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The Challenge

July 8, 2010: Dear Developers,

We are very excited to announce that the Health 2.0 Developer Challenge is LIVE and open for business!

http://health2challenge.org/

We’re thrilled to have you participate - thank you for your interest and your patience as we got the site and process up and running. We’re also pleased to let you know that we have a number of challenges that you can sign up for right away!

- **Whyville** challenges game developers to build tools for their arcade to help kids understand and apply health data. The kids will vote on the winner!
• Move your apps; a challenge to develop an app for the Android platform that helps users burn calories, brought to you by Snaptic & Hopelab

• Practice Fusion’s Real Time Patient-Driven Data Challenge invites developers to build applications that connect to the Practice Fusion EMR platform.

• The Szollosi Healthcare Innovation Program wants to see whether a lightweight EMR can be built with blog and wiki software.

Check them out here - and please indicate your interest in one or more!

http://health2challenge.org/blog/category/challenges/

A FEW THINGS:
1. If you haven't made a profile on the site, please go here and do so now: http://health2challenge.org/register/
2. Be an early adopter and spread the energy by jumping in and giving one of the challenges a try!!
3. If you catch any required edits to the site, please send them our way - we're in a world of perpetual beta after all
4. The site may be slow today with traffic - we'll monitor it and make adjustments in the coming days as required

Any questions, let us know or contact the Challenger in question directly. So roll your sleeves up and join us and perhaps we'll even have a little fun in the process!

Cheers, The Health 2.0 Developer Challenge Team

June 29, 2010: Thank you for your interest in the Health 2.0 Developer Challenge. We are so excited to have talented and passionate developers involved in this important effort. We are hard at work prepping the first set of challenges to publicize, and getting our website ready for the official launch.

Once the first challenges are launched, you will be able to create a profile on the challenge site, and sign up for a team competing for a specific challenge. You'll also be able to view other developer bios and get in touch with them to recruit them to your team. All teams will receive a Dev Challenge blog to keep the community apprised of their progress. Stay tuned - we'll notify you when the site is up - but in the meantime:

• If you are interested in reviewing or adding to the list of publicly available datasources/tools/apis, please let us know and we'll give you access to the Resources Wiki for the Developer Challenge prior to launch.

• We are looking for a few good Tech Translators to help our challengers turn their ideas into actionable projects. Let us know if you'd like to get involved with this. It would involve being on an email list for rapid input when a challenge comes in. We'll want to know: does the challenge make sense as is? Are there questions you'd have as a developer in order for the Challenge to be ready to be worked on, etc?

• If you are already working on an app using a gov. dataset, we'd love to hear about it and possibly feature it on the Health 2.0 Developer Challenge website.

• If you do not want to partake in the Challenges but still would like to be involved, let us know! There are many opportunities we have to get involved in this exiting competition, so please let us know if you have any inquiries whatsoever.

Again, thanks for your interest, and stay tuned for more information! If you have any questions before the site is up, please let us know and I apologize if you have already been contacted with similar information.

Best, Nic Radoff, Program Assistant, Health 2.0 Developer Challenge, nic@health2con.com

July 6, 2010: HealthCare.gov on Twitter
May 3, 2010: Are you interested in improving the health performance of your community? Curious about how the quality and cost of healthcare services in your area compare with others? Willing to put your technology talents to work to spur change in our nation’s health system? Then spend a few weeks figuring out how to visualize the most compelling data sets available free of charge at HHS. Aneesh Chopra is U.S. Chief Technology Officer and Associate Director for Technology in the White House Office of Science and Technology Policy.

The Sponsor

The Sunlight Foundation, is sponsoring the “Design for America” competition, which is offering a $5,000 prize for the best visualization of community health data. According to Sunlight, “the visualizations should contribute toward the development of community health data dashboards that will enhance usability and understandability of health data for citizens and civic leaders. Entries will be judged based on how effectively, accurately, and creatively they enable users to gain insight about health performance in their communities as compared to others.” Sunlight Foundation Contest Winners.

