, visit [www.cdc.gov](http://www.cdc.gov) or call 1-800-CDC-INFO for tools and resources. To learn more about the Alliance for the Healthiest Nation, visit [www.healthiestnation.org](http://www.healthiestnation.org).

Thank you,

Jay M. Bernhardt, Ph.D., M.P.H.

Director, National Center for Health Marketing  
Coordinating Center for Health Information and Service  
Centers for Disease Control and Prevention

To learn more about the  
Healthiest Nation Initiative,  
visit [www.healthiestnation.org](http://www.healthiestnation.org).

# CDC's Scientific Voice Speaks Through the Pages and the Podcasts of *MMWR*

At CDC, the focus is not only on scientific excellence, but also on the essential spirit that is CDC—to protect the health of all people. Yet too often the gap between relevant research and its availability to the public creates a barrier to timely action. As the voice of CDC science, the *Morbidity and Mortality Weekly Report* (*MMWR*) disseminates state-of-the-science research and recommendations to all health stakeholders to inform policy and practice at the national, state, and local levels. The goal of *MMWR* is to publish accurate, timely, and reliable science-based public health information—in short, to communicate CDC science to the world.

As the nation discusses transforming its health system by investing more in health protection through prevention, health promotion, and preparedness, *MMWR* serves a dual role. It provides relevant information about public health concerns and fills the gap between research and practice with recommendations for action. *MMWR*'s chronicling of CDC's response to disease outbreaks and recommendations to address risk led directly to efforts like the Vaccines for Children Program, credited with helping to achieve record highs in child vaccination rates. It also led to the mandatory fortification of cereal products, which reduced neural tube defects, such as Spina Bifida, among infants. The practice went on to be adopted in more than 40 countries.

Some of CDC's public health milestones that *MMWR* has communicated include the following:

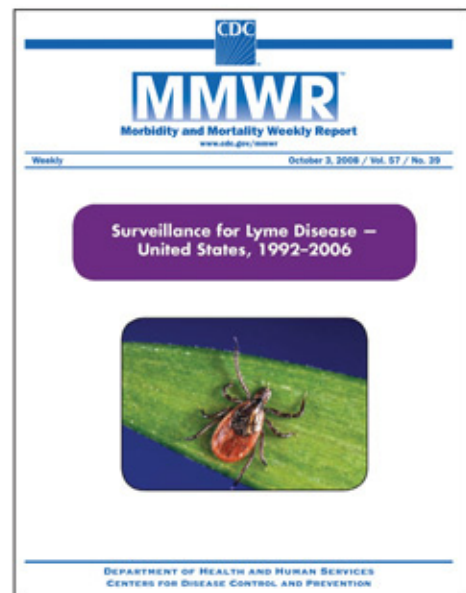
- 1981: first report on AIDS.
- 1982: isolation of *Escherichia coli*.
- 1992: recommendation of folic acid to reduce neural tube birth defects.
- 1992: framework to assess the effectiveness of disease and injury prevention.
- 1999: first outbreak of West Nile encephalitis.
- 2000: guidelines for preventing opportunistic infections.
- 2001: report of largest outbreak of Ebola virus.
- 2006: report on increased vaccination coverage among children.

Today, advances in communication technology have greatly enhanced *MMWR*'s ability to communicate study results and recommendations directly to the public. In 2006, *MMWR* launched a podcast series, "A Cup of Health with CDC," the first and only CDC weekly podcast to translate professional information from the publication for a lay audience. The series averages more than 32,000 downloads each month.

*MMWR* is the voice of CDC science.



*MMWR*'s chronicling of CDC's recommendations to address risk led directly to public health efforts like the Vaccines for Children Program.



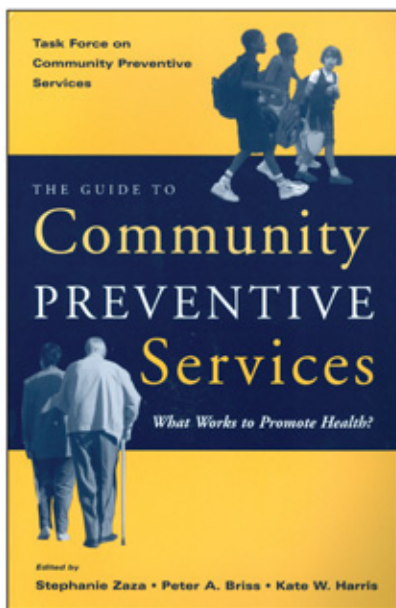


# The Path to a Healthier Nation Is Through CDC's *Guide to Community Preventive Services*

Of the approximately \$2 trillion that the United States spends on health care, only about 5% goes to preventing disease, disability, and injury.



The *Community Guide* identifies proven ways communities across the nation can improve health and health value.



One of the harsher realities of public health is that many cancer deaths could be avoided if only cancer screening rates increased among those at risk. Another is that the alarming rise in diabetes could be curbed if only there were a greater national focus on prevention. Yet, of the approximately \$2 trillion that the United States spends annually on health care, only about 5% goes to preventing disease, disability, and injury. Policy makers, health professionals, and communities are continually challenged to discover ways to achieve the greatest public health impact with limited resources.

CDC's *Guide to Community Preventive Services*, also known as the *Community Guide*, identifies proven ways communities across the nation can improve health and health value. The recommendations are developed by the non-federal, independent Task Force on Community Preventive Services and are based on state-of-the-science systematic reviews conducted by *Community Guide* staff and their partners.

Currently, the *Community Guide* contains more than 200 recommendations and findings. In 2008, twenty-seven new recommendations and findings were added, including recommendations for cancer screening, obesity, asthma, adolescent health, influenza vaccinations, and depression. In July 2008, *Community Guide* recommendations on interventions for increasing screening for breast, cervical, and colorectal cancer were published in the *American Journal of Preventive Medicine*. CDC then disseminated copies of the publication to managers of the National Comprehensive Cancer Control Program, the National Breast and Cervical Cancer Early Detection Program, and the National Cancer Institute's Cancer Information Service.

CDC also partnered with university researchers to develop interactive workshops for those managers about the value, credibility, and usefulness of the *Community Guide* and how to use the guide to develop programs to meet local needs. Workshops were tailored to each group. Afterwards, participants reported that they found the workshops practical and relevant and that they appreciated the *Community Guide's* attention to real-world applicability and the needs and constraints of local users.

The *Guide to Community Preventive Services* may be accessed at [www.thecommunityguide.org](http://www.thecommunityguide.org).

# Expanding Evaluation for CDC's Health Marketing and Communication Programs

Health marketing and communication activities are often part of multi-component public health interventions. Yet, measuring how marketing and communication alone influence behavior change and health outcomes can be difficult. Evaluation helps provide data that can be used to refine and improve CDC's communication and marketing activities.

Recently, CDC solicited proposals from internal programs that wanted to evaluate their health communication and marketing efforts but did not have an evaluation plan. So far, CDC has funded the development of six evaluation plans of health communication and marketing programs, while the programs themselves are committed to funding the implementation of the plans. In 2009, CDC will follow up to assess how many plans were implemented, if they were implemented fully, and with what results.

In April 2008, CDC convened the first-ever Emergency Risk Communication Evaluation Summit. The summit brought together international partners and scholars with CDC's Emergency Communication System (ECS). Seven leading scholars in emergency risk communication reviewed CDC's practices and protocols. Representatives from health and emergency ministries and agencies worldwide participated in working sessions with CDC's ECS team to develop outcome measures for emergency risk communication. Based on the findings, CDC is developing an evaluation plan to be implemented in the next year.

CDC also conducted a health marketing needs assessment among health communication and health education specialists and program managers to measure their use of CDCynergy (an electronic, health communication planning tool) and to assess their communication and marketing planning needs. Of those surveyed, about half had used a version of CDCynergy and about 40% used the tool either regularly or occasionally. Among those who had never used CDCynergy, only 16% were unaware that CDCynergy exists. The majority, however, reported that they do not use CDCynergy because either they had not planned a health communication program that allowed them to use it, or they did not know enough about planning a communication program to use CDCynergy effectively. Survey respondents also revealed they were interested in shorter and more interactive programs to aid in health marketing and communication planning. In response, CDC is working to develop such programs.

