Averting Today’s Biggest Public Health Epidemics with Social Media

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Amarillo College Creative Mind Lecture Series 2013
Prevention vs. Treatment

What's the Right Balance?

edited by Halley S. Faust & Paul T. Menzel
Medicine

Individual focus

Public health

Population focus
**Medicine** explains morbidity and mortality in terms of cancer, heart disease, and stroke.

**Public health** looks at root causes, such as smoking, alcohol, and diet.
Preventive Service Use and Potential Benefits

<table>
<thead>
<tr>
<th>Service</th>
<th>Current Utilization</th>
<th>Quality-Adjusted Life Years Save with 90% Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco-Use Screening/Intervention</td>
<td>35%</td>
<td>1,300,000</td>
</tr>
<tr>
<td>Colorectal Cancer Screening</td>
<td>35%</td>
<td>310,000</td>
</tr>
<tr>
<td>Adult (50–84) Influenza Vaccine</td>
<td>36%</td>
<td>110,000</td>
</tr>
<tr>
<td>Breast Cancer Screening</td>
<td>68%</td>
<td>91,000</td>
</tr>
</tbody>
</table>

Notes: Utilization rates are for targeted populations. The current rate for flu vaccines for seniors is 65%; the QALY’s figure is for all people over age 50.

5%
Very slow
Smoking
Obesity
Alcohol abuse
Diabetes
STDs
Society is fully prepared to rescue the injured or sick individual.

But is far less prepared to prevent injuries & illnesses.
Healthcare protects identifiable lives

PH protects statistical lives (benefits long-term & invisible)
“withering”
“anachronistic”
“deficient”
“disarray”
For most of U.S. history PH laws were aimed at preventing discrete harm to others.
Today’s greatest PH threats come from self-regarding behaviors
The Nanny
You only thought you lived in the land of the free.
“renaissance”
“modernization”
“reemergence”
“revitalization”
“renewal”
TITLE IV—PREVENTION OF CHRONIC DISEASE AND IMPROVING PUBLIC HEALTH

Subtitle A—Modernizing Disease Prevention and Public Health Systems

Pages 401 to 470
Prevention Fund
$15 billion

Support infrastructure

Improve evidence base

Expand & train PH workforce
<table>
<thead>
<tr>
<th>Activity</th>
<th>Amount</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMUNITY PREVENTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community and state prevention</td>
<td>$222 million</td>
<td>Implement Community Transformation Grants to support state and community initiatives to prevent heart disease, cancer, and other conditions by reducing tobacco use, preventing obesity, and reducing health disparities</td>
</tr>
<tr>
<td>Tobacco prevention</td>
<td>$60 million</td>
<td>Implement anti-tobacco media campaigns, telephone-based cessation services, and similar programs</td>
</tr>
<tr>
<td>Obesity prevention and fitness</td>
<td>$16 million</td>
<td>Advance activities to improve nutrition and increase physical activity</td>
</tr>
<tr>
<td><strong>CLINICAL PREVENTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to wellness and preventive health services</td>
<td>$11.2 million</td>
<td>Increase awareness of preventive benefits under ACA; expand immunization services; strengthen employer wellness programs</td>
</tr>
<tr>
<td>Behavioral health screening and integration with primary health</td>
<td>$70 million</td>
<td>Help communities coordinate and integrate primary care services into public mental health and other community-based behavioral health settings; expand suicide prevention efforts and substance use disorders</td>
</tr>
<tr>
<td><strong>INFRASTRUCTURE AND TRAINING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public health infrastructure</td>
<td>$40 million</td>
<td>Support state, local, and tribal infrastructures to promote health and prevent disease through information technology, and workforce training</td>
</tr>
<tr>
<td>Public health workforce</td>
<td>$45 million</td>
<td>Support training of public health providers for preventive medicine, health promotion and disease prevention, and epidemiology; improve access to and quality of services in underserved communities</td>
</tr>
<tr>
<td>Public health capacity</td>
<td>$52 million</td>
<td>Build state and local capacity to prevent, detect, and respond to infectious disease outbreaks through improved epidemiology and lab capacity; invest in programs to prevent health care-associated infections</td>
</tr>
<tr>
<td><strong>RESEARCH AND TRACKING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveillance and planning</td>
<td>$84 million</td>
<td>Fund data collection and analysis to monitor impact of ACA on health; increase collection of environmental hazards data</td>
</tr>
<tr>
<td>Prevention research</td>
<td>$49 million</td>
<td>Identify and disseminate evidence-based recommendations on public health challenges to practitioners, educators, and decision makers; expand development of recommendations for clinical preventive services</td>
</tr>
</tbody>
</table>
February 2012
Congress cut 33% ($5 billion)
Partnership for a Drug-Free America
DRINKING AND DRIVING CAN KILL A FRIENDSHIP
Just Buckle Up
A CLICK CAN SAVE YOUR LIFE

JustDrivePA.com
ARE YOU POURING ON THE POUNDS?

