Providing Information across Multiple Devices to the Public Health Workforce: Challenges and Opportunities

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Providing Information across Multiple Devices to the Public Health Workforce: Challenges and Opportunities

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Public Health Partners

- Partners in Information Access for the Public Health Workforce (PHPPartners)
  - Public Health Organizations
  - Federal Government Agencies
  - Health Science Libraries

- Founded in 1997

- Mission: To help the public health workforce find and use information effectively to improve and protect the public’s health.

- Website: [http://PHPPartners.org](http://PHPPartners.org)
Partners in Information Access for the Public Health Workforce

- Agency for Healthcare Research and Quality (AHRQ)
- American Public Health Association (APHA)
- Association of Schools & Programs of Public Health (ASPPH)
- Association of State and Territorial Health Officials (ASTHO)
- Centers for Disease Control and Prevention (CDC)
- Health Resources and Services Administration (HRSA)
- Medical Library Association (MLA)
- National Agricultural Library (NAL)
- National Association of County and City Health Officials (NACCHO)
- National Association of Local Boards of Public Health
- National Library of Medicine (NLM)
- National Network of Libraries of Medicine (NN/LM)
- Public Health Foundation (PHF)
- Society for Public Health Education (SOPHE)
PHPartners.org

- Information for public health practice
- Components:
  - Topic pages
  - Data, tools & statistics
  - Conferences/webinars
  - News
  - Jobs & careers
  - PubMed searches
  - Reports, guidelines and more!
- Updated daily
- Strong selection criteria
## Public Health Workforce

### Use of Mobile Technology Tools

<table>
<thead>
<tr>
<th>Mobile Technology Tools</th>
<th>All Local Health Departments</th>
<th>Size of Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt;50,000</td>
</tr>
<tr>
<td>Smartphones</td>
<td>91%</td>
<td>86%</td>
</tr>
<tr>
<td>Electronic Tablets</td>
<td>48%</td>
<td>40%</td>
</tr>
</tbody>
</table>

*n=419*

Public health departments are increasingly using mobile technology for activities and services including disaster preparedness and emergency response.

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U.S. Mobile Device Use

Adult Americans:

- 90% own a cell phone\(^1\)
- 64% own a smartphone\(^2\)
- 32% own an e-reader\(^1\)
- 42% own a table computer\(^1\)

\(^1\) As of October 2014
\(^2\) As of January 2014


Americans use smartphones to:

- Get info about a health condition: 62
- Do online banking: 57
- Look up real estate listings or info about a place to live: 44
- Look up info about a job: 43
- Look up government services or info: 40
- Take a class or get educational content: 30
- Submit a job application: 18

Responsive Design

• Allows users to have similar web experiences on all types of devices
  – smartphones, tablets, desktops, smart TVs, wearables, and future devices.

• Responsive web pages automatically change their visual layout to fit the screen

• Same URL and content optimized to display

• No need for separate mobile website
Responsive Web Design

- Flexible, grid-based layout
- Flexible images and media
- Style rules for pages based on characteristics of the device
Why Responsive Design for PHPartners.org?

• The public health workforce is using mobile technology (users of PHPartners.org)
• Technical team at NLM able to work on responsive design (technical support)
• Google’s mobile-friendly algorithm:
  – In April 2015, Google expanded the use of mobile-friendliness as a ranking signal
  – Search results optimized for devices
  – Mobile-friendly sites rank higher in search results

http://googlewebmastercentral.blogspot.com/2015/02/finding-more-mobile-friendly-search.html
The Process

1. Reviewed Partner members’ websites and responsively designed sites
2. Reviewed content: highest-value content first
3. Determined how to display content on different devices (desktop, tablet, smartphone)
4. Cleaned up code and integrated with content management system
5. Reviewed and tested on development/beta site
Mobile-friendly PHPartners.org

Smaller screen display:

- Text readable without zooming
- Easy tapping
- Three columns change to one column
- Menus and headings collapse
- Buttons replace text – click to open
PHPartners.org Responsive Design

Health Data Tools and Statistics

Health Data News

WHO has published World Health Statistics 2015 that assess progress towards the health-related United Nations Millennium Development Goals in each of the 194 countries for which data are available. The results are mixed. (World Health Organization (WHO))

National Center for Health Statistics Releases Health, United States, 2014 - 08-MAY-2015
The National Center for Health Statistics announces the release of Health, United States, 2014. Health, United States is the annual report on the health status of the nation, compiled by the National Center for Health Statistics and submitted by the Secretary of Health and Human Services to the President and Congress.

WHO Commitment to Improve Global Health Information - 07-MAY-2015
WHO and the Institute of Health Metrics and Evaluation (IHME) have signed a Memorandum of Understanding defining areas where they will work together to improve the quality and use of global health estimates to measure the world’s health challenges. (World Health Organization (WHO))

Fifteen “Vital Signs” for Assessing and Monitoring Progress of the Nation’s Health Identified in New IOM Report - 30-APR-2015
A new report from the Institute of Medicine presents 15 “vital signs” or core measures for tracking progress toward improved health and health care in the U.S.