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# Advancing the Science of Health Marketing Through CDC Centers of Excellence



Researchers discovered a disconnect between what teens perceive to be the functional reasons for smoking and the messages in anti-smoking public service announcements.



Advancements in health marketing science are key to understanding and encouraging desired behaviors.



The University of Georgia



University of Connecticut

**W** UNIVERSITY of WASHINGTON

In-depth audience analysis and improved message effectiveness are often critical components to the success of public health interventions. Because advancements in the health marketing sciences are key to understanding and encouraging desired behaviors and to improving intervention effectiveness, CDC established the Centers of Excellence in Health Marketing and Health Communication through the CDC Health Protection Research Initiative. Three Centers of Excellence are funded through 2009. Some of their accomplishments are highlighted here.

The Center for Health Communication and Marketing at the University of Connecticut focuses on understanding the relationship between at-risk populations and health marketing strategies, particularly strategies that use new media. One recent research project they conducted to extend the reach of HIV and STD prevention activities was an adventure video game for out-of-school young adults. Another research project, to prevent party drug use among urban youth, trained local artists to create music with pre-tested messages and to organize substance-free shows for 14–20-year-olds.

The Southern Center for Communication, Health and Poverty at the University of Georgia researches the role of health communication in promoting healthy behaviors among economically disadvantaged people in the Southeastern United States. In a recent study, their researchers discovered a disconnect between what teens perceive to be the functional reasons for smoking (e.g., weight loss and stress relief) and the messages in anti-smoking public service announcements. Researchers concluded that message designers should not only generate messages to address these functional reasons for smoking, but also should promote behaviors that motivate teens to take more control over their health.

The Health Marketing Research Center at the University of Washington brings together scientists and community partners to develop marketing and communication interventions that prevent and control chronic diseases. In a recent intervention, their researchers worked with emergency medical responders to motivate low-income adults to prevent hypertension. Among adults with limited access to health services, hypertension often goes untreated because it shows few, if any, symptoms. Many of the patients that responders identified as having high blood pressure readings indicated that they would be motivated to seek referral and treatment options. In another intervention study, researchers work with the American Cancer Society and mid-sized employers to market 17 disease prevention and control practices for use in workplace policies and programs.



# CDC Convenes Health Communication, Marketing, and Media Professionals



In August 2008, the second annual National Conference on Health Communication, Marketing, and Media was convened in Atlanta, Georgia. The conference was a collaborative effort between CDC, the National Cancer Institute, and the National Public Health Information Coalition. It provided a professional forum for researchers and practitioners to share scientific and practical insights, research findings, and best practices in the field.

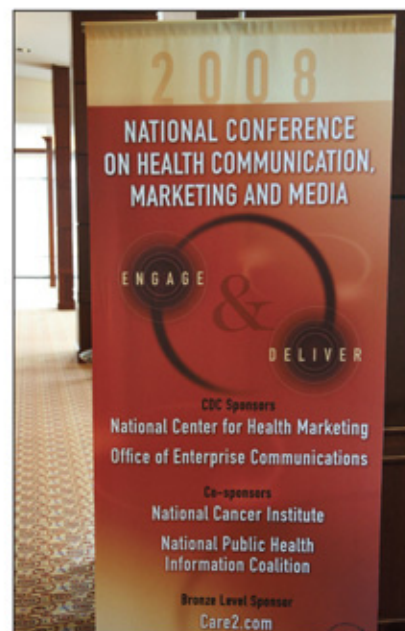
The theme of the conference, “Engage and Deliver,” highlighted how public health professionals can engage with partners and the public to develop and disseminate health information. Participants had the unique opportunity to engage in dialogue with leaders in the field to help shape the future of health communication and marketing. The conference attracted more than 110 speakers and 66 poster exhibitors. Topics included health literacy, partnerships, social media, and emergency risk communication. Nearly 1,000 participants attended, more than double the number of attendees from the previous year. Attendees included academics and public health researchers and practitioners from the governmental and private sectors. Attendees represented more than 290 organizations and 14 countries and territories. Conference evaluations revealed that more than 90% of respondents said they would attend the conference in the future and would recommend the conference to others.

Discussions held during the conference led to the creation of an online social network and a professional listserv so that participants could continue to discuss how to advance the fields of health communication and social marketing. Dr. Brad W. Hesse, Chief of Health Communication and Informatics Research Branch at the National Cancer Institute, said, “Never has it been more important for communication scientists and health marketing practitioners to come together to tackle the challenges of a new media environment.” Hesse went on to say that “the energy, the passion, and the intellectual commitment for using evidence-based programs to expand the positive impacts of health communication at a time of extraordinary opportunity were apparent from the program and from the participants.”

Conference attendees represented more than 290 organizations and 14 countries and territories.



Participants had the unique opportunity to engage in dialogue with leaders in the field to help shape the future of health communication and marketing.



## CDC Connects “Leaders-to-Leaders” for a Healthier Nation

“The day we elect our mayors based on the health status of the community, at the same time we are thinking about the number of potholes and the educational system in the community, is the day that we will have transformed our health system.”

Dr. Julie Gerberding, Director,  
CDC

As of 2007, 41 million Americans had no health insurance, approximately 24 million had diabetes and, out of that number, nearly 6 million were undiagnosed. CDC estimates that among the one million Americans living with HIV, nearly one-third are unaware that they are infected with the virus. With such staggering numbers, CDC understands the importance of joining forces to create a healthier nation. In 2008, CDC, in collaboration with the National Association of County and City Health Officials (NACCHO) and the Association of State and Territorial Health Officials (ASTHO), held the third annual Leaders-to-Leaders Conference in Washington, D.C.

The theme, “Shaping Policy for a Healthier Nation,” was inspired by the Alliance for the Healthiest Nation, a public/private partnership that began as a collaborative effort between CDC, NACCHO, and ASTHO. The alliance capitalizes on the unique role of governmental public health as a “connector” that can leverage existing relationships into a unified effort and that can link the idea of public health with health equity, social responsibility, national security, and other economic and political issues that bear on public policy.

The conference brought together leaders in business, government, education, and the non-profit and faith-based communities. Early on, participants clarified that it takes more than policy to create a healthy nation, because individuals must participate. Roundtable discussions explored policy and individual responsibility. Other panel discussions examined technology and the ways people engage health information. Panelists highlighted the need for policy changes to benefit those with limited access to health information. Todd Wiseman, Manager of Google’s Federal Civilian Enterprise Team, explained, “Over 80% of the world today does not have an e-mail address or internet access, so providing information via mobile devices and having it interoperable is key.”

Participants agreed that although the challenge of becoming the “Healthiest Nation” seems daunting, it is possible. As Dr. Nick Baird, Executive Director of the Alliance for the Healthiest Nation, explained, “We must change how we define a successful health system, from one that measures disease and ‘unhealthiness,’ to one that measures health by engaging users of the system.” He went on to note that the change must emphasize “proactive, prevention-focused, national discussion” and provide “specific actions [people] can take immediately.”





# CDC Expands Its Communication and Engagement With Partners

Partnerships are vital to advancing public health. CDC developed the Partnership Portal to serve as the agency's web-based entry point for its partners to access information about CDC's partner activities, partner organizations, and resources. Because the portal connects organizations affiliated with multiple sectors, partners can gain access to new audiences they might not have been able to reach before. In addition, the portal provides CDC's most up-to-date and accurate health information to its partners.

The portal also features a partnership database, which contains information on more than 375 organizations. Partner organizations can use the database to update their own data, including their contacts, goals, mission statements, and the sectors specific to their organizations. Partners can also access the database to connect with each other. With the click of a button, partners are able to retrieve contact information and discover other information about other partners.

As part of an effort to strengthen partner engagement, CDC has also established CDC Partnership Matters, a biweekly e-mail update that reaches more than 7,500 subscribers. Information for the update is developed in a joint effort between internal and external CDC partners. Content is selected based on current public health issues and their relevance to CDC's partners. Some articles are selected to coincide with health observances, such as Men's Health Week. Others focus on partner-specific information. CDC Partnership Matters also features a calendar of upcoming events, personnel changes, reader feedback, and historical facts about CDC. Content found in the update is also posted on the CDC Partners web page.

