Using Data to Improve Health Services

A workshop for Community Supported Clinics

Charles Rynerson
Sheila Martin
April 10, 2017

Population Research Center
PORTLAND STATE UNIVERSITY
Why can data help you serve your community?
Workshop Agenda

• Important sources of Demographic data
• Important sources of health data
• Community Profiles: Review of data points and sources
• Discussion of community profiles
• Step-by-step instructions for obtaining and mapping similar data
• Brainstorming and discussion
INTRODUCTION TO DEMOGRAPHIC DATA SOURCES

Charles Rynerson
Decennial Census: Historical Perspective

- **Short Form**
  - Questions asked of all persons residing in U.S.
    - Age, Gender, Race/Hispanic origin, Household relationship, Housing Tenure
  - 100% Data Products

- **Long Form (1940-2000)**
  - Questions asked of a sample of 1 of 6 Housing Units; 15% of the population in 2000
    - Economic, Social, and Housing Information
    - Sample data products
2010 Census

• April 1, 2010

• An “actual enumeration” (The 2010 Census aims to count all U.S. residents—citizens and non-citizens alike)

• Only 10 questions on the 2010 Census form

  *NO LONG FORM!*  

• population and housing counts and basic characteristics (sex, age, race/ethnicity, household composition, vacant/occupied and owner/renter units)
NOTE: Please answer BOTH Question 5 about Hispanic origin and Question 6 about race. For this census, Hispanic origins are not races.

5. Is this person of Hispanic, Latino, or Spanish origin?
   - No, not of Hispanic, Latino, or Spanish origin
   - Yes, Mexican, Mexican Am., Chicano
   - Yes, Puerto Rican
   - Yes, Cuban
   - Yes, another Hispanic, Latino, or Spanish origin — Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.

6. What is this person’s race? Mark one or more boxes.
   - White
   - Black, African Am., or Negro
   - American Indian or Alaska Native — Print name of enrolled or principal tribe.
   - Asian Indian
   - Chinese
   - Filipino
   - Other Asian — Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.
   - Japanese
   - Korean
   - Vietnamese
   - Native Hawaiian
   - Guamanian or Chamorro
   - Samoan
   - Other Pacific Islander — Print race, for example, Fijian, Tongan, and so on.
   - Some other race — Print race.
## 2010 Census: Race and Ethnicity

### Hispanic or Latino and Race

<table>
<thead>
<tr>
<th>Total Population</th>
<th>2000</th>
<th>2010</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic or Latino (of any race)</td>
<td>279,744</td>
<td>450,062</td>
<td>174,318</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>3,146,085</td>
<td>3,381,012</td>
<td>234,927</td>
</tr>
<tr>
<td>White Alone</td>
<td>2,857,616</td>
<td>3,005,848</td>
<td>148,232</td>
</tr>
<tr>
<td>Black or African American Alone</td>
<td>53,325</td>
<td>64,984</td>
<td>11,659</td>
</tr>
<tr>
<td>American Indian and Alaska Native Alone</td>
<td>40,130</td>
<td>42,706</td>
<td>2,576</td>
</tr>
<tr>
<td>Asian Alone</td>
<td>100,333</td>
<td>139,436</td>
<td>39,103</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander Alone</td>
<td>7,398</td>
<td>12,697</td>
<td>5,299</td>
</tr>
<tr>
<td>Some Other Race Alone</td>
<td>4,550</td>
<td>5,502</td>
<td>952</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>82,733</td>
<td>109,839</td>
<td>27,106</td>
</tr>
</tbody>
</table>

### Race Alone or in Combination

<table>
<thead>
<tr>
<th>Total Population</th>
<th>2000</th>
<th>2010</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>3,055,670</td>
<td>3,337,309</td>
<td>281,639</td>
</tr>
<tr>
<td>Black or African American</td>
<td>72,647</td>
<td>98,479</td>
<td>25,832</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>85,667</td>
<td>109,223</td>
<td>23,556</td>
</tr>
<tr>
<td>Asian</td>
<td>127,339</td>
<td>186,281</td>
<td>58,942</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander</td>
<td>16,019</td>
<td>25,785</td>
<td>9,766</td>
</tr>
<tr>
<td>Some Other Race</td>
<td>176,866</td>
<td>231,789</td>
<td>54,923</td>
</tr>
</tbody>
</table>
ACS