DON’T DRINK YOURSELF FAT.
Cut back on soda and other sugary beverages. Drink water or low-fat milk instead.
If you’re ready for a zombie apocalypse, then you’re ready for any emergency.
Now that I'm gone, I tell you: Don't smoke, whatever you do, just don't smoke.

Yul Brynner 1985
In the Know
Social Media for Public Health: Webcast Series
Explore flu trends - United States

We've found that certain search terms are good indicators of flu activity. We used aggregated Google search data to estimate flu activity. Learn more »
sickweather
“I'm sick”
“the doc says I have bronchitis”
“those were sick beats at the club last night”
“my son has chickenpox”
“OMG i love justin bieber! bieber fever 4ever!”
Tobacco
Obesity
Diabetes
Challenges
Tobacco
About 443,000 U.S. deaths attributable each year to cigarette smoking.

- Lung Cancer: 128,900 (29%)
- Ischemic Heart Disease: 126,000 (28%)
- Chronic Obstructive Pulmonary Disease: 92,900 (21%)
- Other Diagnoses: 44,000 (10%)
- Stroke: 15,900 (4%)
- Other Cancers: 35,300 (8%)
100 million deaths
20th century

1 billion deaths
21st century
Tobacco is the leading preventable cause of death
Cravings last less than five minutes on average. To help distract yourself, try sipping a drink slowly until the craving is over.
Are you trying to quit with social media?
The Effectiveness of Mobile-Health Technology-Based Health Behaviour Change or Disease Management Interventions for Health Care Consumers: A Systematic Review

Caroline Free¹*, Gemma Phillips², Leandro Galli³, Louise Watson⁴, Lambert Felix⁵, Phil Edwards¹, Vikram Patel⁴, Andy Haines⁴
Doubles
quit rate
Qwitter is a social tool designed to help you quit smoking. Qwitter does a few things to assist you in your effort to be smoke free.
Encouragement
Accountability
Obesity
Normal: BMI 18.5 - 24.9
Overweight: BMI 25 - 29.9
Obese: BMI 30 - 34.9
Severely Obese: BMI 35 - 39.9
Morbidly Obese: BMI ≥ 40
Figure 3. Number of obese individuals: United States, 2009–2010

- **Adults aged 20 years and over**
  - Females: 40.6 million
  - Males: 37.5 million

- **Children and adolescents aged 2–19 years**
  - Females: 5.5 million
  - Males: 7.0 million

Heart disease
Stroke
Type 2 diabetes
Certain types cancer
Burn Belly Fat Guide

This 1 simple trick was designed to help you shed pounds of that stubborn belly fat... [www.GetSlimRecipes.com/Diet](http://www.GetSlimRecipes.com/Diet)

5) Foods you must not eat

Cut down a bit of stomach fat every day by never eating these 5 foods. [BeyondDiet.com](http://BeyondDiet.com)

No1 Boot Camp Spain

Spanish Venues in Marbella & Ibiza 10% Discount for 2 weeks - Book Now [No1BootCamp.com/Spain](http://No1BootCamp.com/Spain)

Lose 4 Stone in 3 Months?

Discover the Shocking Truth About Britain's Hottest Diet... [RecipeThin.net/LoseWeight](http://RecipeThin.net/LoseWeight)

My weight loss progress

15 lbs lost

Sandal completed her food and exercise diary for 09/07/2012 and was under her calorie goal

16 hours ago · Comment

Sandal has logged in for 70 days in a row!

16 hours ago · Comment

rolephant has not logged in for a month. She might need some encouragement.
INCENTIVIZE YOUR EXERCISE

Paying too much for a gym you never use? GymPact lets you set the financial stakes of not getting to the gym, plus earn real cash for every workout you committed - paid for by those who didn't get to the gym!

All you need is an iPhone. Make the most of your gym membership!

Get Started

Learn More...
The Effectiveness of Mobile-Health Technology-Based Health Behaviour Change or Disease Management Interventions for Health Care Consumers: A Systematic Review

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Diabetes
Primary prevention

Tertiary prevention
About 18 million people in the U.S. have diabetes.
Your goal is to maintain normal blood glucose levels.
Compliance

- Oncology - Breast
- Diabetes
- Cardiovascular - Hypertension
- Cardiovascular - Statin
- Gastrointestinal - PPI
- Oncology - Prostate
- Neuroscience - Anti Psychotic
- Respiratory - Asthma CS
- Respiratory - Bronchodilator

Cross Industry Data NDC Health
the reminder contains all the necessary info, such as appointment time, date, doctor name, and patient name, as well as a unique patient ID that can be used to confirm or check in for a specific appointment.
“Time to take your diabetes medication.”
“How many times did you take your meds this week?”
“How many times did you check your feet this week?”
Individualized feedback
Self-aware
Reinforcement
Seriousness
Caring & support
Motivational
Similar compliance
The bar chart shows the rate of a certain condition per 1,000 live births across various countries.