To access the Partnership Portal and to subscribe to Partnership Matters, please visit [www.cdc.gov/partners](http://www.cdc.gov/partners).

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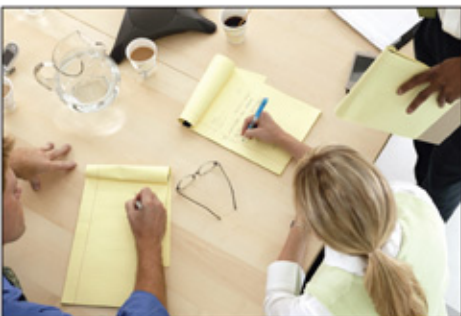


# CDC Leverages Graphic and Writer-Editor Expertise to Translate Public Health Information

The Graphics Services Council helps make CDC graphics, an already highly-rated service, even better.



Writer-editors work on products to ensure that CDC science is translated into appropriate and consistent products for professionals and the public.



In its efforts to create universal access to science-based graphics and writer-editor services within CDC, while controlling costs, CDC recently centralized these services. Both programs are important to the critical role that scientific translation plays in producing effective health information products and programming for professionals and the public.

To ensure that graphics services meets the needs of scientists and professionals across the agency, CDC launched the Graphics Services Council (GSC) to empower stakeholders to make recommendations that strengthen graphics services. The council, which began meeting in May 2008, provides a forum to foster collaboration and communication between internal program clients and graphics services providers. In its first two meetings, the GSC addressed how to improve product quality, create a more cost-efficient staff model, and how to leverage current resources to expand service offerings or to retain current offerings in light of limited budget resources. CDC Medical Officer and GSC member, Dr. Jane Kelly, shares, "This multidisciplinary council offers me a tremendous opportunity to brainstorm about the challenges I face in bringing new health communications products to the public."

The Writer-Editor Services Branch, established in February 2007, was designed to ensure that all CDC centers had access to writing and editing support consistent in subject matter, style, and format. Writer-editors have broad backgrounds and far-ranging expertise, allowing them to provide centers with a wide variety of services. Every day, writer-editors work on products like fact sheets, booklets, scientific journal articles, and video scripts, ensuring that CDC science is translated into well-written, accessible, and consistent products for the public.

Writer-editor services can be tailored to suit a program's needs. For instance, writer-editors can copyedit or proofread material or perform more in-depth services, such as web editing, substantive editing, and production editing. In addition, writer-editors can write documents and provide editorial or publishing consultation. In 2009, a Writer-Editor Services Council will be established, and both the Writer-Editor Services Council and the GSC will be charged with expanding the role these services play in improving CDC's scientific translation of knowledge to action.

# CDC.gov: Meeting the Demands of an Increasingly Wired World

Studies have shown that more Americans seek health information on the internet than from any other source. This challenges science-based, health information producers to meet the demand for information using digital channels. One way CDC has met this challenge is through CDC.gov, CDC's main website. CDC designed the site scientifically and systematically and put it through extensive user testing. Visitors come to CDC.gov to find credible health information, most often about disease risk, data trends, and prevention information. Researchers who have used CDC's site describe the features as an opportunity for the public to "begin a conversation" with CDC professionals and scientists.

In order to meet the public's demand for a variety of public health topics, the CDC.gov web team collaborates with centers across the agency to develop feature articles on many topics, including health and safety issues, surveillance reports, and prevention messages. eHealth marketing professionals and public health scientists work together to present data and information in clear, concise, and meaningful terms for the general public. Since April 2007, more than 250 features have been posted and have received more than 1 million page views. The most popular features have been about Methicillin-resistant *Staphylococcus aureus* (MRSA), an infectious disease that gained national attention in the last few years. One of those features, about MRSA in schools, netted more than 500,000 page views, and another, about MRSA in health care settings, was viewed nearly 70,000 times within a two-week period.

Another popular feature on CDC.gov is the Data & Statistics resource, which offers a snapshot of trend and surveillance data on a variety of health topics. This feature provides the public with access to geographical, epidemiological and, oftentimes, physiological data for a given disease or health issue. Fifty-one unique Data & Statistics features have been published since the feature's launch in April 2007 and have received collectively almost 1 million page views.

CDC's web presence has gained national recognition as a credible and easily accessible resource. In 2008 alone, CDC.gov received more than 490 million page views. Site features have been credited and referenced by many national organizations, academic institutions, and professional networks, including Columbia University, the Discovery Health network, the Food and Drug Administration, Fox Media, NIH MedlinePlus, and the *New York Times*. Also bloggers and social networkers often link to the agency's health content. Other users at those sites can then pass along CDC's health information to others, thereby aiding CDC in disseminating credible, reliable public health information.

In an increasingly wired world, CDC.gov's feature articles provide a high-profile platform for health and safety issues.



Since April 2007, more than 250 web features have been posted and have received more than 1 million page views.





# CDC Goes Viral With New Media to Spread Flu Prevention

MySpace users can copy the CDC flu badge from CDC's MySpace page and paste it into their own social network pages.



A CDC widget containing the Weekly Influenza Surveillance Report map allows users to view the spread of influenza by state over time.



To extend the reach of its public health information efforts, CDC is using digital media technologies to supplement traditional approaches. The recent advances in communication technologies extend from interactive websites, streaming video and audio podcasts, virtual worlds, and mobile computing with enhanced telephone and data features. CDC uses these channels to disseminate health information and scientific data.

One example of a CDC effort that benefited from the far-reaching capacity of new media was the Seasonal Flu Vaccination Campaign. As part of the campaign, CDC hosted a webinar for parents in order to empower this influential audience to obtain vaccinations for themselves and their families. The participants, many of whom are bloggers, posted comments and screenshots of the webinar to their own blogs and social network sites.

Through its presence on MySpace, CDC can reach diverse audiences with strategically placed health messages and resources. In 2007, MySpace ranked as the third most-viewed domestic website behind Google and Yahoo!, and it has consistently ranked as a top global site. As part of its seasonal flu campaign, CDC encouraged MySpace users to share the "I Got Vaccinated" message with their online networks. With just a few clicks, users could copy a graphic badge from CDC's MySpace page and paste it into their own social network pages and blogs. CDC also invited other agencies and web partners to add the "Get Vaccinated" badge to their websites and blogs. The badge links to CDC's seasonal flu web page where users can find statistics and prevention information. To further brand the campaign, CDC added "I Got Vaccinated" badges to all of its related scientific web pages and to CDC Island on the Second Life virtual world site.

Interpersonal communication within an individual's social network is often key to bridging the behavior change gap between awareness and action. To build on the public health message dissemination already occurring among social networks, CDC launched the electronic cards, Health-e-Cards, so site visitors could share CDC's health messages within their own networks. Site visitors could choose from seven flu-themed cards. Through CDC's website and iTunes, users could also access audio or video podcasts about the importance of obtaining a flu vaccine.

CDC also offers site visitors an online seasonal flu activity map which provides surveillance data by geographic area, including reports on the severity and spread of influenza. The map enables users to scroll through weekly trend data and view domestic and international flu activity. Within a five-month period, the map was viewed nearly 350,000 times. To expand the use of this resource, CDC released the first Google Gadget that allows users to include these flu updates on their personal and professional home pages.

## CDC Is Streaming Health With the Launch of CDC-TV

In the past few years, watching and downloading online videos has become one of the most common behaviors among internet users. During this time, CDC's broadcast activities have evolved from instructional films and distance learning programs to highly-produced, direct-to-consumer video and audio products.

In early 2008, CDC took a different approach to media-based health marketing by developing and launching CDC-TV. Inspired by the popularity of video and file sharing sites like YouTube, CDC developed CDC-TV to feature consumer-oriented health, safety, and preparedness videos. The videos are highly accessible, high-quality program segments designed to provide audiences with accurate information about CDC's scientific and health findings and recommendations.

CDC-TV now serves as the agency's official video sharing site to showcase health videos for the general public. CDC-TV can be accessed at the agency's website or at YouTube, and users can view videos directly or download them to watch later or share with others. The premier series on CDC-TV, "Health Matters," was designed to provide viewers with insights into health issues, information about CDC research and programs, and healthy ways to address the issues raised in the video segments. The first segment, "Break the Silence: Stop the Violence," was developed with the National Center for Injury Prevention and Control to address teen dating violence. The video shows real parents and teens discussing the problem of dating violence and shares evidence-based information on how to prevent a violent situation from occurring or escalating.