The HHS Open Government Program

Community Health Data Initiative FIX

Health Indicators Warehouse Project: Community Health Status Indicators

Featured Opening Panel: Enabling Citizen Engagement and Open Government with EA -- An Agency Experience

- Mary Forbes, Lead Enterprise Architect, Department of Health and Human Services [Moderator]
- Henry Chao, Chief Technology Officer, Office of Information Services, Centers for Medicare and Medicaid Services, Department of Health and Human Services
- Todd Park, Chief Technology Officer, Department of Health and Human Services
- John Teeter, Deputy Chief Information Officer, Department of Health and Human Services

Also see http://www.feacinstitute.org/ea-news/CurrentEANews.php

The Expert and His Advice


Tufte’s Visual Display of John Snow’s Data: See UCLA Department of Epidemiology, School of Public Health Web Site

Also search Tufte for “Community Health”

"Medical statistics will be our standard of measurement: We will weigh life and see where the dead lie thicker, among the workers or among the privileged“, Rudolf Virchow, in Edward R. Tufte, Beautiful Evidence (2006), Graphics Press LLC.

http://semanticommunity.info/HealthDataGov
Updated: Sat, 19 Sep 2015 09:13:50 GMT
Powered by mindtouch
Tufte Comment on iPhone interface design: Better to have users looking over material adjacent in space within our eyespan rather than stacked in time. This is especially the case for statistical data, where the fundamental analytical task is to make comparisons. Also see page 159 in the above book reference.

The Cloud Tools

Mindtouch (this Wiki) and Spotfire

The Inspiration

H1N1 Spread Courtesy of TIBCO Spotfire. See Web Player. You can do Tufte's Beautiful Evidence (2006) "sparklines" (writing with data graphics) with Tibco Spotfire Bookmarks!

The Data Sources

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>URL</th>
<th>Metadata</th>
<th>Data</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downloadable Data Sets:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health Status Indicators (CHSI)</td>
<td>A web-based tool providing local public health agencies access to county health status profiles for improving community health by identifying resources and setting priorities. Visit the CHSI homepage to read about the data sources, definitions, and notes, and then explore the CHSI dataset file [ZIP - 5 MB].</td>
<td><a href="http://www.communityhealth.hhs.gov/homepage.aspx?q=1">http://www.communityhealth.hhs.gov/homepage.aspx?q=1</a></td>
<td>Yes</td>
<td>Yes</td>
<td>Excellent Data Dictionary!</td>
</tr>
</tbody>
</table>

http://semanticommunity.info/HealthDataGov
Updated: Sat, 19 Sep 2015 09:13:50 GMT
Powered by Mindtouch
<p>| County Health Ranking - Mobilizing Action Toward Community Health (MATCH) | An interactive website providing access to 50 state reports with rankings of each county within each state according to its health outcomes and health determinants. The County Health Rankings are a key component of the Mobilizing Action Toward Community Health (MATCH) project. MATCH is a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Read about the project and then examine the MATCH State Data file [XLS - 3 MB] [ZIP - 3.4 MB]. | <a href="http://www.countyhealthrankings.org/">http://www.countyhealthrankings.org/</a> | Yes | Yes | Has very good data dictionary. |
| Healthy People 2010 (DATA 2010) | An interactive database system containing the most recent monitoring data for the Healthy People | <a href="http://wonder.cdc.gov/DATA2010/">http://wonder.cdc.gov/DATA2010/</a> | Yes | Yes | Confused that Healthy People says no data yet and this has recent data - &quot;Database updated&quot; |</p>
<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
<th>Website</th>
<th>Excel Downloaded</th>
<th>Access Database Required Log-in Information Used Excel Files! Used Spotfire Add Data Table to find one that looked interesting :)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centers for Medicare &amp; Medicaid Services</strong></td>
<td>Provides a wealth of downloadable data, such as Hospital Quality Compare and Nursing Home Compare, for health policy researchers, the media, and others interested in Medicare (Medicare's database download resource page).</td>
<td><a href="http://www.cms.gov/">http://www.cms.gov/</a></td>
<td>Yes</td>
<td>Yes Excel downloaded to the Wiki</td>
<td>January 2010. Next database update schedule is Spring 2010”</td>
</tr>
<tr>
<td><strong>USDA Food Environment Atlas</strong></td>
<td>A spatial overview of a community’s ability to access healthy food and its success in doing so. The Atlas assembles statistics on three broad categories of food environment factors: Food Choices; Health and Well-Being; and</td>
<td><a href="http://ers.usda.gov/foodatlas/">http://ers.usda.gov/foodatlas/</a></td>
<td>Yes</td>
<td>Yes</td>
<td>Excellent Database!</td>
</tr>
</tbody>
</table>

