U.S. Department of Health and Human Services

Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Workshop on Restricted Health Data Available at the Philadelphia FSRDC

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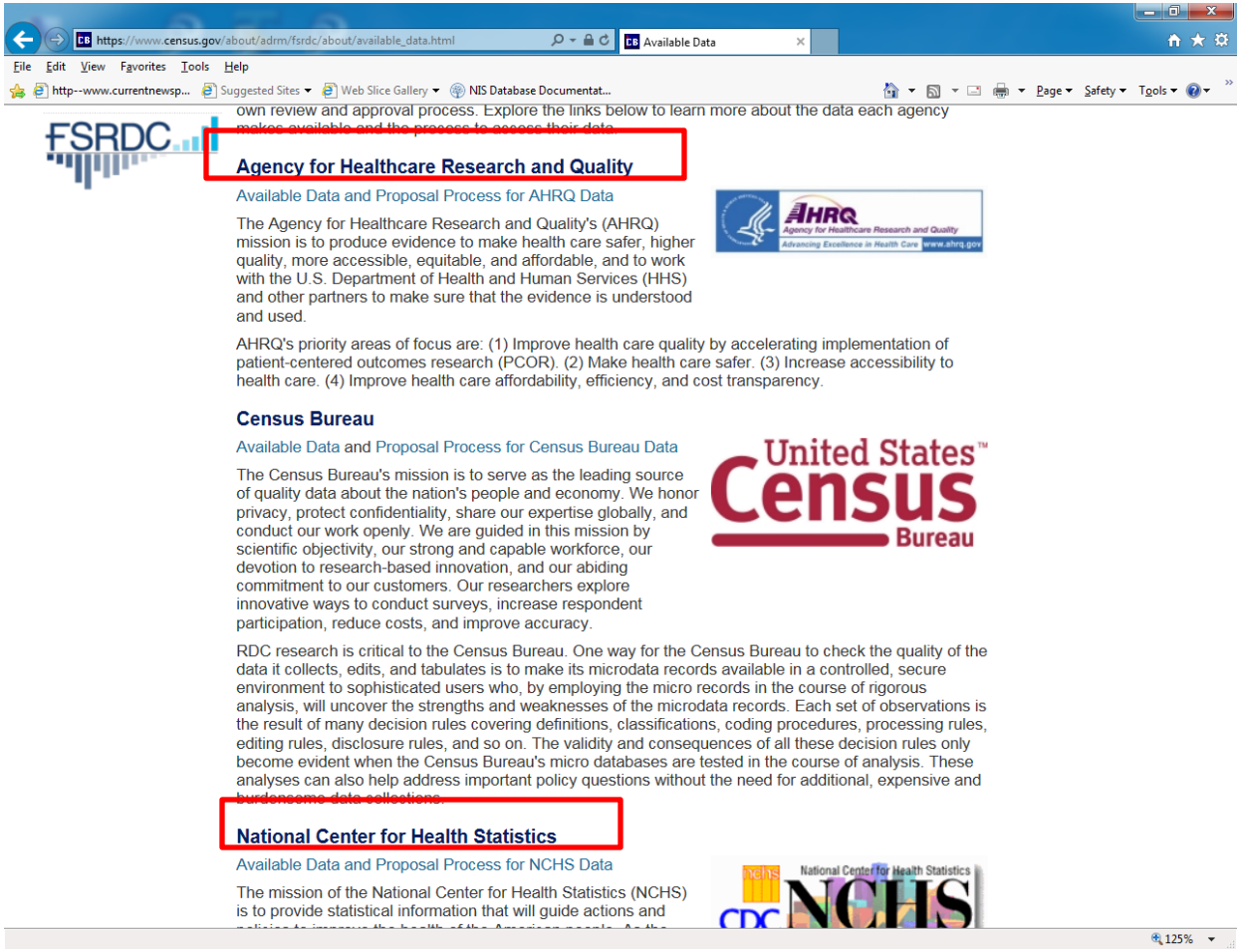
University of Pennsylvania
March 22, 2017

Disclaimer

The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Agency for Healthcare Research and Quality or the Centers for Disease Control and Prevention.

FSRDC Health Data



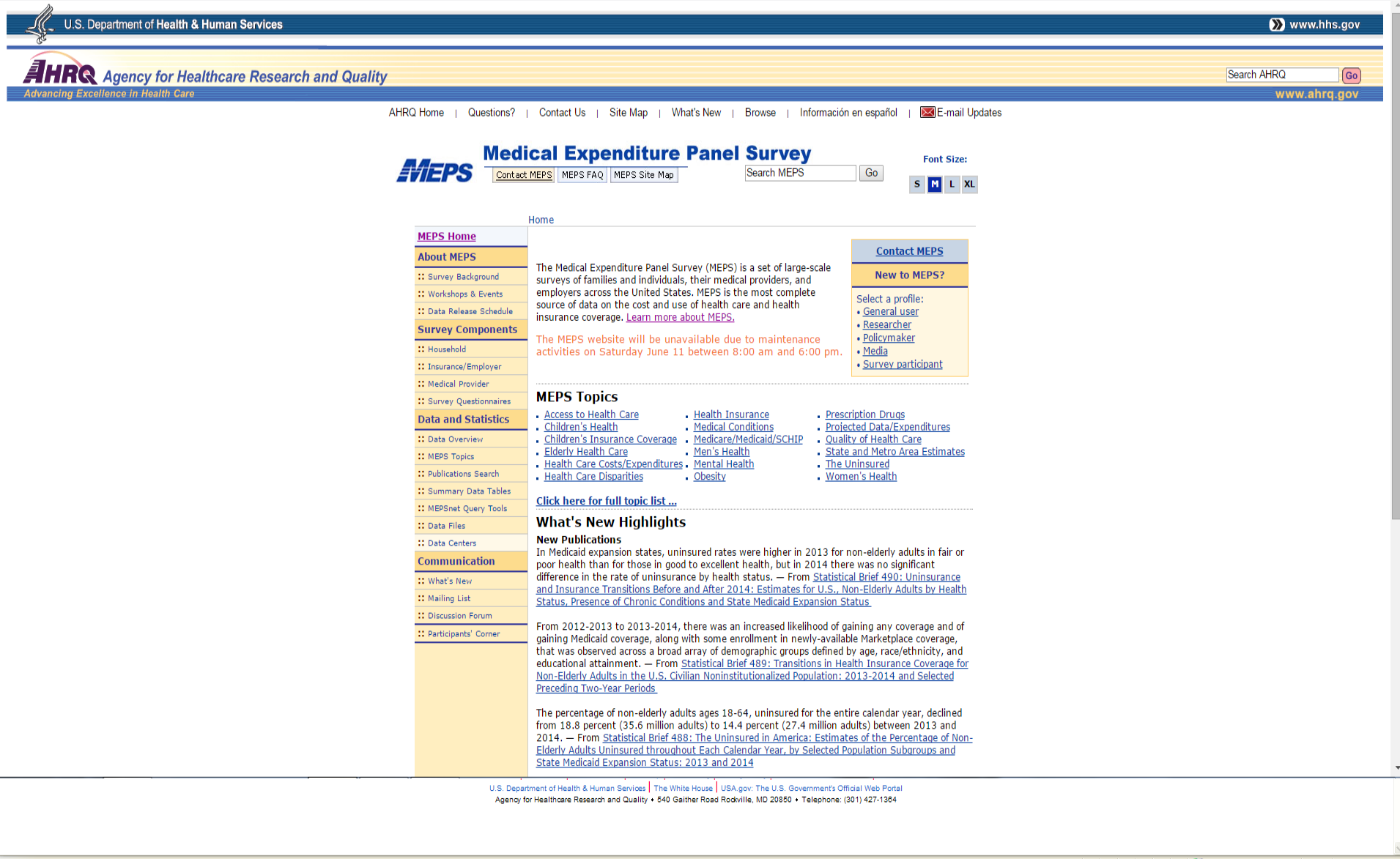
Plan for Presentation

- Description of AHRQ data (MEPS)
- Description of NCHS datasets
- Description of restricted data
  - --Geocodes
  - --Other restricted variables
  - --Early release data (NHIS)
  - --Linked administrative records
- Examples of use of restricted data
- Some proposal tips