Since its launch in early 2008, CDC-TV has been well received by the public. Below are a few comments that the CDC-TV producers have received:

"Great resource...a lot of valuable information packed into four minutes, but still easy to grasp. I like that you have very specific direction for parents."

"I often send out community information, events, workshops, conference information, and recently sent your Break the Silence video to my e-mail list which consists primarily of afterschool programs, schools, and health care providers. Because I've been doing this for the past two years, I rarely receive comments. However, your video intrigued several programs who all stated they will be using the video to facilitate and introduce conversations about this sensitive subject."

For more information and to see the videos, visit [www.cdc.gov/CDCtv](http://www.cdc.gov/CDCtv).

The goal of the "Health Matters" video series is to provide viewers with insights into health issues, information about CDC research and programs, and healthy ways to address the issues raised in the videos.



"Online video is one of the best tools we have to reach a large number of people and help them make science-informed health decisions."

Dr. Jay Bernhardt, Director,  
CDC National Center for  
Health Marketing



# CDC Is Always Listening and Answering at CDC-INFO

CDC launched CDC-INFO to provide the public with science-based information that is free, timely, reliable, and conveniently accessible.

**About CDC-INFO**

**ABOUT CDC-INFO**  
Inquirers can request health information by calling 1-800-CDC-INFO (1-800-232-4636) where a brief recorded menu offers a short selection of options and directs callers to the appropriate level of expertise. A three-tiered response system allows CDC-INFO Customer Service Representatives and medical professionals to appropriately handle telephone and email inquiries of varying levels of complexity and sensitivity. In addition, a correspondence team responds to all email inquiries. Postal mail responses will be integrated into the system in the future.

**Customer Satisfaction Results**  
October 2007–February 2008

- 98% Rate CDC-INFO is a reliable source of information (n=822)
- 95.8% said that what they learned led them to want to change behavior
- 97.4%

**CDC-INFO Services**

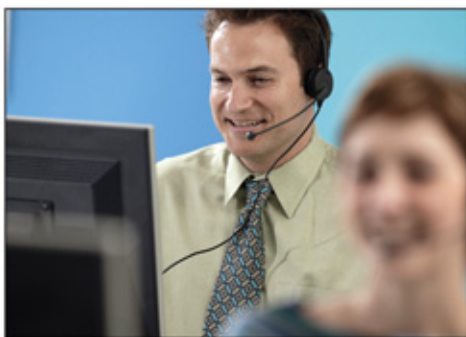
Statistic (FY 2007)	Total
Telephone Calls	377,205
Total Email Volume	48,503
Total Publications (over 800-800)	1,461,723

**CDC-INFO Surge Response**

- CDC-INFO provides response capacity for public and healthcare provider inquiries in emergency and natural disaster events.
- CDC-INFO serves as the contact center for DHS resources in the event of pandemic flu or other disease outbreaks.
- CDC-INFO extends state and local responder capacity during high volume and after hours inquiries.
- CDC-INFO offers for a response capacity of approximately 10,000 calls per day with an average wait time of 3 minutes—based on the American Red Cross experience during Hurricane Katrina.

**Support**

Since its launch, CDC-INFO has responded to more than 1.7 million telephone and 140,000 e-mail inquiries.



For people who are struggling with a painful, serious, or life-threatening health issue, or for those who have been impacted by an unexpected life event, health information that is credible, accurate, and timely can be life-changing or even life-saving. Although health information is widely available on the internet, those sources may not always be accurate or scientific; in addition, millions of Americans do not have internet access. Although many people might prefer to speak directly with a health professional, such resources may not be available as an immediate course of action. To fill this gap, CDC launched CDC-INFO in 2005 to provide the public with science-based information that is free, timely, reliable, and conveniently accessible.

CDC-INFO serves as CDC's only direct-to-and-from-consumer health marketing resource that allows individuals to contact CDC with their questions and concerns about health issues or events. CDC-INFO's trained operators are available to answer telephone and e-mail inquiries 24 hours a day, 7 days a week in both English and Spanish. The service also handles telecommunications for the hearing impaired. CDC-INFO regularly receives inquiries from the general public, medical providers, and public health professionals. Since its launch in 2005, CDC-INFO has responded to more than 1.7 million telephone calls and more than 140,000 e-mail inquiries.

CDC-INFO also administers a range of related services, including the following:

- Managing and warehousing CDC's publications inventory, including overseeing distribution for more than 28 million publications.
- Collecting audience data to help programs develop targeted strategies to address health issues.
- Providing communications support during natural disasters and disease outbreaks.
- Supporting media events, such as the media coverage surrounding autism and vaccinations in early 2008.

CDC-INFO plays a critical role in national emergency preparedness and response activities, including supporting information and communication activities for many significant health events and national emergencies, such as Hurricane Katrina (2005), the Rhode Island meningitis outbreak (2006), the *Salmonella*-tainted peanut butter recall (2007), the drug-resistant tuberculosis outbreak (2007), and the *Salmonella* Saintpaul and *E. coli* activations (2008). CDC-INFO is also a uniquely positioned public health marketing resource because users are able to talk for free to a real person which, in times of duress, can be a strong comfort. Recently, when a customer service agent was completing a call, the caller wished to know her name. She explained that CDC-INFO policy prevented her from giving her name. To that the caller simply replied, "Then I'll call you Hope, because that's what you've given me."



## CDC Goes Mobile to Help Eradicate HIV/AIDS

In its ongoing efforts to address the domestic and global HIV/AIDS crisis, CDC works with and provides leadership to community, state, national, and international partners in surveillance, research, prevention, and evaluation activities. Tracking HIV trends is challenging and depends on several factors, such as how often people are tested, when during the course of their infection they are tested, whether and how test results are reported to health departments, and how case reports are shared with CDC. Among the one million Americans currently living with HIV, CDC estimates that nearly one-third are unaware that they are infected with the virus.

To raise awareness about HIV/AIDS, December 1 was established as World Aids Day. Public health organizations around the world recognize the day and encourage people to get tested. In 2007, to observe World AIDS Day and to reach some of the 240 million mobile phone users within the United States, CDC collaborated with AIDS.gov and the Kaiser Family Foundation to develop a mobile phone-based HIV test locator. The mobile KnowIt Campaign allowed users to send their zip codes via text message to the KnowIt contact number (566948) and, within seconds, receive a text message that identified an HIV testing site near them. Users could also access the online testing database at [hivtest.org](http://hivtest.org) to find testing centers.

In addition to mobile messaging, CDC developed television and radio spots to promote the KnowIt Campaign. The agency also invited partners, grantees, and CDC website users to send free electronic health greeting cards and download graphic buttons that commemorated World AIDS Day and promoted HIV testing. CDC also provided online ads to health-related websites, including WebMD, a health information site that receives more than 17.1 million visitors a month.

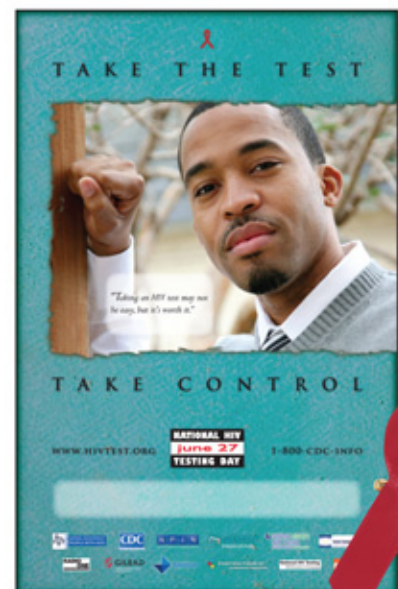
In 2008, for the first time, CDC used social networks like MySpace, to promote HIV testing and World AIDS Day activities. CDC developed a series of graphical badges which were promoted on the agency's MySpace page. Users were invited to copy the badges and paste them into their own MySpace pages or other social network profiles. To further engage mobile audiences, a variation of the traditional public service announcement, the personal public service announcement (PPSA), was developed specifically to target young people. PPSAs are customized for use on personal media devices, like mobile phones and MP3 players.

