Exploring NHIS Data by Census Division

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The previous presentations have covered some of the formal aspects of the NCHS RDC.

This presentation is more exploratory, to help you think about what YOU can do with restricted data at the RDC.
Restricted Data at the NCHS/RDC

Frequently requested types of data include:

- Small geographic areas
- Sensitive information
- Mortality and linked mortality files
- Exact dates
- Small race/ethnicity groups
- Genetic data
Restricted Geographic Data

Frequently used geographic areas include:

- State
- County
- Census tract
Geographic Data in the National Health Interview Survey (NHIS)

The sampling frame for the NHIS allows public use estimates to be made for:

- The whole United States
- The four Census Regions

State is a restricted variable, and:

- State is not a level in the NHIS sample frame
- Some states are not included in the sample
- Some states are too small for stable estimates
- Using state in analysis may violate confidentiality
A Methodological Research Question

What can we use when Region is too large, and State is too small?

Division may allow for finer detail than Region, without violating confidentiality.
Map of US Census Regions and Divisions

Source: Dept. of Energy, Regional Energy Profiles.
## Census Divisions

<table>
<thead>
<tr>
<th>US Census Region</th>
<th>US Census Division</th>
<th>States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1: Northeast</td>
<td>1. New England</td>
<td>CT, ME, MA, NH, RI, VT</td>
</tr>
<tr>
<td></td>
<td>2. Middle Atlantic</td>
<td>NY, NJ, PA</td>
</tr>
<tr>
<td>Region 2: Midwest</td>
<td>3. East North Central</td>
<td>IN, IL, MI, OH, WI</td>
</tr>
<tr>
<td></td>
<td>4. West North Central</td>
<td>IA, KS, MN, MO, NE, ND, SD</td>
</tr>
<tr>
<td>Region 3: South</td>
<td>5. South Atlantic</td>
<td>DE, MD, WV, DC, VA, NC, SC, GA, FL</td>
</tr>
<tr>
<td></td>
<td>6. East South Central</td>
<td>MS, AL, TN, KY</td>
</tr>
<tr>
<td></td>
<td>7. West South Central</td>
<td>TX, OK, AR, LA</td>
</tr>
<tr>
<td>Region 4: West</td>
<td>8. Mountain</td>
<td>MT, ID, WY, NV, UT, CO, AZ, NM</td>
</tr>
<tr>
<td></td>
<td>9. Pacific</td>
<td>CA, OR, WA, AK, HI</td>
</tr>
</tbody>
</table>

Source: US Census Bureau
Goal

To compare the use of Region with Division to review the prevalence of selected covariates and five chronic disease conditions.
Overview of the National Health Interview Survey

National Health Interview Survey (NHIS)

- Fielded each year
- Personal interview, in the home
- 30-40,000 households
- 75-100,000 people
- A multi-stage random sample
- Represents the civilian, non-institutionalized US population
- Region is the smallest public use geographic unit

Source: NHIS website
Notes

• Estimates were calculated from the 2009 NHIS Sample Adult file, using the Sample Adult weight.

• Estimates by Division are not representative of the US population because Division is not part of the NHIS sampling frame.

• This work is exploratory. Relationships have not been tested for statistical significance.
Demographic and smoking variables

- Sex
- Race/ethnicity
- Cigarette smoking status
- Current smoking
Percent Male and Female by Division

Source: 2009 NHIS
Smoking Status by Region

Source: 2009 NHIS
Smoking Status by Division

Source: 2009 NHIS
Prevalence of Current Smoking by Region

Source: 2009 NHIS
Prevalence of Current Smoking by Division

Source: 2009 NHIS
Prevalence of Current Smoking by Region and Division

Source: 2009 NHIS
Percentage of the Division Population by Race/Ethnicity Group

Source: 2009 NHIS
The Percentage of a Race/Ethnicity Group in Each Division

Source: 2009 NHIS
Have you EVER been told by a doctor or other health professional that you had:

- Coronary heart disease
- Hypertension
- A stroke
- Diabetes
- Asthma
Prevalence of Coronary Heart Disease (CHD) by Region