Medical Expenditure Panel Survey (MEPS) History

- 1977 National Medical Care Expenditure Survey (NMCES)
- 1987 National Medical Expenditure Survey (NMES)
- 1996 Medical Expenditure Panel Survey (MEPS)

www.meps.ahrq.gov



MEPS Survey Components

- **MEPS-HC: Household Component**
- **MEPS-MPC: Medical Provider Component**
  - Follow-back survey of medical providers linked to respondents of the MEPS-HC
  - 2016 MEPS Medical Organization Survey (MOS)
- **MEPS-IC: Insurance Component**
  - Independent survey of employers and unions not linked to the MEPS-HC

MEPS-HC

- **Annual Survey of 14,000 households**
  - Provides national estimates of health care use, expenditures, insurance coverage, sources of payment, access to care and health care quality
- **Uses of the MEPS**
  - Trends in annual health care use, expenditures and insurance coverage
  - Expenditures for specific conditions
  - Policy-related and behavioral research on the determinants of health care use, spending, and insurance coverage
  - Microsimulation models to analyze alternative health care delivery proposals

MEPS-HC Survey Design

- Sub-sample of respondents from the previous year's National Health Interview Survey (NHIS), sponsored by NCHS
- Representative of the civilian non-institutionalized population of the US
- Collects 2 years of healthcare use in each panel
- 5 in-person interviews over 2 ½ year period using CAPI
- One respondent per household
- Person and family level data collected
- Interviews average 90 minutes with a range of one to four hours

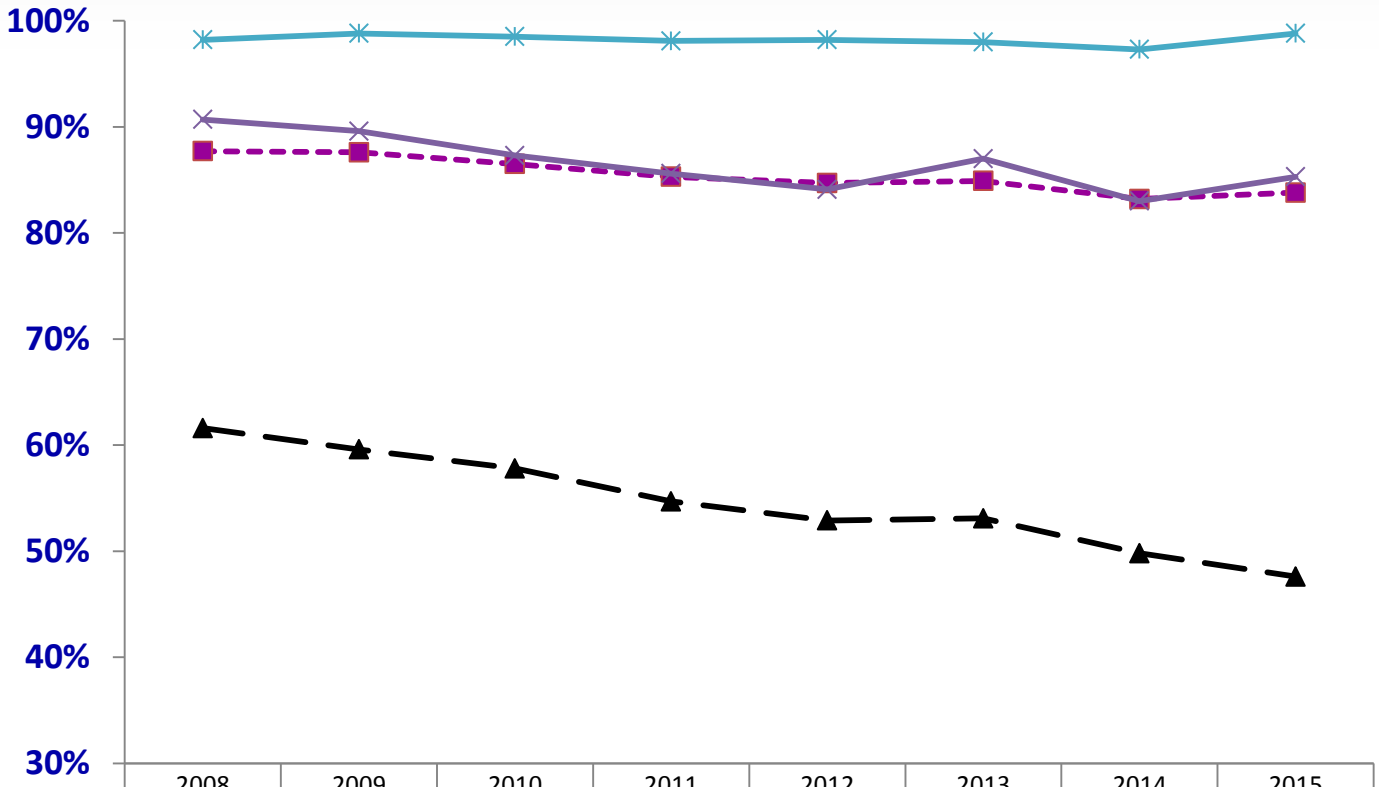
MEPS-Medical Provider Component (MPC)

- Survey of medical providers linked to respondents of the MEPS-HC.
- Collects data that household respondents cannot accurately provide, such as dates of visit, diagnosis and procedure codes, charges and payments.
- The Pharmacy Component (PC), a subcomponent of the MPC, collects drug detail information, including National Drug Code (NDC) and medicine name, date filled and sources and amounts of payment.
- The MPC is not designed to yield national estimates. It is primarily used as an imputation source to supplement household reported expenditure information.

MEPS-IC

- Nationwide, annual survey of both private and public sector employers
- An independent survey of employers and unions not linked to the household survey
- Collected for AHRQ by the Census Bureau annually since 1996 (no data for 2007)
- The sample contains information from about 40,000 establishments and supports national and state-level estimates for all 50 states.
- Employer-sponsored health insurance measures:
  - Availability
  - Enrollment
  - Benefit and payment provisions
  - Cost