CDC's 2008 National HIV Testing Day PPSA marked one of the agency's first health marketing interventions to use peer-generated content to promote healthy behaviors. After receiving training and approval from an expert panel, student teams from Temple University, the University of Georgia, and the University of South Carolina produced short videos that users could download to their mobile phones. Because social network sites, online games, video sharing sites, and mobile phones are fixtures in youth culture, CDC's use of new media and mobile technologies affords a great opportunity to reach young audiences.

For the first time, CDC used social networks, like MySpace, to promote HIV testing and World AIDS Day activities.



The mobile KnowIt Campaign allowed users to text their zip codes and within seconds receive a text message that identified an HIV testing site near them.



# CDC Studies Teens to Inform Targeted Health Marketing Campaigns

The challenge of targeted health marketing for teens is that adolescents are notably difficult to reach and persuade with health messages.



To develop principles for influencing teen health behavior successfully and to increase the health impact of its programs for teens, CDC formed the Adolescent Communication Project.



More than we might wish to admit, our teens are at risk for disease and injury. For example, the 2005 CDC Youth Risk Behavior Survey found that within the month before survey administration 3.6 million teens had used tobacco products and 45% had at least one drink of alcohol. Teens also face risk stemming from sexual activity. Every year, about 1.3 million teens contract an STD and about 900,000 become pregnant. In terms of physical health, 15% of teens are overweight and twice as many teens do not meet the minimum national recommendations for physical activity.

The severity of these risks makes targeting health marketing to teens and adolescents critical for effective public health programs. The challenge is that adolescents and teens are notably difficult to reach and persuade with health messages. Though CDC's teen-focused campaigns are informed by extensive audience research and designed using multi-disciplinary findings, there have been no previous attempts to gather and synthesize this audience-specific knowledge and research in order to inform future health marketing campaigns.

In 2007, CDC established the Adolescent Communication Project, an intramural health marketing research study to develop principles for influencing teen health behavior. The project involved a multi-level review. First, CDC's health marketing scientists and researchers drafted communication principles based on published literature and interviews with health campaign directors and program managers who have targeted adolescents in their work. Afterwards, an expert panel reviewed and discussed the communication principles and made further recommendations. Finally, a diverse group of teens reviewed the messages and concepts.

The resulting research guide, *Useful Principles for Communicating Health Protection Messages to Adolescents*, highlights cognitive, developmental, and communication principles applicable to teen outreach. The guide will be shared across CDC and with outside partners and collaborators to provide a scientific foundation upon which public health programs can increase health impact with this key audience.



# CDC Is a Leader in Health Literacy Research and Practice

An individual's health literacy is defined as the degree to which an individual has the capacity to obtain, process, and understand the basic health information and services needed to make appropriate health decisions. According to the 2003 National Assessment of Adult Literacy, only 12% of U.S. adults have proficient levels of health literacy. In today's world of complex health care and health choices, improving health literacy is critical. Technological innovation and health care consumerism have made health information more widely accessible but, for many of older adults, making sense of health information can be a challenge.

Concern about the burden placed upon older adults to understand and use health information led CDC to convene an expert panel on health literacy in December 2007. Panelists reviewed and discussed the evidence for health literacy improvement as a critical issue in serving older adults. They identified research gaps on older adults and health literacy, and worked to integrate experiences from the field with research findings. Panelists articulated that older adults are not to blame if they do not understand the health information available to them.

Key to the discussion was the suggestion to use technology to help older adults access and process health information, while being mindful that older adults have less experience with technology and prefer face-to-face interaction. Although panelists agreed age-related declines in senses and functioning are important to consider, they also identified generational and cultural differences as relevant. Expert panelists pointed out that although older adults are eager to have reliable health information, they may not seek information as actively as other groups. Overall, panelists agreed that older adults benefit from a range of supports and that health information and services are only part of that support system. Older adults also require support to use the information and services effectively.

The result of the panel's work is a report of findings that public health professionals can use to improve health communication and marketing with older adults, including in informational products and their dissemination. CDC plans to continue its health literacy leadership through additional health marketing research and programs in the future.

Concern about the burden placed upon older adults to understand and use health information led CDC to convene an expert panel on health literacy.



“We have the audacity to say people have low literacy skills when our material is poorly designed.”

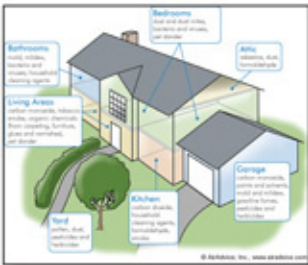
Dr. Rima Rudd, Harvard School of Public Health





# CDC Promotes Healthy Homes to Reduce Injuries and Health Hazards

CDC's Healthy Homes Initiative is a holistic approach to preventing the diseases and injuries that result from substandard housing.



Users of the Healthy Homes website will be able to search a virtual home room by room to find information.



Each year, millions of people are injured at home severely enough to warrant an emergency room visit. Injuries that occur in the home represent a significant public health burden, including in health care costs and in injuries and deaths. Additionally, people who reside in substandard housing are often at increased risk for fire, electrical injuries, falls, and rodent bites. Children can face lead poisoning, injuries, and respiratory diseases such as asthma. Other risks include exposure to pesticide residues, indoor toxicants, and combustion gases.

CDC's Healthy Homes Initiative uses a holistic approach to preventing the diseases and injuries that can result from substandard housing. Currently, the Healthy Homes Initiative is collaborating with health marketing to develop an interactive website. Users will be able to search a virtual home room by room to find prevention information. When users click on selected items in the virtual rooms, tips pop up that include links where users can find more information. Each room includes a checklist of home improvements and green tips. The site will also target information to specific audiences, for instance, to older adults, parents with young children, people with disabilities, and health and housing professionals. Other topics on the site include food safety, indoor air quality, infectious diseases, and violence and injury.

Another product related to the Healthy Homes Initiative is the *Healthy Housing Reference Manual*. The manual provides a comprehensive guide to the relation between housing construction, housing systems, and health. The *Healthy Housing Inspection Manual* is another reference tool associated with the Healthy Homes Initiative. It features a holistic home inspection and makes recommendations for a complete assessment. The National Healthy Homes Training Center and Network (HHTC) provides on-site training programs and internet-based instruction for those in housing and public health. In the future, the HHTC will conduct distance learning training and offer on-site classes in four additional locations.

# CDC Delivers Health on Demand Through Podcasts

Podcasts have become increasingly popular tools to disseminate and share information. Podcasts are a simultaneous broadcast of audio or video files that can be downloaded, syndicated, or streamed from a web page. They are popular because users can easily download the files from the internet to play back any time on their computers or MP3 devices. What distinguishes podcasts from other types of communication products on the internet is that listeners can subscribe to have new podcasts delivered automatically to their computers or mobile devices.

Since July 2006, when CDC entered the world of scientific podcasting, CDC podcasts have averaged more than 30,000 downloads every week, or approximately 1.5 million downloads to date. CDC podcasts cover a range of health and science messages and are targeted to the general public, health care professionals, and the clinical community. CDC Podcasting, a subscription-based health marketing delivery system, allows users to subscribe to a free feed that automatically updates when a new podcast is available. In 2006, data showed that 9.2 million adults in the United States had recently downloaded an audio podcast, and 5.6 million had recently downloaded a video podcast. These numbers are expected to grow exponentially.

Recently, CDC's *Morbidity and Mortality Weekly Report (MMWR)* launched a podcast series, "A Cup of Health with CDC." The series is the first and only CDC weekly podcast to translate professional information from the publication for a lay audience. The series averages 32,000 downloads each month. Dr. Frederic Shaw, Editor of *MMWR*, explains, "The podcasts were *MMWR*'s first foray into translation of *MMWR* scientific content for lay audiences."

CDC podcasts average more than 30,000 downloads every week, approximately 1.5 million downloads to date.



CDC's *Morbidity and Mortality Weekly Report* podcast series averages 32,000 downloads per month.

# CDC Promotes Oral Health Through Health Marketing Broadcasts

Health communication professionals at CDC wrote the script and interviewed public health leaders, dentists, and everyday people.