- Japan
- Sweden
- Spain
- France
- Germany
- Australia
- England and Wales
- Canada
- United States

The rate per 1,000 live births is indicated on the x-axis, with Japan, Sweden, Spain, France, Germany, Australia, and England and Wales having rates that are lower than Canada's rate. The United States has the highest rate among the countries listed.

Peer-to-peer healthcare

1. Among online health information seekers, **16%** in the past year tried to find others who might share the same health concerns.

2. **30%** of internet users have consulted online reviews or rankings of health care services or treatments.

3. **26%** of internet users have read or watched someone else’s experience about health or medical issues in the past year.
Email

Password  passwords are case sensitive.

Share your story. Build your support circle.

CarePages websites are free patient blogs that connect friends and family during a health challenge.

Remember me
Find Patients Just Like You

Do you have a life-changing condition? Learn from the real-world experiences of other patients like you.

Join Now! (It’s free)

Current Disease Communities

Prevalent Diseases
ALS / MND
Anxiety
Bipolar
Depression
Fibromyalgia
HIV/AIDS
MS (Multiple Sclerosis)
OCD (Obsessive-Compulsive Disorder)

See how PatientsLikeMe can help you take control of your health:

Share your health profile
Answer simple questions to create a shared health profile to see how you’re doing over time.

Find patients like you
Search by gender, age, treatments, symptoms, and time since diagnosis to easily connect with patients like you.

Learn from others
Learn from real-world treatment and symptom reports, forum discussions, health profiles, one-on-one

“I don’t think all the money in the world could replace what I’ve learned here.”
—Multiple Sclerosis Community Member
Challenges
Advertising
Pepsi is giving away millions in grants each month to fund ideas. Support your favorite project!

Vote on the site or Support ideas on Facebook

Grant Categories:

HEALTH
Impact the health of anyone, from hospitals & clinics to exercise.

ART & CULTURE
Celebrate the arts in all its forms.

FOOD & SHELTER
Provide things to eat, wear or live in – and sometimes all three.
Get Local!

McDonald’s is everywhere. And now you can get info, updates and specials all personalized for your city. Just enter your zip code to get started.

Enter your zip code above.

Already selected a favorite store? Click Here.

My City isn’t listed
Secret Advertising
“On Facebook, 273 people know I’m a dog. The rest can only see my limited profile.”
Age
<table>
<thead>
<tr>
<th>Generation</th>
<th>Desktop/laptop</th>
<th>Cell/mobile phone</th>
<th>Smart phone</th>
<th>Tablet computer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Millennials</strong> 1982-1994</td>
<td>74%</td>
<td>49%</td>
<td>45%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Gen X</strong> 1965-1981</td>
<td>79%</td>
<td>43%</td>
<td>43%</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Boomers</strong> 1946-1964</td>
<td>77%</td>
<td>36%</td>
<td>21%</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Seniors</strong> 1900-1945</td>
<td>68%</td>
<td><strong>27%</strong></td>
<td>10%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Source: Pew Research Center’s Internet & American Life Project surveys, 2005-2012
Privacy
Regulation
1865 Red Flag Act
Concern new technology stifles
3 Day Hearing Series on HIT
Expansion

Incentives
## Top US Hospital Readmission Rates by Condition (30-days)

<table>
<thead>
<tr>
<th>Medical Conditions</th>
<th>30-day Readmission Rate</th>
<th>% of all Readmissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Failure</td>
<td>26.9%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>20.1%</td>
<td>6.3%</td>
</tr>
<tr>
<td>COPD</td>
<td>22.6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Psychoses</td>
<td>24.6%</td>
<td>3.5%</td>
</tr>
<tr>
<td>GI related problems</td>
<td>19.2%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

- **Pneumonia 23% secondary cause**

<table>
<thead>
<tr>
<th>Surgical Conditions</th>
<th>30-day Readmission Rate</th>
<th>% of all Readmissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Stent</td>
<td>14.5%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Major Hip or Knee Surgery</td>
<td>9.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>23.9%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Major Bowel Surgery</td>
<td>16.6%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other Hip or Femur Surgery</td>
<td>17.9%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

- **SSI 6.4% secondary cause**

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CMS Medicare and Medicaid EHR Incentive Programs

Milestone Timeline

- **Fall 2010**: Certified EHR technology available and listed on ONC website.
- **Winter 2011**: For Medicaid providers, States may launch their programs if they so choose.
- **Spring 2011**: EHR Incentive Payments begin.
- **Fall 2011**: Last day for eligible hospitals and CAHs to register and attest to receive an Incentive Payment for FFY 2011.
- **Winter 2012**: Last day for EPs to register and attest to receive an Incentive Payment for CY 2011.
- **February 29, 2012**: Medicare payment adjustments begin for EPs and eligible hospitals that are not meaningful users of EHR technology.
- **2014**: Last year to initiate participation in the Medicare EHR Incentive Program.
- **2015**: Last year to receive a Medicare EHR Incentive Payment.
- **2016**: Last year to initiate participation in Medicaid EHR Incentive Program.
- **2021**: Last year to receive Medicaid EHR Incentive Payment.
“That’s Where the Money is…”

— Willie Sutton