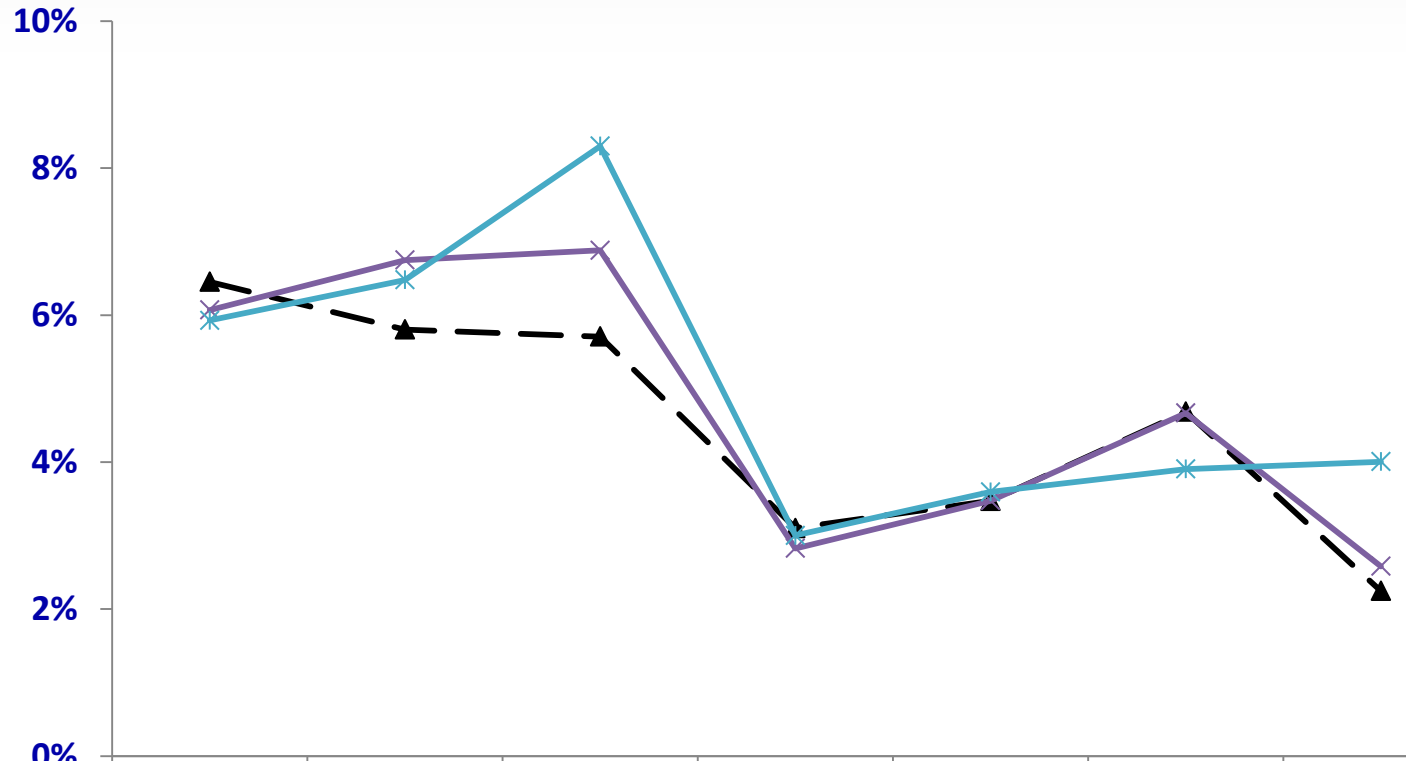
Offer rate: Percentage of private-sector employees in establishments that offer health insurance, overall and by firm size, 2008–2015



	2008	2009	2010	2011	2012	2013	2014	2015
United States	87.7%	87.6%	86.5%	85.3%	84.7%	84.9%	83.2%	83.8%
Small (< 50 employees)	61.6%	59.6%	57.8%	54.7%	52.9%	53.1%	49.8%	47.6%
Medium (50-99 employees)	90.7%	89.6%	87.3%	85.6%	84.1%	87.0%	83.0%	85.3%
Large (100+ employees)	98.2%	98.8%	98.5%	98.1%	98.2%	98.0%	97.3%	98.8%

▪Source: Center for Financing, Access, and Cost Trends, AHRQ, Medical Expenditure Panel Survey-Insurance Component, private-sector establishments, 2008–2015.

Percentage change in total premiums per enrolled private-sector employee for single, employee-plus-one, and family coverage, 2008–2015



	2009	2010	2011	2012	2013	2014	2015
Single	6.5%	5.8%	5.7%	3.1%	3.5%	4.7%	2.2%
Employee-plus-one	6.1%	6.7%	6.9%	2.8%	3.5%	4.7%	2.6%
Family	5.9%	6.5%	8.3%	3.0%	3.6%	3.9%	4.0%

Source: Center for Financing, Access, and Cost Trends, AHRQ, Medical Expenditure Panel Survey-Insurance Component, private-sector establishments, 2008–2015.

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Information about all datasets can be found on the NCHS website: http://www.cdc.gov/nchs/

Four Major NCHS Data Systems

- National Vital Statistics System and surveys
- National Health Interview Survey
- National Health and Nutrition Examination Survey
- National Health Care Surveys

National Vital Statistics System

- Birth and death records
  - National Vital Statistics System Cooperative Program—partnership with registration areas (State and Territories)
  - Information at the State and local level

National Survey of Family Growth

Data source and sample

- In-person interviews in the home
- Annual sample of 7,600 women and 5,000 men, representative of the civilian US population, ages 15-44

Findings

- Reproductive health
  - Fertility/infertility
  - Contraception
  - Pregnancy
  - Sexual activity
- Family formation
  - Marriage, divorce, cohabitation

National Health Interview Survey

- Data source
  - Representative in person, in home survey of 87,500 respondents
- Data applications
  - Health status and disability
  - Insurance coverage
  - Access to and use of health services
  - Extent of illness and disability
  - Immunization
  - Health behaviors

National Health and Nutrition Examination Survey (NHANES) Mobile Exam Center

National Health and Nutrition Examination Survey (NHANES)

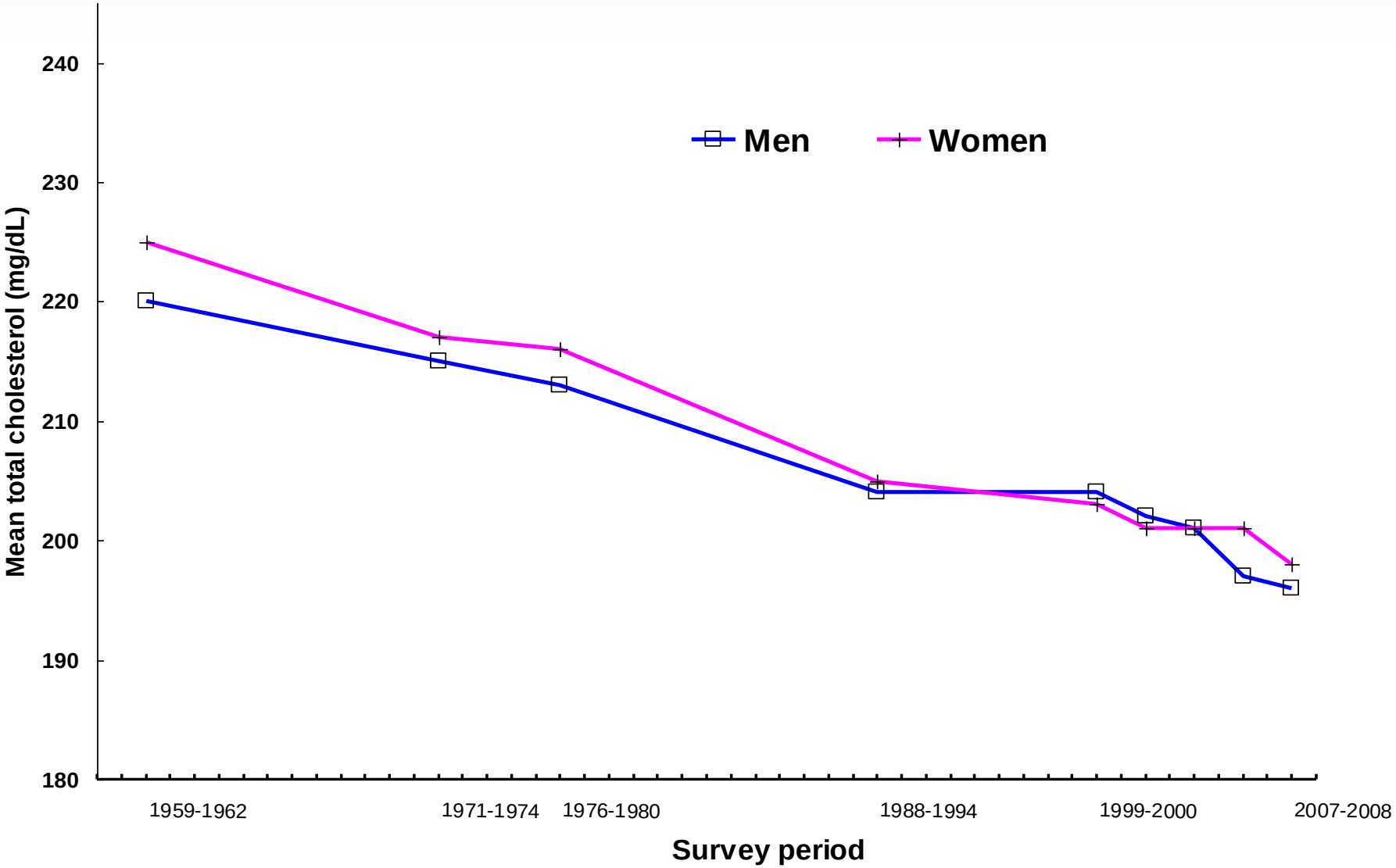
- Data source
  - Standardized physical examinations, laboratory tests, personal interviews with annual sample of 5,000
- Data applications
  - Disease or condition prevalence
  - Risk factors
  - Nutrition monitoring
  - Anthropometry
  - Growth and development
  - Disease monitoring