Adding fluoride to drinking water is recognized as one of the 10 greatest public health achievements of the 20th century.



Adding fluoride to drinking water is recognized as 1 of the 10 greatest public health achievements of the 20th century. Since World War II, water fluoridation has improved the quality of life in the United States by reducing pain and suffering due to tooth decay, time lost from school and work, and money spent to restore, remove, or replace decayed teeth. Despite the documented success of water fluoridation during the past 60 years, some communities have yet to take advantage of this simple and safe public health procedure. In communities without fluoridated water, young children often have more cavities, and older adults can lose their teeth prematurely.

In 2008, CDC sought to raise public awareness about the benefits of water fluoridation by producing a health marketing video to highlight the benefits of water fluoridation. Health communication professionals at CDC wrote the script for the program and interviewed public health leaders, dentists, and members of the community who have experienced the benefits of water fluoridation or who have suffered from its lack. Working closely with the Arkansas Department of Public Health, CDC identified state leaders to interview, including Arkansas' Surgeon General, the CEO of a major children's hospital in Little Rock, and a high-ranking state official for a major dental insurance company. The most compelling interviews, however, were those with Arkansas residents. Those interviews included a grandmother who had to decide earlier in life to provide for her family rather than seek dental care, and a dentist who witnessed firsthand the dramatic reduction in cavities once fluoride was added to the community's water.

CDC collaborated with state and local public health organizations, for-profit organizations, and subject matter experts within the agency to produce the video, which will be used in Arkansas and in other communities around the nation. CDC also consulted with Arkansas public health officials to create a fact sheet to accompany the video. The health materials were well received by the community and continued engagement with Arkansas Department of Public Health is planned for the future.



# Spreading Good Health Through CDC's Health-e-Cards

Each month, more than 200,000 Americans send electronic greeting cards in order to share information and connect with those closest to them. The cards attract users because they are easy to use, can be personalized, and are available usually at no cost. Because interpersonal communication within an individual's social network is often a key element in bridging the behavior change gap between awareness and action, CDC launched electronic health cards so that visitors to CDC.gov could share public health messages within their own social networks. The cards also help CDC to increase the reach and impact of its health information and to leverage the power of user-generated content. Since they first became available in 2007, more than 32,000 Health-e-Cards have been delivered. In addition, nearly 10,000 people have signed up to receive e-mail updates when new cards are posted.

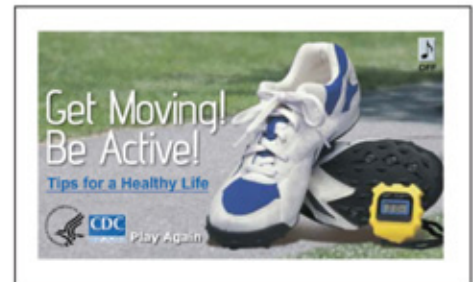
Health-e-Cards users can choose from 100 card designs. Cards include animation, music, or both, and many are available in Spanish. Some cards promote health during holidays or observances, such as heart health for Valentine's Day, or STD awareness during STD Awareness Month. Other cards encourage vaccinations, endorse a smoke-free lifestyle, or support healthy pregnancies.

Health-e-Cards are not only fun and useful for visitors to CDC.gov and for recipients, they also help disseminate CDC's health messages. Sending Health-e-Cards allows visitors to act as advocates for CDC's health messages. Likewise, recipients can easily send the cards to others, which research shows helps to encourage the viral spread of important health information. All Health-e-Cards include links to the CDC.gov website so that recipients can easily find more information.

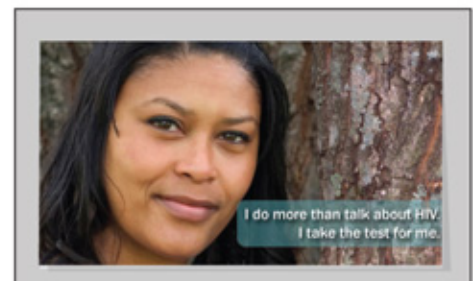
A recent *Atlanta Journal-Constitution* article mentioned that CDC's Health-e-Cards "combine health information from a reliable source with an additional benefit of the implied endorsement from the person sending the card." According to Ronald Rice, the Arthur N. Rupe Chair in the Social Effects of Mass Communication at the University of California at Santa Barbara, the impact of Health-e-Cards is similar to the influence of "music sharing and mobile phone lists: you're taking advantage of the fact that people are linked into their own networks and providing the supporting information for the attitude and behavior change." At the New Health Dialogue Blog, Health-e-Cards were described as "an innovative solution for spreading useful but sometimes awkward information to people you care about...they also address our need for more prevention, wellness, and management of chronic diseases."

To view Health-e-Cards, visit [www2a.cdc.gov/ecards](http://www2a.cdc.gov/ecards).

In February 2007, CDC launched Health-e-Cards, and they gained immediate popularity on CDC.gov.



Sending Health-e-Cards allows visitors to feel empowered about health and to act as advocates for CDC's health messages.



# CDC Works With the Entertainment Industry to Educate Millions About Health

The Entertainment Education Program provides a unique opportunity for CDC to deliver accurate health messages to millions of Americans.



“Research shows that viewers get health information through our storylines and that’s an awesome responsibility.

We’re teaching people about health issues, and we need to be accountable.”

Amanda Green, Co-producer,  
*Law & Order, SVU*



In a recent study, 52% of television viewers reported receiving health information that they trust to be accurate from primetime TV shows, and 26% said that primetime shows are among their top three sources for health information. Ninety percent of regular viewers reported learning from television about diseases and how to prevent them. By partnering with entertainment industry professionals and academic, public health, and advocacy organizations, CDC is able to deliver accurate health messages to millions of Americans.

The Kaiser Family Foundation describes entertainment education as a way to inform the public accurately about a social or health issue. The entertainment education strategy involves incorporating an educational message into popular entertainment in order to raise awareness about an issue and motivate people to take positive action in their own lives. Over the years, this strategy has proven an effective method to raise awareness about health issues, including substance abuse, immunization, teenage pregnancy, and HIV/AIDS.

One of the many successes CDC has had in entertainment education is a recent partnership with the National Institute for Occupational Safety and Health to present safety information to the Spanish-language network, Telemundo. After a telenovela aired featuring a construction worker safety storyline, CDC provided workplace safety spotlights on its website in English and Spanish. CDC also provides links to two medical dramas. This year, 114 links to health information were made available on the shows’ websites. Additionally, CDC’s information line, 1-800-CDC-INFO, was included in several storylines.

Since 2001, more than 800 writers have obtained information from CDC, and 109 shows were evaluated for health content. Since October 2007, CDC has answered writer inquiries from 14 shows across 8 networks and held phone consultations with 34 experts. In February 2008, CDC distributed a public health and entertainment newsletter to nearly 700 entertainment contacts. Future projects include a panel discussion for writers on the inclusion of health topics in children’s shows.

With guidance from the University of Southern California and other institutions, the program has maintained a scientific approach. In 2007, a study of web usage following the past season of “House M.D.” indicated that viewers searched CDC for information before and after the show aired. CDC’s Sentinel for Health Awards recognize exemplary achievements in television shows that educate and motivate viewers about health. In 2007, CDC recognized 16 storylines across 6 networks.



# CDC Partners With Diverse Faith-Based and Community Organizations

Communication theories and scientific models explain that people's health and behavioral outcomes may be directly affected by their ties to their communities and social networks. Considerable evidence also demonstrates the value of building partnerships between health care and community-level organizations, particularly in efforts to eliminate health disparities among racial and ethnic groups, a goal that health care cannot achieve in isolation.

In 2001, the White House Office of Faith-Based and Community Initiatives was established and, in 11 federal agencies, the Centers for Faith-Based and Community Initiatives. The goal was to address need by strengthening and expanding the role of Faith-Based and Community Organizations (FBCOs) in providing social services. CDC has a rich history of collaborating with FBCOs, which has allowed the agency to address health disparities in innovative ways. Through these partnerships, CDC has increased its ability to reach U.S. immigrant communities, promote global health, and develop targeted emergency preparedness plans and community-level response plans. Dr. Julie Gerberding, Director of CDC, has said of public health efforts that "involving the private sector, business, and grassroots organizations at every level of society is essential." She also points out that "in today's world, it really does take a broad network to solve complex problems."