Use data from the American Community Survey to obtain detailed demographic, social, economic, and housing characteristics, such as income, poverty, employment, and educational attainment.
ACS

- An ongoing survey that provides data every year
- A sample of the population
- **All ACS data are survey estimates.** To help you interpret the reliability of the estimate, the Census Bureau publishes a margin of error (MOE) for every ACS estimate.
# Subjects Included in the Survey

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Social</th>
<th>Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age and Sex</td>
<td>Ancestry</td>
<td>Computer Ownership &amp; Internet Access</td>
</tr>
<tr>
<td>Group Quarters Population</td>
<td>Citizenship Status</td>
<td>House Heating Fuel</td>
</tr>
<tr>
<td>Hispanic or Latino Origin</td>
<td>Disability Status</td>
<td>Kitchen Facilities</td>
</tr>
<tr>
<td>Race</td>
<td>Educational Attainment</td>
<td>Occupancy/Vacancy Status</td>
</tr>
<tr>
<td>Relationship</td>
<td>Fertility</td>
<td>Occupants per Room</td>
</tr>
<tr>
<td>Total Population</td>
<td>Field of Degree</td>
<td>Owner Monthly Costs</td>
</tr>
<tr>
<td>Economic</td>
<td>Grandparents as Caregivers</td>
<td>Plumbing Facilities</td>
</tr>
<tr>
<td>Class of Worker</td>
<td>Language</td>
<td>Rent Statistics</td>
</tr>
<tr>
<td>Commuting to Work/Journey to Work</td>
<td>Marital History</td>
<td>Rooms</td>
</tr>
<tr>
<td>Employment Status</td>
<td>Marital Status</td>
<td>Beds</td>
</tr>
<tr>
<td>Food Stamps/Supplemental Nutrition Assistance Program (SNAP)</td>
<td>Place of Birth</td>
<td>Telephone Service Available</td>
</tr>
<tr>
<td>Health Insurance Coverage</td>
<td>School Enrollment</td>
<td>Tenure</td>
</tr>
<tr>
<td>Income and Earnings</td>
<td>Residence 1 Year Ago/Migration</td>
<td>Units in Structure</td>
</tr>
<tr>
<td>Industry and Occupation</td>
<td>Veterans</td>
<td>Value of Home</td>
</tr>
<tr>
<td>Poverty</td>
<td>Year of Entry</td>
<td>Vehicles Available</td>
</tr>
<tr>
<td>Work Status</td>
<td></td>
<td>Year Householder Moved Into Unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year Structure Built</td>
</tr>
</tbody>
</table>
ACS Topics:
Notable Additions and Improvements

• Disability (new questions introduced 2008)
  – Hearing difficulty
  – Vision difficulty
  – Cognitive difficulty
  – Ambulatory difficulty
  – Self-care difficulty
  – Independent living difficulty

• Health Insurance (2009)

• Field of Bachelor’s Degree (2009)
Percent Uninsured, Total civilian noninstitutionalized population
State of Oregon, 2009-2014 ACS

ACS One Year Estimates

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Uninsured (Table S2701)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>17.0%</td>
</tr>
<tr>
<td>2010</td>
<td>17.1%</td>
</tr>
<tr>
<td>2011</td>
<td>15.7%</td>
</tr>
<tr>
<td>2012</td>
<td>14.9%</td>
</tr>
<tr>
<td>2013</td>
<td>14.7%</td>
</tr>
<tr>
<td>2014</td>
<td>9.7%</td>
</tr>
</tbody>
</table>
## 2013 and 2014 insurance coverage, Oregon