NHANES


https://wwwn.cdc.gov/nchs/nhanes/Default.aspx
Questionnaires, Datasets, a...
File Edit View Favorites Tools Help
http--www.currentnewsp... Suggested Sites Web Slice Gallery NIS Database Documentat...
Page Safety Tools
CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™
Search NCHS
SEARCH
CDC A-Z INDEX
National Center for Health Statistics
National Health and Nutrition Examination Survey
About NHANES
What's New
Questionnaires, Datasets, and Related Documentation
Survey Methods and Analytic Guidelines
Search Variables
All Continuous NHANES
NHANES 2015-2016
National Health and Nutrition Examination Survey
CDC > National Health and Nutrition Examination Survey
Questionnaires, Datasets, and Related Documentation
Continuous NHANES Data, Questionnaires and Related Documentation
Search Continuous NHANES Variables
NHANES 2015-2016
NHANES 2013-2014
NHANES 2011-2012
NHANES 2009-2010
NHANES 2007-2008
NHANES 2005-2006

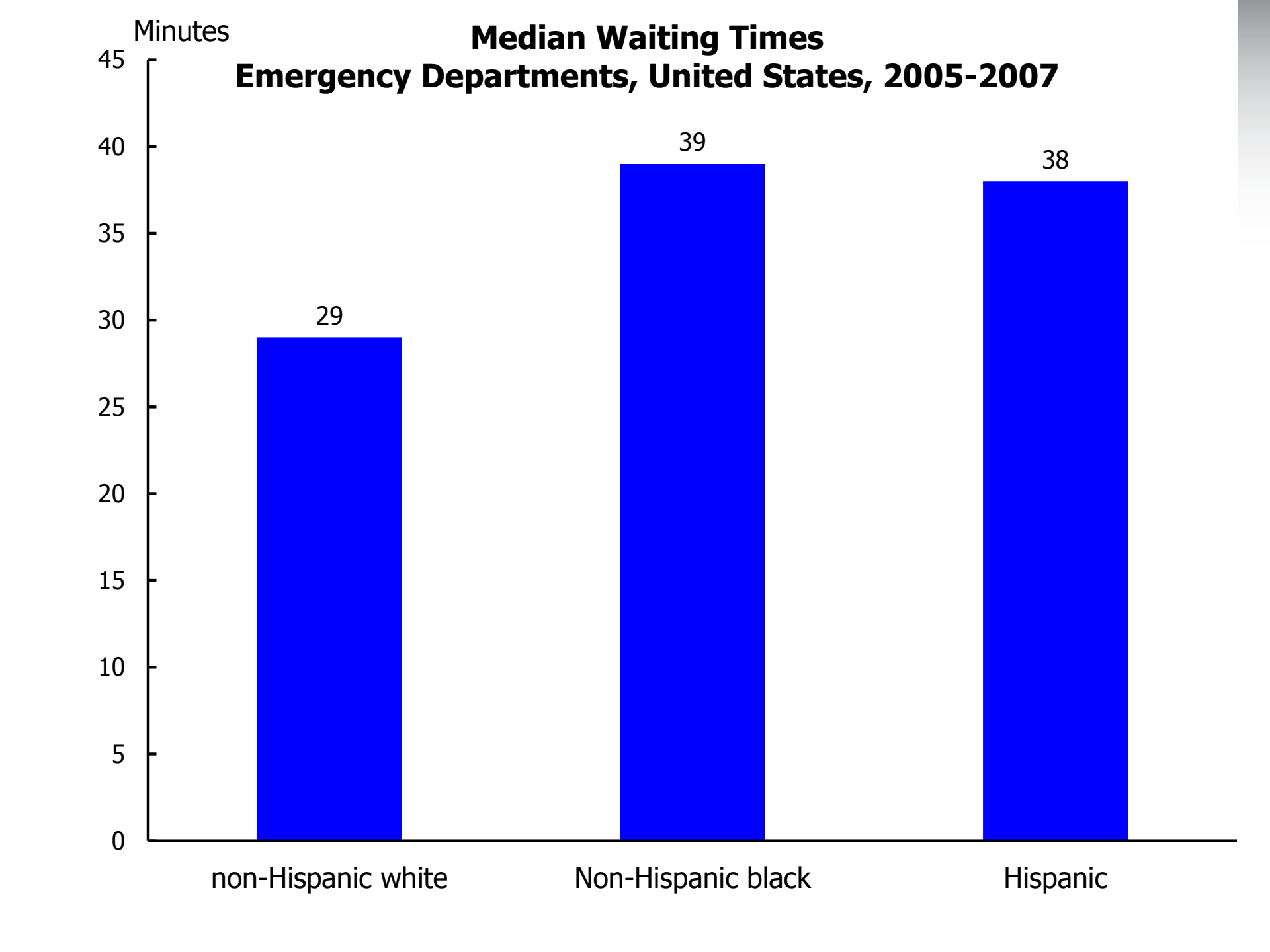

GIRLS: 2 TO 18 YEARS
PHYSICAL GROWTH
NCHS PERCENTILES
PRE-PUBERTAL BOYS FROM 2 TO 11½ YEARS
WEIGHT FOR STATURE
Stature (cm.)
AGE (YEARS)

Average total cholesterol among Men and Women 20-74 years of age—1959-1962 to 2007-2008