To highlight the successes in partnerships between CDC and FBCOs, the agency developed the report, *Partnerships with Faith-Based and Community Organizations: Engaging America's Grassroots Organizations in Promoting Public Health*. The report outlines health challenges and describes the partnerships CDC developed with FBCOs to address those challenges. It also helps to define how some public health challenges can be solved through partnerships. In June 2008, the White House Office of Faith-Based and Community Initiatives hosted the Innovations in Effective Compassion Conference in Washington, D.C. A representative from CDC presented the report to more than 1,000 attendees. In his speech, President Bush credited CDC for the development of this well-received and relevant publication.

Collaborating with faith-based and community organizations helps CDC address health disparities in the United States and abroad in innovative ways.



"Involving the private sector, business, and grassroots organizations at every level of society is essential."

Dr. Julie Gerberding, Director, CDC





# CDC 2.0: Engaging the Public Through Participatory Technologies

CDC is on the cutting edge in researching and using new media technologies to extend the reach and use of its public health messages.



Considering that four out of five U.S. adults own a cell phone and that ownership cuts across all socioeconomic groups, CDC has prioritized outreach strategies that use mobile technology.

In recent years, new media and interactive technologies have become a deep part of our culture. CDC is on the cutting edge in researching and using these technologies to extend the reach and impact of public health messages. In the past few years, CDC has focused on media that encourage user participation. By using social networks, blogs, virtual worlds, widgets, interactive games, e-cards, and related technologies, CDC can engage audiences through customized, participatory channels.

One of CDC's newer projects, CDC-TV, helps attract the YouTube generation to CDC's public health messages with short, high-quality health videos that can be viewed at CDC's website or downloaded and shared later. CDC is also a presence in virtual worlds, like Second Life, where users can choose an avatar—a virtual alter ego—and then use voice and text chat to socialize in 3-D spaces with other avatars. Users who visit CDC Island can participate in the health experience by picking up a biosuit or a health awareness bracelet or even running a lap around a jogging track, all while navigating CDC's health content.

For the second year, CDC offered virtual flu vaccinations in Whyville, a virtual world for tweens, or children 8–12 years old. In a unique program to educate tweens about the importance of vaccinations, unvaccinated avatars could catch the flu, get bumps on their faces, and cough when they talked. Within two months, Whyville tweens and their grandparents, another target group, received about 40,000 virtual vaccinations. Virtual world vaccinations helped to motivate tweens and their grandparents to obtain “real world” vaccinations.

Considering that four out of five U.S. adults own a cell phone and that ownership cuts across all socioeconomic groups, CDC has prioritized outreach strategies that use mobile technology. In June 2008, CDC, in partnership with the University of Georgia's New Media Institute, promoted National HIV Testing Day with a viral marketing campaign. Students from regional universities created messages to promote a text service to locate HIV testing centers and then sent those messages to friends and family. Verizon also launched a national video broadcast of the messages to its subscribers.

CDC is also collaborating with the Georgia Institute of Technology to pilot a diabetes management device that connects glucose meter readings to a disease management website and to the user's cell phone. Health communication is thus two-way: patients receive messages during the day about making healthy choices for managing diabetes, and dietitians can text answers to patient inquiries in real time. CDC is also considering using mobile technology for a pilot program to support people trying to quit smoking. The intervention will deliver messages at critical times of the day for participants.

# CDC's Emergency Risk Communication Is Clear, Accurate, Timely, and Accessible

When an emergency occurs, accurate and consistent health communication with the public and health professionals is essential to saving lives. During emergencies, CDC's Emergency Communication System leads the agency's communication activities and ensures that coherent emergency risk communication messages reach affected communities, partners, responders, and clinicians. CDC provides them with information critical to protecting the public's safety and health.

In response to the 2007 California wildfires, CDC relayed important health protection information about wildfires to local and state public information officers. The information related to carbon monoxide, smoke inhalation, injuries, worker safety, evacuation safety, and similar issues. To help protect responders, CDC sent information about firefighter and response worker safety to clinicians. The agency also created a podcast to discuss wildfire issues and translated wildfire-related materials into Spanish and posted them on CDC's emergency website.

More recently, CDC assisted officials in Alamosa, Colorado, with a *Salmonella* outbreak linked to the public water system. CDC deployed two Spanish-speaking health communication experts to Alamosa. They worked directly with local authorities to educate residents about water safety and how to prevent the spread of infection, particularly when schools and other public institutions reopened. So that responders could share credible, science-based information with the community, CDC also provided links to CDC's web-based information. The links, in Spanish and English, included topics such as *Salmonella*, infection control, and water safety.

Overall, CDC ensures that communication during an emergency is clear, accurate, timely, and accessible. One important way CDC reaches local and state partners is by partnering with the National Public Health Information Coalition (NPHIC). With NPHIC, CDC is able to increase the timeliness, accuracy, and consistency of communications with audiences in all states and territories and in dozens of metropolitan areas.

For more information, visit [www.bt.cdc.gov](http://www.bt.cdc.gov).

“The major public health challenges since 9/11 were not just clinical, epidemiological, or technical issues. The major challenges were communication. In fact, as we move into the 21st century, communication may well become the central science of public health practice.”

Dr. Edward Baker, Former U.S. Assistant Surgeon General



# CDC Uses High Frequency Radios for Emergency Communication

The NPHRN provides CDC and its partners with an independent communications platform to relay critical health information during emergencies.



The NPHRN is CDC's only communication channel that does not rely on the nation's telecommunications networks as the backbone for voice and data communication.

In an emergency, effective, multi-directional communication is critical for federal, state, and local health officials to protect the nation's health. Yet, during an emergency, traditional communication technologies may fail. Traditional systems can be disabled, destroyed, or overwhelmed by natural or man-made disasters. Even cell phones may not work. During the 1995 Oklahoma City bombing, cellular demand surged 515%, and 30% blockage was reported. In fact, the initial report of the bombing was sent to the federal government via high frequency radio.

Other communications problems may relate to the workforce. In the event of a pandemic, the Federal Communications Commission estimates that nearly 40% of the workforce, including personnel who support communications infrastructure, will be absent from work. Increased telecommuting and heightened demand in general may significantly alter communications traffic, which can further disrupt communications networks, including in the ability to make phone calls or send text messages and e-mail. Without sufficient workforce to restore those disrupted networks, the result could be a prolonged disruption or even a complete shut down.

In response, CDC developed the National Public Health Radio Network (NPHRN). The NPHRN provides non-infrastructure-dependent communication capacity for CDC to transmit directly to state and local health departments when other means of communication are not available. The NPHRN is CDC's only communication channel that does not rely on the nation's telecommunications networks (i.e., telephone, cellular, internet, or satellite) as the backbone for both voice and data communication. CDC's support also has enabled several state and local health departments to purchase NPHRN equipment.

The NPHRN has already been put to good use to transmit emergency information. During Hurricane Katrina, the network allowed users to communicate with hospitals to identify the number of unoccupied beds by specialty area for persons in need and to contact the Red Cross for information on accessibility of relief shelters. In addition, the network helped locate 400 employees unaccounted for to inform them that relief assistance was available to them. Information relayed through NPHRN even helped to rescue two men—one recovering from back surgery and the other with serious medical issues—from being trapped in a mobile home after the hurricane struck.



# CDC Prepares for Pandemic Influenza Through Health Communication Research

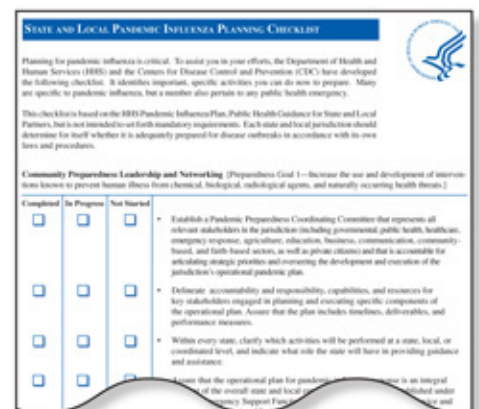
The last major pandemic to hit the United States, the influenza pandemic of 1918, killed more than 600,000 Americans. Scientists predict that it is only a matter of time before the next flu pandemic occurs. The complexity and scope of a pandemic, including its aftereffects, demands that CDC have the ability to provide accurate and timely health information to professionals and the public, so that people are prepared and can help save lives.