Note: This web site is the most similar to the Mindtouch Wiki / Spotfire Silver Analytics Beta in the Cloud (Web Player) used here.
<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AHRQ National Healthcare Quality and Disparities Reports</strong></td>
<td>Produces the National Healthcare Quality and Disparities Reports measuring the trends in effectiveness of care, patient safety, timeliness of care, patient centeredness, and efficiency of care. Static tables are available in addition to an interactive tool for generating customized tables. A data table containing all measures by all states is also available.</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>The State of the USA</strong></td>
<td>An organization assembling high-quality measures and data that will increase the understanding and progress of the US across many areas, including health. SUSA is currently developing a set of health indicators that will be</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

**http://www.ahrq.gov/**

Lots of individual Excel files to download through a search interface.

**http://www.stateoftheusa.org/**

No data yet. Could select from the other programs.
| Selected Indicator Reports and Initiatives: | America's Children: Key national indicators of well-being, 2009 | A compendium of indicators illustrating both the promises and the difficulties confronting our Nation's young people. | http://childstats.gov/americaschildren/index.asp | X in spreadsheets | X Excel download to wiki | Note: Sent email requesting data tables in Excel. Then found them hiding:) |
| Chronic Disease Indicators | A set of 90 cross-cutting, important, uniform, and available indicators developed by consensus and drawn from many data sources. | http://apps.nccd.cdc.gov/cdi/ | X in spreadsheets | X Excel download to wiki | Note: This is difficult and time-consuming through a search interface! |
| Health, United States, 2009 | Healthy People 2010 contains 467 objectives in 28 focus areas designed to serve as a framework for improving the health of all people in the United States. Healthy People 2020 is currently under development. | http://www.cdc.gov/nchs/hus.htm | X in spreadsheets | X Excel downloaded to Wiki | Note: This is difficult and time-consuming to do this through a PDF document! |
| Healthy People | Healthy People 2010 contains 467 objectives in 28 focus areas designed | http://www.cdc.gov/nchs/healthy_people.htm | NA | NA | Data not available yet |
Healthy People 2020 is currently under development.

<table>
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<th>Other Sources of Data</th>
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</table>

**Name**


**Description**

EPA's 2008 Report on the Environment (ROE) asks important questions about the status of and trends in the quality of our nation's air, water, land, human health and ecological condition. The ROE contains environmental indicators that are based on high-quality data.

**URL**

- [http://cfpub.epa.gov/eroe/index.cfm](http://cfpub.epa.gov/eroe/index.cfm)

**Metadata**

- Yes

**Data**

- Yes

**Comments**

Data Dictionary in process.

Need to see how current this is.
| **Census Annual Statistical Abstract (2010): Births, Deaths, Marriages, and Divorces** | Vital statistics data on births, deaths, abortions, fetal deaths, fertility, life expectancy, marriages, and divorces. | [http://www.census.gov/compendia/stat...divorces.html](http://www.census.gov/compendia/stat...divorces.html) | Yes UPDATE | Example: Table 78. Live Births, Deaths, Marriages, and Divorces: Metadata and Data Table UPDATE |
| **Census Annual Statistical Abstract (2010): Health and Nutrition** | Statistics on health expenditures and insurance coverage, including Medicare and Medicaid, medical personnel, hospitals, nursing homes and other care facilities, injuries, diseases, disability status, nutritional intake of the population, and food consumption. | [http://www.census.gov/compendia/stat...nutrition.html](http://www.census.gov/compendia/stat...nutrition.html) | Yes UPDATE | Example: Table 127. National Health Expenditures--Summary, and Projections: Metadata and Data Table UPDATE |
| More in progress | | | | |

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**The Process**

The Basic Steps:

![QR Code](http://example.com/qr)
• Inventory Data Sources and Plan Application
• Prepare and Import Data and Metadata
• Implement Layout and Analytics
• Add Bookmarks and Create Data Stories
• Publish and Test in Web Player
• Get Feedback and Improve

The Overall Strategy:
• Do at least one example for each of the Downloadable Data Sets and Selected Indicator Reports and Initiatives and then do the most analytics for the “best”.
• Deal with the problems in the data sets that require some reformatting in Excel first.
  ◦ E.g., Spotfire Analytics just wants the data – mark all other rows “ignore” and put them in the metadata.
  ◦ Create a data dictionary if one does not exist.
• Do Exploratory Data Analysis (EDA) and select some data stories to create visualizations for.