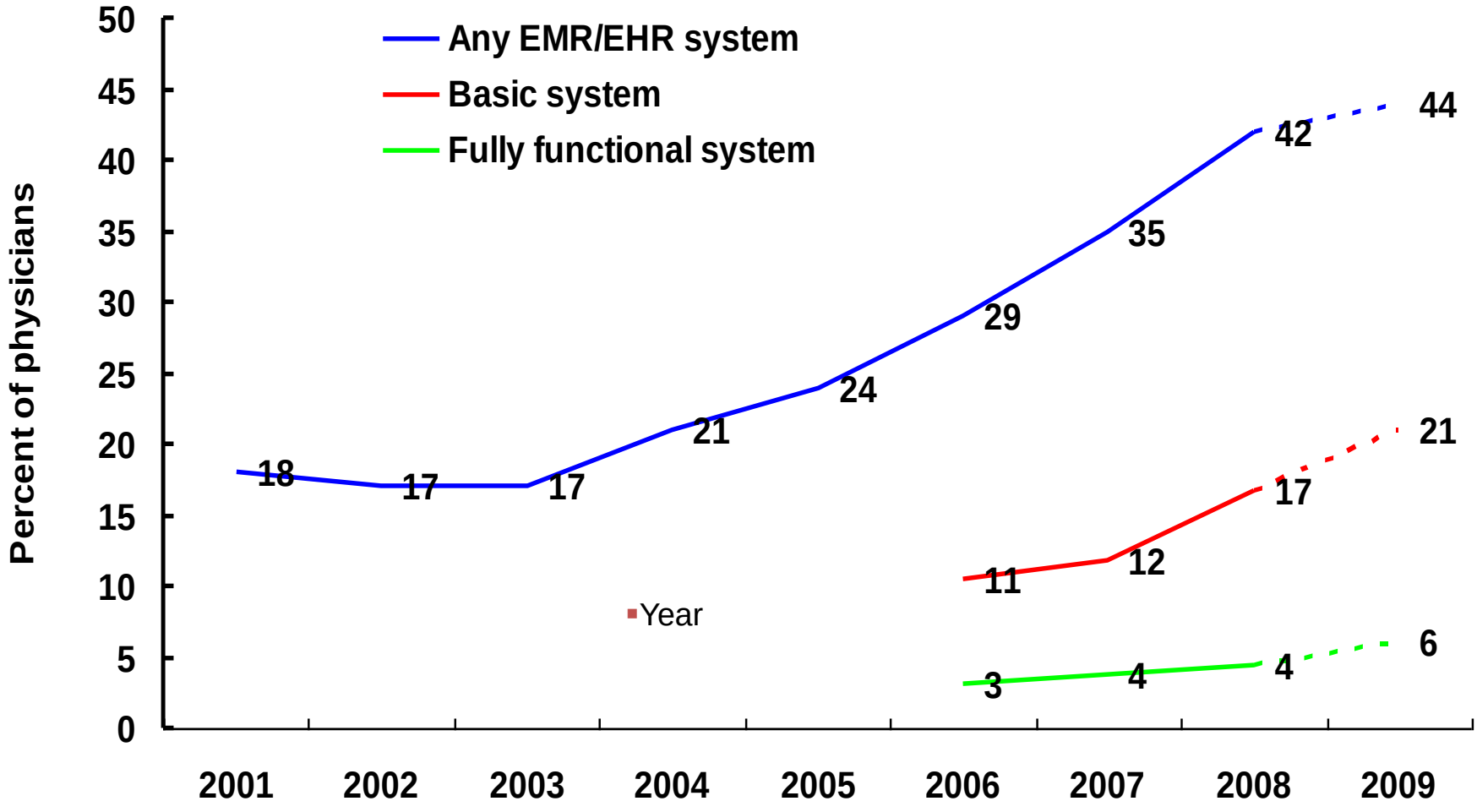


National Health Care Surveys

- Hospital Discharge Survey (NHDS)
- Ambulatory Medical Care Survey (NAMCS)
- Hospital Ambulatory Medical Care Survey (NHAMCS)
- Survey of Ambulatory Survey
- Nursing Home Survey (NHHS)
- Home and Hospice Care Survey (NHHCS)
- Residential Care Survey


Median Waiting Times
Emergency Departments, United States, 2005-2007
Minutes
45
40
35
30
25
20
15
10
5
0
29
39
38
non-Hispanic white
Non-Hispanic black
Hispanic

Electronic Medical Records/Electronic Health Records (EMR/EHR): United States, 2001-2008, and preliminary 2009



Note: Dashes indicate preliminary data

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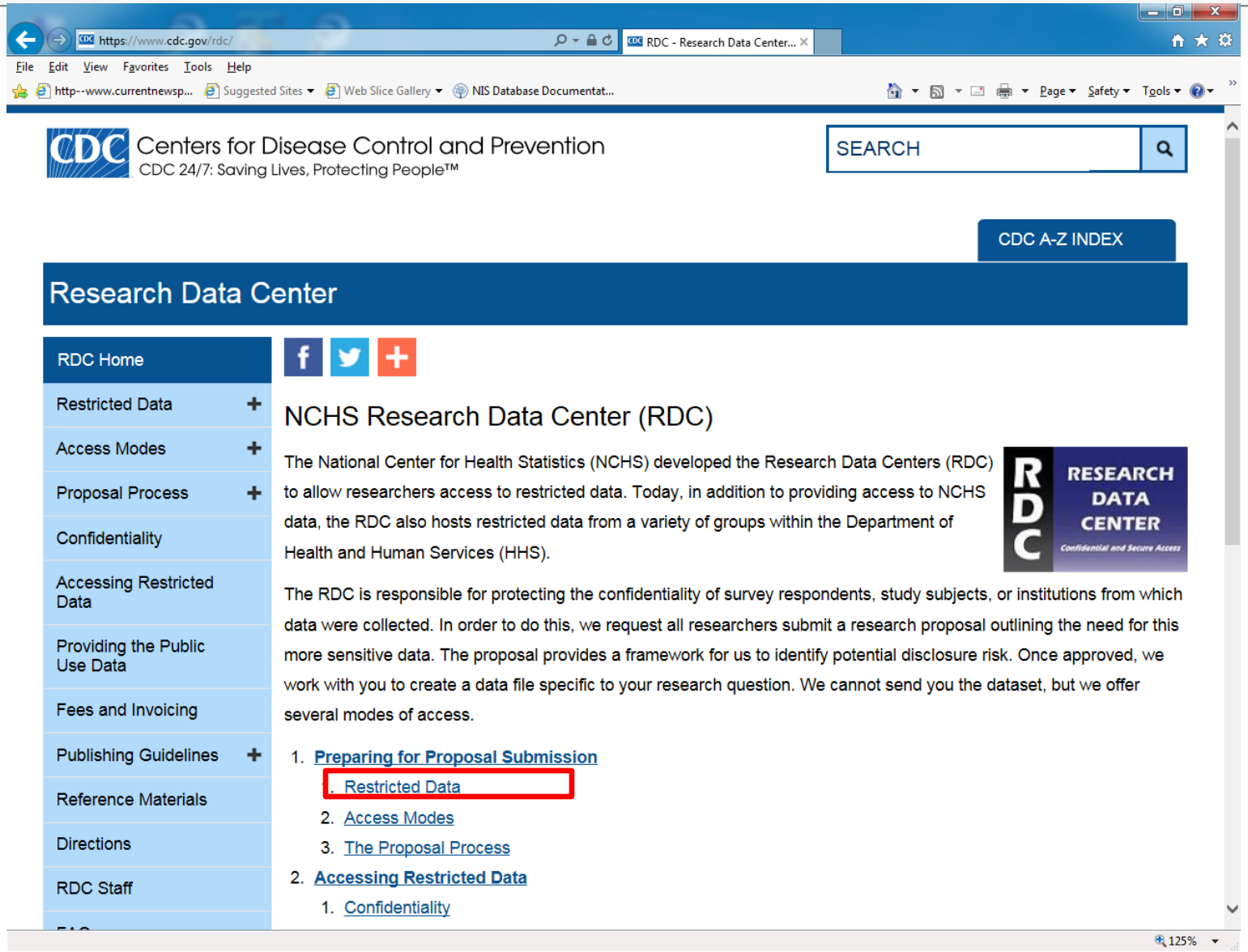
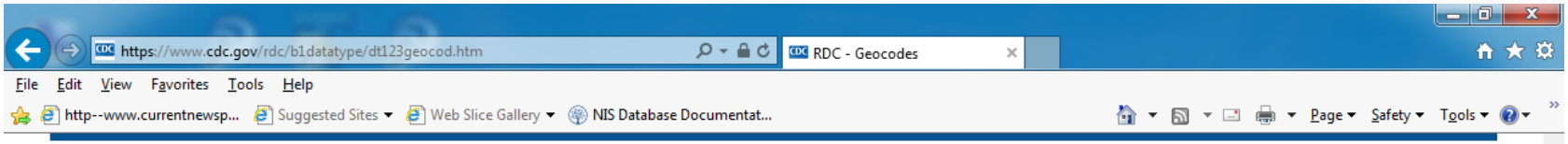
NCHS RDC - https://www.cdc.gov/rdc/