In the event of a pandemic, however, a one-size-fits-all communication strategy could result in many people missing the critical information they need to respond. Therefore, one of the challenges that CDC's pandemic influenza communication team faces is to be able to create relevant preparedness messages for every population, including professionals, the general public, and for underserved populations who may lack access to public health resources.

To meet this challenge, CDC's pandemic influenza communication team began by identifying and segmenting audiences, particularly those most at risk. The team soon discovered that some audiences did not fit neatly into any category. For example, during a pandemic, research indicates that most people will be cared for at home. To reach this group, the team worked with CDC scientists and communicators to develop a pandemic influenza home care guide. The resulting booklet elaborates in plain language step-by-step actions that caregivers can take to care for sick family members during a pandemic. In the event of a pandemic, the guide can be distributed to every household in the United States.

To reach populations most at risk, the team developed the *Know What To Do About Pandemic Flu* brochure series. The brochures provide specific information about pandemics to people diagnosed with chronic conditions, such as diabetes, cancer, or heart disease. The brochures contain specialized information that will enable their audiences to respond more effectively during a pandemic. To meet the needs of all audiences, the communication team continues to develop other audience-specific products, including print material, video public service announcements, and cartoons.

The challenge that CDC's pandemic influenza communication team faces is to find a balance between creating messages for the general public and for people who need targeted information most.



In a crisis, a one-size-fits-all communication strategy could result in many people missing the critical information they need to protect themselves.



# CDC Uses Health Marketing to Raise Awareness About Climate Change and Health

CDC developed health marketing activities to suit both traditional and emerging communication channels.



CDC is working to address the health issues that may be associated with global climate change.



Climate change is any significant change in the measures of climate, including in temperature, precipitation, or wind, that lasts decades or longer. Scientists recognize that the world's climate is showing signs of a shift, the effects of which may include stronger and longer heat waves, more frequent heavy precipitation, more frequent and severe droughts, more extreme weather events such as hurricanes, and increased air pollution. Though experts at CDC cannot predict how these changes will affect society and public health, CDC is working to address the health issues that may be associated with global climate change.

To raise awareness that climate change is an emerging public health threat, organizers themed this year's National Public Health Week, "Climate Change: Our Health in the Balance." To complement its existing efforts to address the health effects of climate change, CDC led several activities this year in collaboration with the American Public Health Association and other partners. Because CDC's target audience included groups as diverse as the general public, public health organizations, faith-based partner organizations, and CDC's business partners, CDC developed health marketing activities to suit both traditional and emerging communication channels.

One of the most popular of CDC's efforts to raise awareness was the agency's new web pages devoted to climate change and health. Within four months of their launch, the pages had been viewed more than 16,000 times. Additionally, CDC developed 10 Health-e-Cards about climate change, 5 of which were translated into Spanish. The e-cards contained messages carefully designed for use by partners and the general public. CDC also used another innovative communication medium to disseminate messages about climate change: podcasting. The resulting podcast, "Health Marketing Matters: Marketing Health and Climate Change Messages to your Audiences," was downloaded more than 1,200 times. The campaign also issued a special edition update to the more than 7,500 partners who subscribe to CDC Partnership Matters, CDC's biweekly e-mail update for public health partners.

For more information, visit [www.cdc.gov/climatechange](http://www.cdc.gov/climatechange).



# CDC Supports Global Public Health Through Health Marketing in China

China's population is more than 1.3 billion people, or 23% of the world's population. Since 2002, China's economy has doubled in size, creating a larger middle- and upper-middle class who reside mostly in China's cities. Despite many public health advances during the past few decades, emerging infectious diseases still threaten China. A health crisis in China would impact nations worldwide, including the United States.

To help prevent and control that threat, CDC has partnered with China's Ministry of Health to develop innovative health marketing strategies tailored to China's needs, audiences, resources, and infrastructure. This collaboration creates a unique opportunity for the world's most populous country to set an example in health marketing strategies that can benefit global public health. Melinda Frost, a former Global Team Lead, currently serving as a CDC Health Communication Officer in Beijing, stresses that significance, "Our collaboration in adapting Western-based emergency risk communication principles will prove invaluable for crafting future global public health preparedness measures, both in methods and results."

Two recent initiatives include the following:

In the Emerging and Re-emerging Infectious Disease Program, CDC works to help prevent diseases that threaten China, like severe acute respiratory syndrome (SARS) and avian flu. This program uses innovative approaches to create messages and then uses technology to enhance the networks that deliver those messages to China's workforce. The program also encourages the use of electronic communication channels, ensures the usability of the China CDC website, and establishes a nationwide information hotline.

In the Emergency Risk Communication Project, CDC adapted U.S. Emergency Risk Communication (ERC) principles for developing and testing messages with audiences to suit Chinese cultural trends. To implement ERC strategies on a national level, the team educated health emergency response officers. Because of this health marketing project, prevention and risk awareness are expected to rise significantly throughout China.

Overall, CDC initiatives implemented in China have global significance. Other countries can adapt the initiatives to their own cultures.

Despite public health advances during the past few decades, emerging infectious diseases still threaten China.



CDC initiatives implemented in China have global significance. Other countries can adapt the initiatives to their cultures.





# CDC Trains Journalists How to Report Effectively on Avian and Pandemic Flu

Vietnam struggles with the public indifference and lagging interest common to all complicated and prolonged public health incidents.



In the months following the workshops, media coverage about avian and pandemic flu increased significantly.



One of the first countries hit by the highly pathogenic form of avian flu, H5N1, was Vietnam. Vietnam was second only to Indonesia in the number of cases diagnosed. Mortality among the Vietnamese infected with avian flu reached nearly 50%. Despite effectively managing the ongoing avian flu problem among the country's poultry, Vietnam struggles with the public indifference and lagging interest common to all complicated and prolonged public health incidents. Journalists are also subject to losing interest, yet their engagement is essential. Through their reporting, journalists keep the public informed about avian flu, and they ensure surveillance and response accountability. Their reporting also provides feedback to preparedness and response officials.

Recently, CDC partnered with the U.S. Department of State and the Broadcasting Board of Governors to present avian and pandemic flu workshops for journalists in Chile, Nigeria, Indonesia, India, and other countries. CDC Health Communication Specialist, Dan Rutz, a former Senior Medical Correspondent for CNN, conducted the health communication training.

In the workshops, journalists learned the basic science of avian flu and its possible relation to a pandemic as well as public health risk communication theory and principles. Participating journalists also received guidance about practical reporting, so that they could ensure their work was accurate, relevant, balanced, and ethical.

In the months following the workshops, media coverage about avian and pandemic flu increased significantly. Moreover, media surveillance of the coverage showed that story themes relevant to outbreak control and prevention, including bio-surveillance and social responsibility, were accurate and responsible.

# National Center for Health Marketing

The National Center for Health Marketing was established in 2005 within the Coordinating Center for Health Information and Service. NCHM increases CDC's capacity to create, communicate, and deliver health information and interventions using customer-centered and science-based strategies to protect and promote the health of diverse populations.

## **NCHM Vision:**

A world where all people actively use accessible, accurate, relevant, and timely health information and interventions to protect and promote their health and the health of their families and communities.

## **NCHM Mission:**

To protect and promote the public's health through collaborative and innovative health marketing programs, products, and services that are customer-centered, science-based, and high-impact.

## **NCHM Values:**

- Programs that are scientific and ethical.
- Activities that are equitable and transparent.
- Continuous improvement based on research.
- Communication that is open, accessible, clear, and candid.
- Partnerships that are collaborative and engaging.
- Actions that are caring and compassionate.
- A diverse workplace that is empowering and fun.

## **Strategic goals:**

To increase the impact of health marketing science throughout CDC.

To achieve consistent, high-quality NCHM services and collaboration.

To expand the strategic and innovative application of health marketing.

To improve and sustain systems, operations, and resources.

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