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Civilian</th>
<th>Noninst</th>
<th>with Insurance</th>
<th>no Insurance</th>
<th>With Medicaid/Means</th>
<th>Tested</th>
<th>With Medicaid/Means Tested</th>
<th>Alone</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>3,893,092</td>
<td>3,322,210</td>
<td>85.3%</td>
<td>570,882</td>
<td>14.7%</td>
<td>662,038</td>
<td>475,351</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>3,931,306</td>
<td>3,548,645</td>
<td>90.3%</td>
<td>382,661</td>
<td>9.7%</td>
<td>897,812</td>
<td>667,749</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chg.</td>
<td>38,214</td>
<td>226,435</td>
<td></td>
<td>-188,221</td>
<td></td>
<td>235,774</td>
<td>192,398</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*U.S. Census Bureau, ACS 1 year estimates, Table S2701*
# Population Thresholds for ACS Estimates

<table>
<thead>
<tr>
<th>Annual Release:</th>
<th>September</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas with 65,000 + people</td>
<td>1-year estimates X</td>
<td>5-year estimates X</td>
</tr>
<tr>
<td>All Geographic Areas</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**1-year estimates** refer to estimates released in September, while **5-year estimates** are released in December for areas with 65,000 + people. For all other areas, **5-year estimates** are released in December.
Cowlitz County Poverty Rate, All Persons
American Community Survey 1 Year Estimates

Poverty Rate

- 2006: 16.3%
- 2007: 16.1%
- 2008: 14.9%
- 2009: 16.1%
- 2010: 22.4%
- 2011: 20.6%
- 2012: 16.7%
- 2013: 14.5%
- 2014: 22.5%
- 2015: 15.1%

i-beam bars show margin of error at the 90% confidence level.
Cowlitz County Poverty Rate, All Persons  
*Small Area Income and Poverty Estimates (SAIPE)*

![Bar chart showing the poverty rate in Cowlitz County from 2006 to 2015.](chart)

* Beam bars show margin of error at the 90% confidence level.*
Cowlitz County Poverty Rates

Period*  | Poverty Rate
---------|-------------
1999     | 14.0%       
2006-2010| 16.9%       
2011-2015| 17.5%       

*All data are estimates. The 2000 Census long form asked respondents to report calendar year 1999 income; American Community Survey responses were collected over a five year period, asking respondents to report income over the previous 12 months. I-beam bars show margin of error at the 90% confidence level.
One Year ACS Estimates for 15 Oregon Counties
Five Year ACS Estimates for all 36 Oregon Counties
Central axis describes a nesting relationship

Blocks are not defined by population and are the smallest geographic level at which data are ever released (Decennial Census, not the ACS)

Census Geography Hierarchy (with 2010 Statistical Area Criteria)
Revised 10-29-11

- Cities and towns -- incorporated
- Census Designated Places (CDPs)
  - 1,200 to 8,000 population (optimum 4,000)
  - 480 to 3,200 housing units

- 600 to 3,000 population
- 240 to 1,200 housing units
Census Geography

- **Census Tracts**—small, relatively permanent statistical subdivisions of a county or equivalent area [usually 2,500-8,000 people, PDX MSA avg. ~ 4,400]
- **Block Groups (BG)**—a subdivision of Census Tracts containing a cluster of Census Blocks [usually 600-3,000 people, optimum size 1,500]
- **Blocks**—smallest geographic area; bounded on all sides by visible features (e.g. streets, streams, railroad tracks) and by invisible boundaries (e.g. city, town, and county limits)
Census Geography

- **Place**—Places, for the reporting of census data, include census designated places (CDP), consolidated cities, and incorporated places (cities, towns, villages, etc.).

- **ZCTA**—A ZIP Code® tabulation area (ZCTA™) is a statistical geographic entity that approximates the delivery area for a U.S. Postal Service five-digit ZIP Code. ZCTAs do not precisely depict ZIP Code delivery areas, and do not include all ZIP Codes used for mail delivery.
Resources for Data Users

• [factfinder.census.gov](http://factfinder.census.gov) - American FactFinder


• [censusreporter.org](http://censusreporter.org)

• [pdx.edu/prc](http://pdx.edu/prc) – Population Research Center

• [portlandpulse.org](http://portlandpulse.org)
American FactFinder may be unavailable periodically from 9am EST October 10th until 9am EST October 11th while we perform system maintenance. We apologize for any inconvenience.