Geocodes

https://www.cdc.gov/rdc/b1datatype/dt123geocod.htm



RDC Home

Restricted Data −

NCHS Public Use

NCHS Restricted +

NCHS Geocodes −

NHANES Geocodes

NHCS Geocodes

NHIS Geocodes

NIS Geocodes

NSFG Geocodes

SLAITS Geocodes

Natality Geocodes

Mortality Geocodes

DHHS Restricted +

Access Modes +

Proposal Process +

CDC > NCHS > RDC Home > Restricted Data > NCHS Geocodes

Geocodes

Researchers use geography in two different ways:

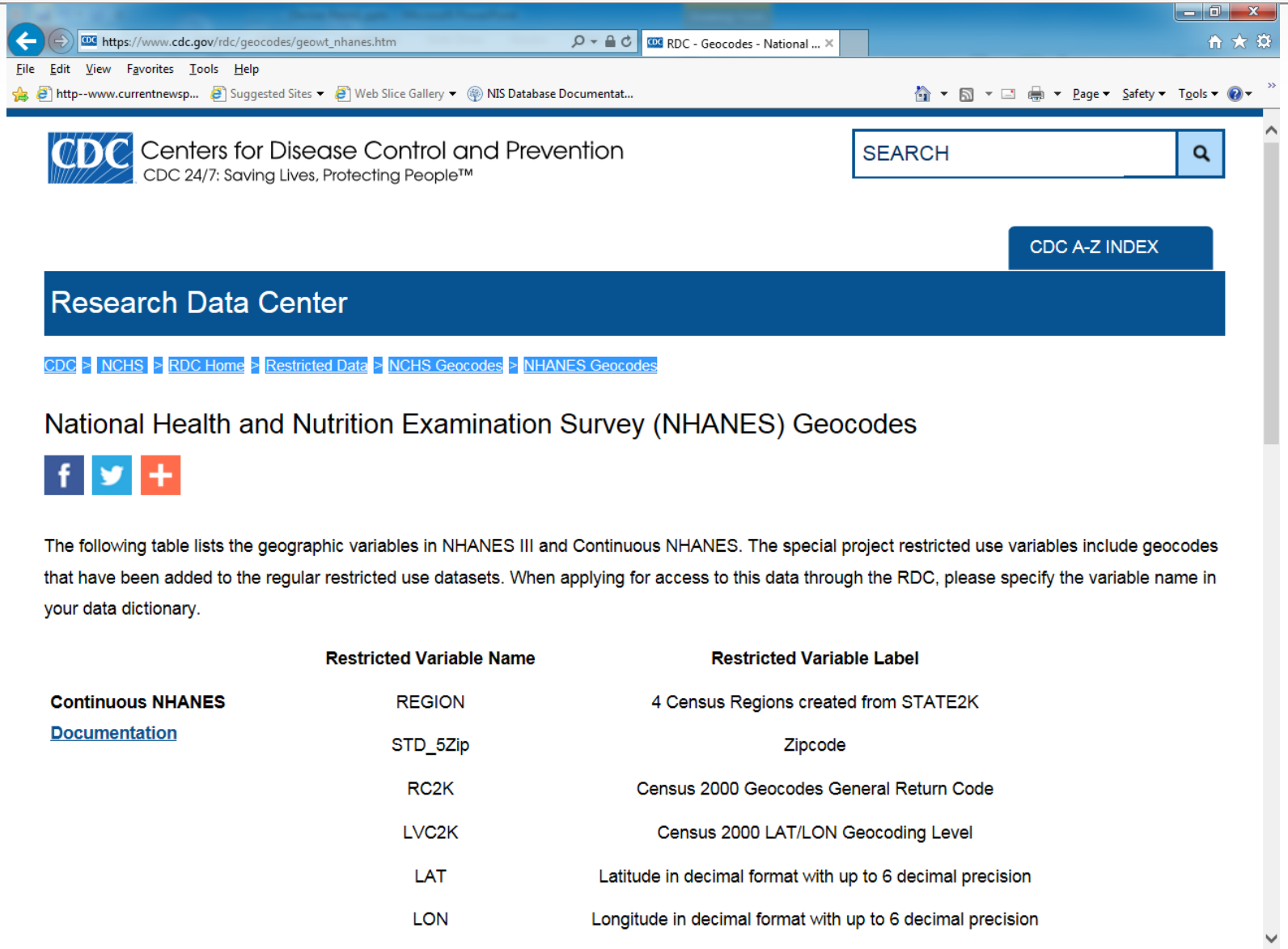
1. To merge variables from external sources of data to add context or policy. Typically, following the merge, these geographic variables are removed. However, if you need to keep these variables for analysis purposes as well, please explain so in your proposal.
   Example: Neighborhood characteristics from Census can be added to examine their relationship to obesity.
2. To answer a research question for a smaller geographical area, such as region.
   Example: To examine regional differences in the prevalence of asthma.

It is important to note that although smaller levels of geography are available for NCHS surveys, the majority of surveys (excluding SLAITS, Natality, and Mortality) are only representative at the regional and national level. It is inappropriate to make estimates based on NCHS data for areas smaller than the area for which the sample frame was designed. These smaller levels of data only exist for the purpose of adding contextual information from external sources of data.

Geocodes by NCHS Survey

- National Health and Nutrition Examination Survey (NHANES)
- National Health Care Surveys (NHCS)
- National Health Interview Survey (NHIS)
- National Immunization Survey (NIS)

For example, National Health and Nutrition Examination Survey (NHANES)



https://www.cdc.gov/rdc/geocodes/geowt_nhanes.htm

RDC - Geocodes - National ...