Northeast Region
Midwest Region
South Region
West Region

Source: 2009 NHIS
Prevalence of CHD by Division

Source: 2009 NHIS
Prevalence of CHD by Region and Division

Coronary Heart Disease

Source: 2009 NHIS
Prevalence of Hypertension by Region

Source: 2009 NHIS
Prevalence of Hypertension by Division

Source: 2009 NHIS
Prevalence of Hypertension by Region and Division

Source: 2009 NHIS

Hypertension

Northeast Region, New England, Mid-Atlantic, Midwest Region, East-North Central, West-NorthCentral, South Region, South Atlantic, East South Central, West South Central, West, Mountain, Pacific

Source: 2009 NHIS
Prevalence of Stroke by Region

Source: 2009 NHIS
Prevalence of Stroke by Division

Source: 2009 NHIS
Prevalence of Stroke by Region and Division

Source: 2009 NHIS
Stroke Belt

An area in the southeast part of the United States with a high prevalence of stroke.

The East South Central Division is in the stroke belt.
Prevalence of Diabetes by Region

Source: 2009 NHIS
Prevalence of Diabetes by Division

Source: 2009 NHIS
Prevalence of Diabetes by Region and Division

Source: 2009 NHIS
Prevalence of Asthma by Region

Source: 2009 NHIS
Prevalence of Asthma by Division

Source: 2009 NHIS
Prevalence of Asthma by Region and Division

Source: 2009 NHIS
Five Conditions by Region

Source: 2009 NHIS

Northeast Midwest South West
Hypertension CHD Stroke Asthma Diabetes
Five Conditions by Division

Source: 2009 NHIS
Summary and Conclusions

Displaying chronic conditions and covariates by Division can reveal more detail than showing them by Region.
Reaching the RDC from the NCHS Homepage

National Center for Health Statistics

FastStats... Statistics by Topic
- Diseases and Conditions
  - Asthma, Cholesterol, Diabetes, Heart Disease, Hypertension, Obesity...
- Health Care and Insurance
- Injuries
- Life Stages and Populations
- Lifestyle

What's New!
- America's Children In Brief: Key National Indicators of Well-Being, 2010
- Annual inter-agency report features data on health, other measures
- Births, Marriages, Divorces, and Deaths: Provisional Data for October 2009
- Cohort Fertility Tables for All, White, and Black Women: United States, 1960-2005
- United States Life Tables, 2006

Tools & Resources
- Health Data Interactive
- Healthy People 2010/2020
- NHANES Data and Resources
- ICD and ICF Classifications and Coding
- National Death Index
- NCHS Survey Measures Catalog
- NHANES Tutorial
- Q-Rank Question Evaluation Reports
- Responses to Recent Health Policy Requests
- VitalStats

About NCHS
- About the National Center for Health Statistics
- Mission
- Budget
- Employment
- Board of Scientific Counselors
- Health Data Standards
Or, go directly to the NCHS/RDC home page:

http://www.cdc.rdc.gov
NCHS Research Data Center (RDC)

The National Center for Health Statistics (NCHS) developed the Research Data Centers (RDC) to allow researchers access to restricted data.

The RDC is responsible for protecting the confidentiality of survey respondents, study subjects, or institutions from which data were collected. In order to do this, we request all researchers submit a research proposal outlining the need for this more sensitive data. The proposal provides a framework for us to identify potential disclosure risk. Once approved, we work with you to create a data file specific to your research question. We cannot send you the dataset, but we offer several modes of access.

People interested in using the RDC are typically, university trained researchers who are comfortable using SAS or a similar statistical package to analyze standard datasets. Past researchers have been epidemiologists, economists, demographers and health scientists.

If this is your first time using the RDC we have provided step-by-step instructions to guide you along the process.

**STEP 1**
Types of Data

**STEP 2**
Access Modes

**STEP 3**
The Proposal Process

**STEP 4**
Confidentiality

**STEP 5**
Approved Projects: Next Steps

**STEP 6**
Publication and Beyond
To learn more about the geocode data available at the NCHS / RDC:

- Click on “Step 1: Types of Data”
- On the next page, pick “Restricted Data”
- Click on “Geocodes by NCHS Survey”

We look forward to seeing you soon!