The Results

First there was Put Your Desktop in the Cloud to Support the Open Government Directive and Data.gov/semantic, April 19, 2010. Then there was Build Your Own Data.gov and EPA Microsite with Semantics and Statistics in the Cloud, May 15, 2010. And now there is Build Your Community Health Information “Design for America” Using Mindtouch and Spotfire Analytics, May 17, 2010.

The HHS Community Health Data Initiative’s Downloadable Data Sets (7) and Select Indicator Reports and Initiatives (5) have been mined for their metadata and datasets which have been organized into a new state-of-the-art Web 2.0 Wiki (Mindtouch) and analyzed and visualized in a new state-of-the-art BUsiness Analytics tool (Spotfire) to create an interactive community health data warehouse and dashboard on the Web. See http://healthitgov.wik.is/ and Spotfire Web Player, respectively.

The author followed Edward Tufte’s advice on interface design: “Better to have users looking over material adjacent in space within our eyespan rather than stacked in time. This is especially the case for statistical data, where the fundamental analytical task is to make comparisons” (see page 159, of his book entitled Beautiful Evidence, 2006) and noting that one can do Tufte’s “sparklines” (writing with data graphics) with Tibco Spotfire Bookmarks.

The HHS Community Health Data and supporting map boundaries were organized into 24 tabs in Spotfire Analytics usually with several adjacent panels for Navigation and Metadata, Data Tables, Graphics, and Maps. Spotfire Analytics uses “linked data”, but not with the Semantic Web’s RDF at present. It is “open” in the sense that the Spotfire file (.dxp) can be downloaded from the Web and a 30-day free trial client can be used to perform additional analyses including exporting the data back to Excel, etc. for use in your own applications. The results can be exported to PowerPoint slides, Web pages (static), and the Spotfire Silver Analytics Beta in the Cloud (Web Player) where almost all of the functionality of the desktop client (e.g. sliders, filters, zooming for maps, etc.) is retained except for the ability of the Web user to change the analyses. It is of interest to note that the http://data.medicare.gov/ is the web site is the most similar to the Mindtouch Wiki / Spotfire Silver Analytics Beta in the Cloud (Web Player) used here.
The author followed a six step process: Inventory Data Sources and Plan Application, Prepare and Import Data and Metadata, Implement Layout and Analytics, Add Bookmarks and Create Data Stories, Publish and Test in Web Player, and Get Feedback and Improve. The Overall Strategy was to: (1) Do at least one example for each of the Downloadable Data Sets and Selected Indicator Reports and Initiatives and then do the most analytics for the "best"; (2) Deal with problems in the data sets that require some reformatting in Excel first (e.g. Spotfire Analytics just wants the data – mark all other rows "ignore" and put them in the metadata); (3) Create a data dictionary if one does not exist; and (4) Do Exploratory Data Analysis (EDA) and select some data stories to create visualizations for.

Four example results are captured in the PowerPoint slides as follows: (1) CHSI: DATA ELEMENT DESCRIPTION & DEFINED DATA VALUE - The Community Health Status Indicators (CHSI) have an excellent Data Dictionary and Metadata (2) County Health Ranking - Mobilizing Action Toward Community Health (MATCH): Virginia - Fredericksburg stands out with the highest values by both County and Deaths!; (3) Centers for Medicare & MedicaidServices-Home Healthcare Compare_Revised_flatfiles - Percentage of patients who get better at getting in and out of bed versus Percentage of patients whose bladder control improves by Type of Ownership - More mobility leads to better bladder control independent of Type of Ownership; ; and (4) Health, United States, 2009 Table 150. Persons without health insurance coverage, by state United States, average annual 1995–1997 through 2005–2007 - Texas had the highest percentage of persons without health insurance coverage, annual average 2005-2007.

**Comments**


Please use the Add Comment feature at the bottom of this wiki page to provide feedback and suggest additional analyses you would like to see. To use the Add Comment feature you first need to register by providing your email address. Your privacy will be respected and your email addressed will not be available to others or used for any other purpose. You can also download the Spotfire file (80 MB) from this Wiki and a 30-day free evaluation copy from [http://spotfire.tibco.com/](http://spotfire.tibco.com/) and reuse these analyses, add your own data to this file or new Spotfire files that you create. Have fun and give us your feedback!

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**References**

Brand L. Niemann, Build Your Own Data.gov and EPA Microsite with Semantics and Statistics in the Cloud, May 15, 2010 (Slides).