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CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

SEARCH

CDC A-Z INDEX

Research Data Center

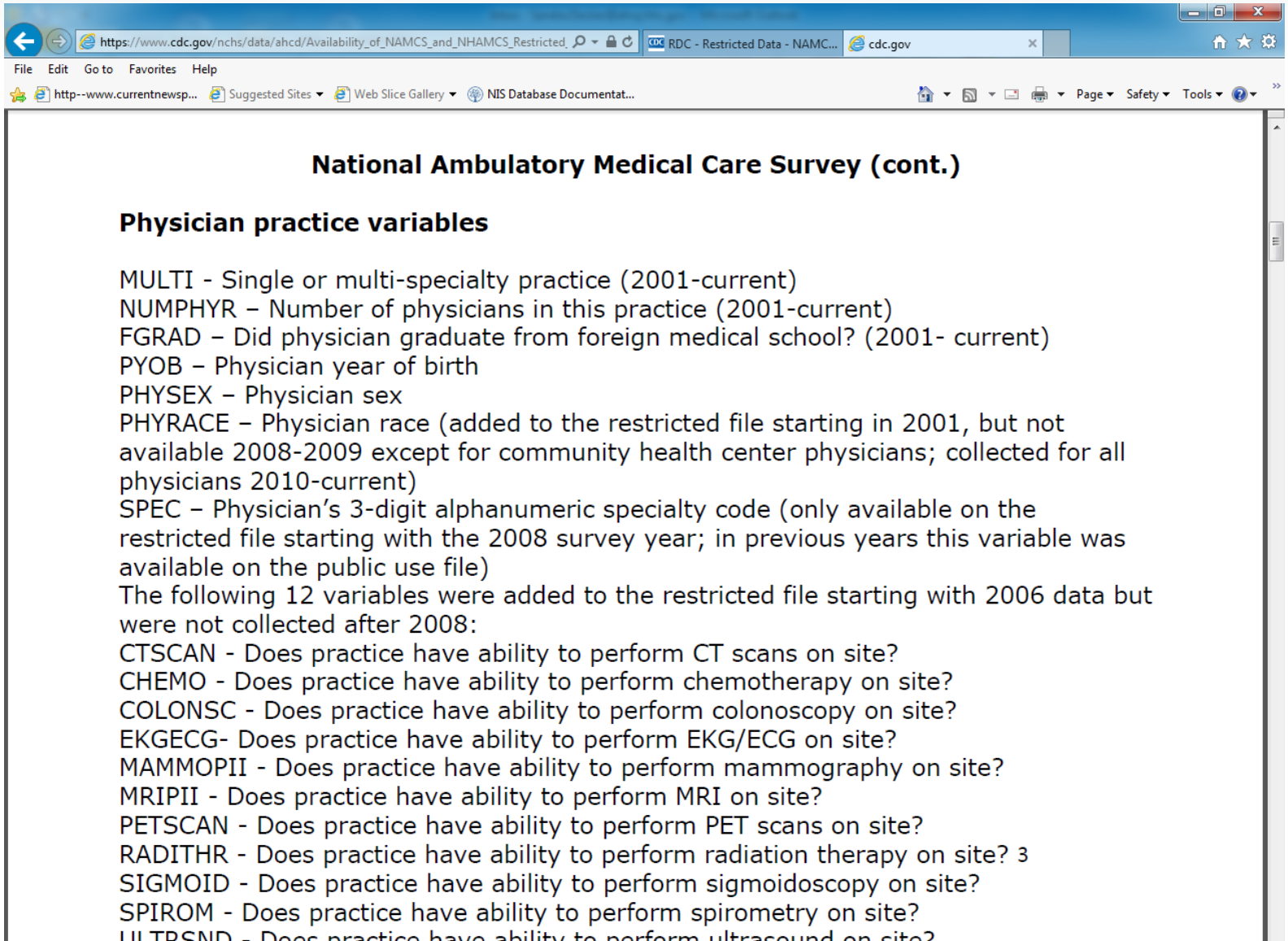
CDC > NCHS > RDC Home > Restricted Data > NCHS Geocodes > NHANES Geocodes

National Health and Nutrition Examination Survey (NHANES) Geocodes

The following table lists the geographic variables in NHANES III and Continuous NHANES. The special project restricted use variables include geocodes that have been added to the regular restricted use datasets. When applying for access to this data through the RDC, please specify the variable name in your data dictionary.

	Restricted Variable Name	Restricted Variable Label
Continuous NHANES Documentation	REGION	4 Census Regions created from STATE2K
	STD_5Zip	Zipcode
	RC2K	Census 2000 Geocodes General Return Code
	LVC2K	Census 2000 LAT/LON Geocoding Level
	LAT	Latitude in decimal format with up to 6 decimal precision
	LON	Longitude in decimal format with up to 6 decimal precision

National Health Care Surveys - NAMCS

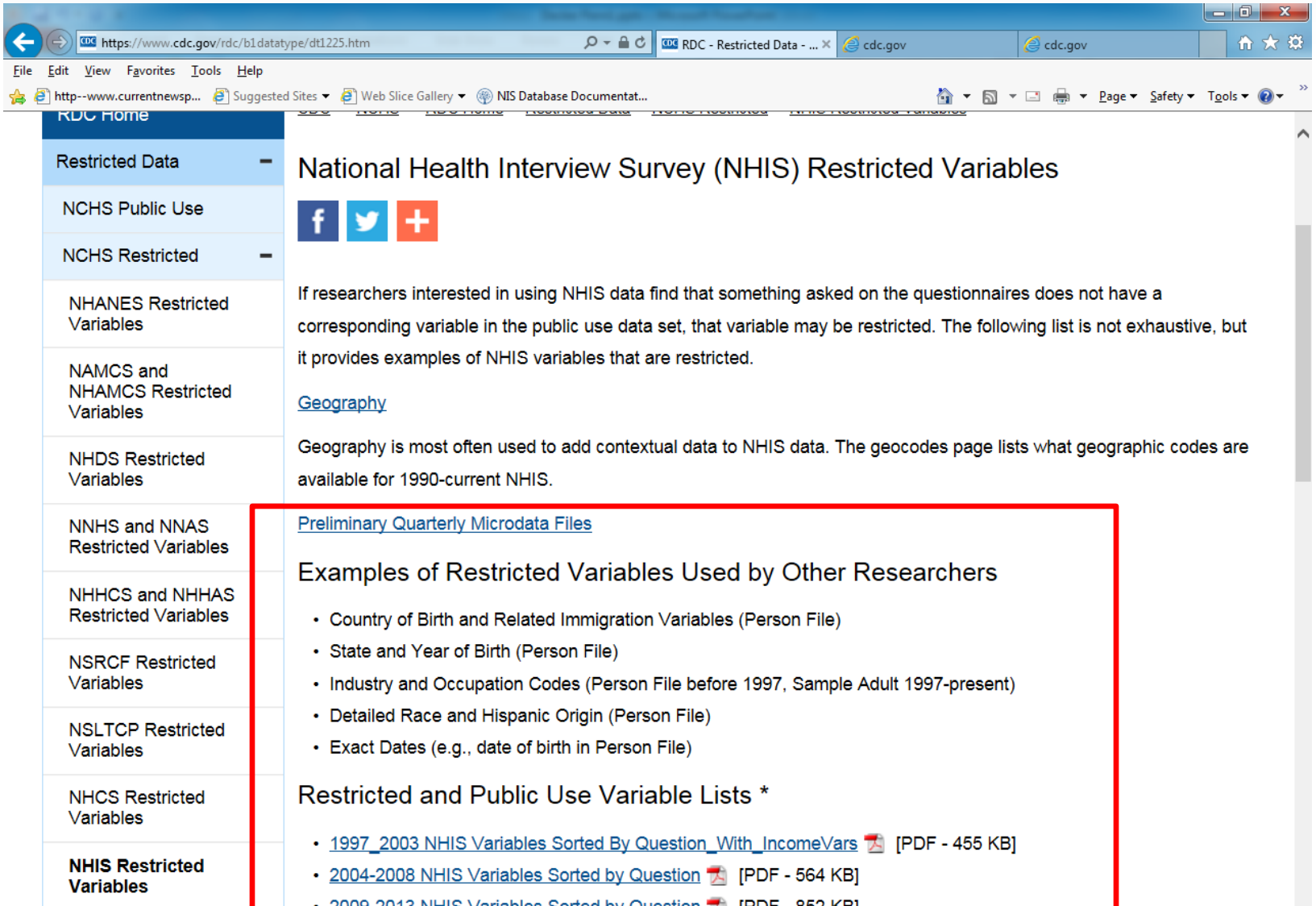


National Ambulatory Medical Care Survey (cont.)