Anonymized data - information from which the identity of the sender has been stripped - from mobile telephone usage could provide vital support in efforts to achieve sustainable development and to respond to humanitarian crises, according to insights derived from a study by the United Nations.

County and Local Health Data

Area Resource File (ARF)
The ARF database contains more than 6,000 variables for each of the nation’s counties and provides information on health facilities, health professions, Community Health Status Indicators (CHSI)

Interactive web application that produces health profiles for all counties in the United States. Each profile includes key indicators of health outcomes, which describe the population health status of a county and factors that have the potential to influence health outcomes, such as health care access and quality, health behaviors, social factors, and the physical environment. (Centers for Disease Control and Prevention (CDC))

County Diabetes Data

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County and Local Health Data

**Area Resource File (ARF)**
The ARF database contains more than 6,000 variables for each of the nation's counties and provides information on health facilities, health professions, measures of resource scarcity, health status, economic activity, health training programs, and socioeconomic and environmental characteristics. (Health Resources and Services Administration (HRSA))

**Community Health Needs Assessment (CHNA)**
Web-based platform designed to assist hospitals, non-profit organizations, state and local health departments, and other organizations seeking to identify strengths and potential disparities in their communities. (Community Commons USA, Institute for People, Place & Possibility (IP3))

**Community Health Status Indicators (CHSI)**
Interactive web application that produces health profiles for all counties in the United States. Each profile includes key indicators of health outcomes, which describe the population health status of a county and factors that have the potential to influence health outcomes, such as health care access and quality, behaviors, social factors, and the physical environment. (Centers for Disease Control and Prevention (CDC))

**County Diabetes Data**
Atlas of county-level diabetes data and trends. (Centers for Disease Control and Prevention (CDC))

**County Health Calculator**
Tool for advocates and policy makers to understand and demonstrate how education and income affect health. (Virginia Commonwealth University Center for Health Outcomes, Human Needs)

**County Health Rankings & Roadmaps**
Provides county-by-county health rankings for each of the 50 states and Washington DC, explanations of each health factor, and actionable strategies to improve the health of communities across the nation. (Robert Wood Johnson Foundation (RWJF), University of Wisconsin)

**Health Indicators Warehouse (HIW)**
The Health Indicators Warehouse serves as the data hub for the HHS Community Health Data Initiative by providing a single source for national, state, and community health indicators. (National Center for Health Statistics, CDC (NCHS))

**Interactive Atlas of Heart Disease and Stroke**
An online mapping tool that documents geographic disparities in cardiovascular diseases and their risk factors at the local level. The Atlas allows users to create county-level maps of heart disease and stroke and include overlays of congressional boundaries and health care facility locations. In addition, county-level poverty rates, education levels, the food environment, access to health care, and other social factors are available. (Centers for Disease Control and Prevention (CDC))

**State Health Data**

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PHPPartners.org Usage

Before responsive Q1 2014

Visitors: 40,000
Visits: 100,000

After responsive Q1 2015

Visitors: 60,000
Visits: 140,000
Before responsive Q1 2014

After responsive Q1 2015

page views
Mobile Visits

Before responsive Q1 2014 | After responsive Q1 2015

mobile visits
PHPartners.org
Post Responsive Design

• Overall increase in use of PHPartners site by 44%
• Mobile use increased by 137%
• 1/3 of increase of site visits can be attributed to Google referrals
• Referrals from Google increased by > 240%
Responsive Design Feedback

• Comments for PHPPartners Editorial Board:
  – “I have tested the Responsive design – mobile version - and I like it. Kudos to you guys for getting it done.”
  – “Looks great”
  – “Very usable”

• Recommendation: improve display of search results

• Spread the word among Partner Organizations

• Test and report back
Challenges

• Technical team
  – Need their time and expertise
  – New tech (Apple watch) need to adapt and change

• Portal site
  – Not all links in PHPartners are responsively designed
  – More sites are moving to responsive design
  – Hoping this happens in a timely manner
  – When Partners released, not many of the public health sites were responsively designed, and did not have plans to become responsive
Addressing Issues

• Size and spacing of font and headings
• Headings and home page content
• Images in responsive design
• PubMed searches in site:
  • PubMed has a mobile site, limited functions
  • Will be responsively designed, but no date set
  • Other mobile only sites
Other NLM Responsive Design Sites

• M+ Medline plus
  – Consumer health information

• Daily Med
  – provides trustworthy information about marketed drugs in the United States. DailyMed is the official provider of FDA label information (package inserts)

• AIDSInfo

• Other NLM sites in process of responsive design
Responsive at NLM
October 15 is National Latino AIDS Awareness Day

Guidelines
Federally approved HIV/AIDS medical guidance

Clinical Trials
Search tool to find HIV/AIDS-related clinical trials

Drugs
Information on HIV/AIDS treatments and medications

Responsive at NLM
25
Environmental Health Student Portal

Health Hotlines

NLM Digital Collections
Next Steps

• PHPartners.org is undertaking a usability study
• We will get feedback from users, make adjustments as necessary
• Will incorporate any website changes into the responsively designed website
• Continue to adapt to new mobile devices
Thank you!

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NISO Webinar
June 10, 2015