Community Facts
Find popular facts (population, income, etc.) and frequently requested data about your community.
Enter a state, county, city, town, or zip code:
[e.g., Atlanta, GA]

Guided Search

Advanced Search

Download Center

Popular Tables
Population and Housing
- Demographic and Housing Estimates (2013 ACS, DP05)
- General Housing Characteristics (2013 ACS, DP04)
- General Demographic Characteristics (2010 Census, DP-1)

Poverty and Income
- General Economic Characteristics (2013 ACS, DP03)

Age, Race, Sex and Education
- Selected Social Characteristics (2013 ACS, DP02)
- Educational Attainment (2013 ACS, S1501)

News and Notes
September 17, 2015
The 2014 American Community Survey 1-year estimates are now available...
Search - Use the options on the left (topics, geographies, ...) to narrow your search results

To search for tables and other files in American FactFinder:

1. Enter search terms and an optional geography and click GO
   - topic or table name
   - state, county or place (optional)

   -- or --

   Select from Topics, Race and Ethnic Groups, Industry Codes, EEO Occupation Codes.
   - these are added to 'Your Selections'
   - the Search Results are updated

2. Next, select Geographies (states, counties, cities, towns, etc.)
   - these are added to 'Your Selections'
   - the Search Results are updated

3. Select one or more Search Results and click View
INTRODUCTION TO HEALTH DATA SOURCES

Sheila Martin
There are many sources of health data!

- National Center for Health Statistics, CDC
- Behavioral Risk Factors Surveillance System, CDC
- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
- Claims data
- Census Bureau, ACS and SAHIE
- Safe drinking water information system
- Etc etc

How do we know what to use???
Evaluating the usefulness of potential health data

- What is the data source?
- How are the data collected?
- For what geography?
- Over what time period? What has changed?
- How current are the data? How often are they collected and what is the lag in their release?
Data collection methods

• Administrative records
  – Created for an administrative purpose
    • Claims data, tax data, birth and death records

• Survey data
  – Usually collected specifically to answer a research question
  – May have problems with response rates and data reliability
Questions to ask about survey data

• Who is being surveyed (what is the universe)?
• What percentage of the universe is sampled?
• What is the sampling method (phone, mail, web)?
• What kind of sampling bias might be introduced by the sampling method?
Key health data sources

• Vital records (births and deaths)
  – National Center for Health Statistics or the state health department
  – Can be used to calculate premature death, cause of death, low birth weight babies, teen births.

• Behavioral Risk Factor Surveillance System, CDC
  – Phone survey conducted by state state health departments
  – National sample of about 500,000 adults living in households (>18)
  – Set of surveys about a variety of health topics
  – Sample sizes can be low for counties

• State health departments
  – Disease incidence, etc.
Other Health data sources

• Census Bureau, American Community Survey
  – **Insured and uninsured** by age, sex, and race, education, and income
  – Disability information

• Health Resources and Services Administration
  – Health Center Program Grantee Data for FQHC’s
  – 2012-2015
  – Characteristics of service area, patients, services, clinical data, cost, etc.
Data aggregators

• Web sites or reports that produce a specific set of health data or indicators by aggregating a lot of different sources of data, Examples:
  – Greater Portland Pulse (Portland metro counties only)
  – County Health Rankings (National county-level data)
  – State of Oregon’s Health (County-level data)
  – 500 Cities Project
Profile Review
Discussion

• What can I say about my community based on these data?
• What other data would I like to have?
• How are these data useful for my clinic:
  – For targeting services?
  – For identifying partners?
  – For locating new services?
Building your own profile

• Step by step instructions for:
  – American Factfinder
  – Greater Portland Pulse
  – County Health Rankings
  – UDS Mapper (if we have time)
Brainstorming and Discussion

• What are the most important ways I can think of to use these data?
• What is missing that I might need to know?
• What other data might we want to combine with these data to learn more?
Contacts

• Population Research Center
  www.pdx.edu/prc/

• Charles Rynerson  rynerson@pdx.edu
  503-725-5157

• Sheila Martin  sheilam@pdx.edu
  503-725-5170