Physician practice variables

MULTI - Single or multi-specialty practice (2001-current)
NUMPHYR – Number of physicians in this practice (2001-current)
FGRAD – Did physician graduate from foreign medical school? (2001- current)
PYOB – Physician year of birth
PHYSEX – Physician sex
PHYRACE – Physician race (added to the restricted file starting in 2001, but not available 2008-2009 except for community health center physicians; collected for all physicians 2010-current)
SPEC – Physician's 3-digit alphanumeric specialty code (only available on the restricted file starting with the 2008 survey year; in previous years this variable was available on the public use file)
The following 12 variables were added to the restricted file starting with 2006 data but were not collected after 2008:
CTSCAN - Does practice have ability to perform CT scans on site?
CHEMO - Does practice have ability to perform chemotherapy on site?
COLONSC - Does practice have ability to perform colonoscopy on site?
EKGECG- Does practice have ability to perform EKG/ECG on site?
MAMMOPII - Does practice have ability to perform mammography on site?
MRIPII - Does practice have ability to perform MRI on site?
PETSCAN - Does practice have ability to perform PET scans on site?
RADITHR - Does practice have ability to perform radiation therapy on site? 3
SIGMOID - Does practice have ability to perform sigmoidoscopy on site?
SPIROM - Does practice have ability to perform spirometry on site?
ULTRSND - Does practice have ability to perform ultrasound on site?

NHIS


https://www.cdc.gov/rdc/b1datatype/dt1225.htm
RDC - Restricted Data - ...
cdc.gov
cdc.gov
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http--www.currentnewsp...
Suggested Sites
Web Slice Gallery
NIS Database Documentat...
Page
Safety
Tools
RDC Home
Restricted Data
NCHS Public Use
NCHS Restricted
NHANES Restricted Variables
NAMCS and NHAMCS Restricted Variables
NHDS Restricted Variables
NNHS and NNAS Restricted Variables
NHHCS and NHHAS Restricted Variables
NSRCF Restricted Variables
NSLTCP Restricted Variables
NHCS Restricted Variables
NHIS Restricted Variables
National Health Interview Survey (NHIS) Restricted Variables
If researchers interested in using NHIS data find that something asked on the questionnaires does not have a corresponding variable in the public use data set, that variable may be restricted. The following list is not exhaustive, but it provides examples of NHIS variables that are restricted.
Geography
Geography is most often used to add contextual data to NHIS data. The geocodes page lists what geographic codes are available for 1990-current NHIS.
Preliminary Quarterly Microdata Files
Examples of Restricted Variables Used by Other Researchers
Country of Birth and Related Immigration Variables (Person File)
State and Year of Birth (Person File)
Industry and Occupation Codes (Person File before 1997, Sample Adult 1997-present)
Detailed Race and Hispanic Origin (Person File)
Exact Dates (e.g., date of birth in Person File)
Restricted and Public Use Variable Lists *
1997_2003 NHIS Variables Sorted By Question_With_IncomeVars [PDF - 455 KB]
2004-2008 NHIS Variables Sorted by Question [PDF - 564 KB]

NHIS and NHIS Early Release Program

- **Annual puf released in late June of the following year. E.g., NHIS 2015 released in September 2016**

  --Restricted data with state IDs usually available about one week later
  --Income imputations for that year usually available in August-September

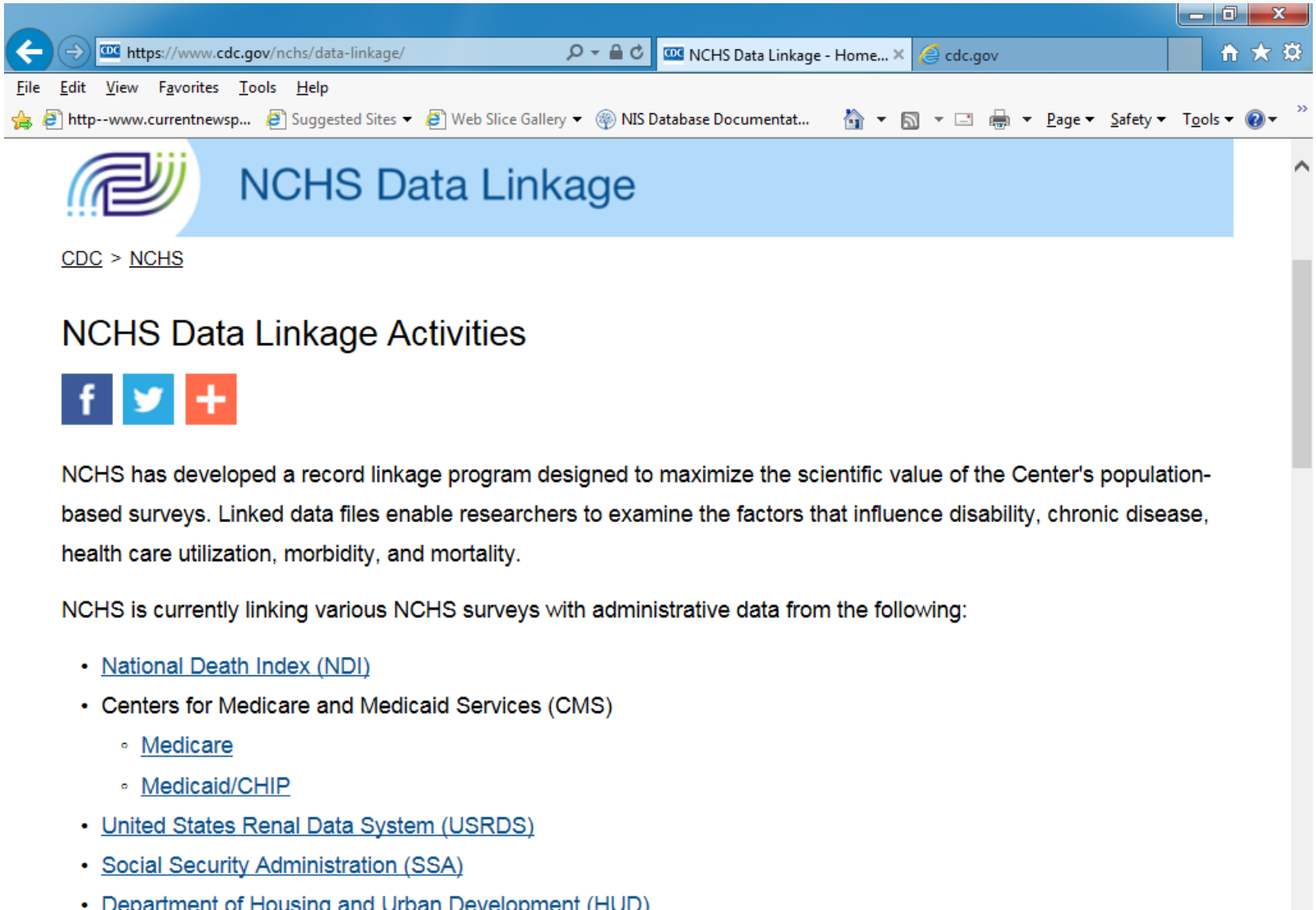
- **Quarterly files**

  --Only select variables (see website)

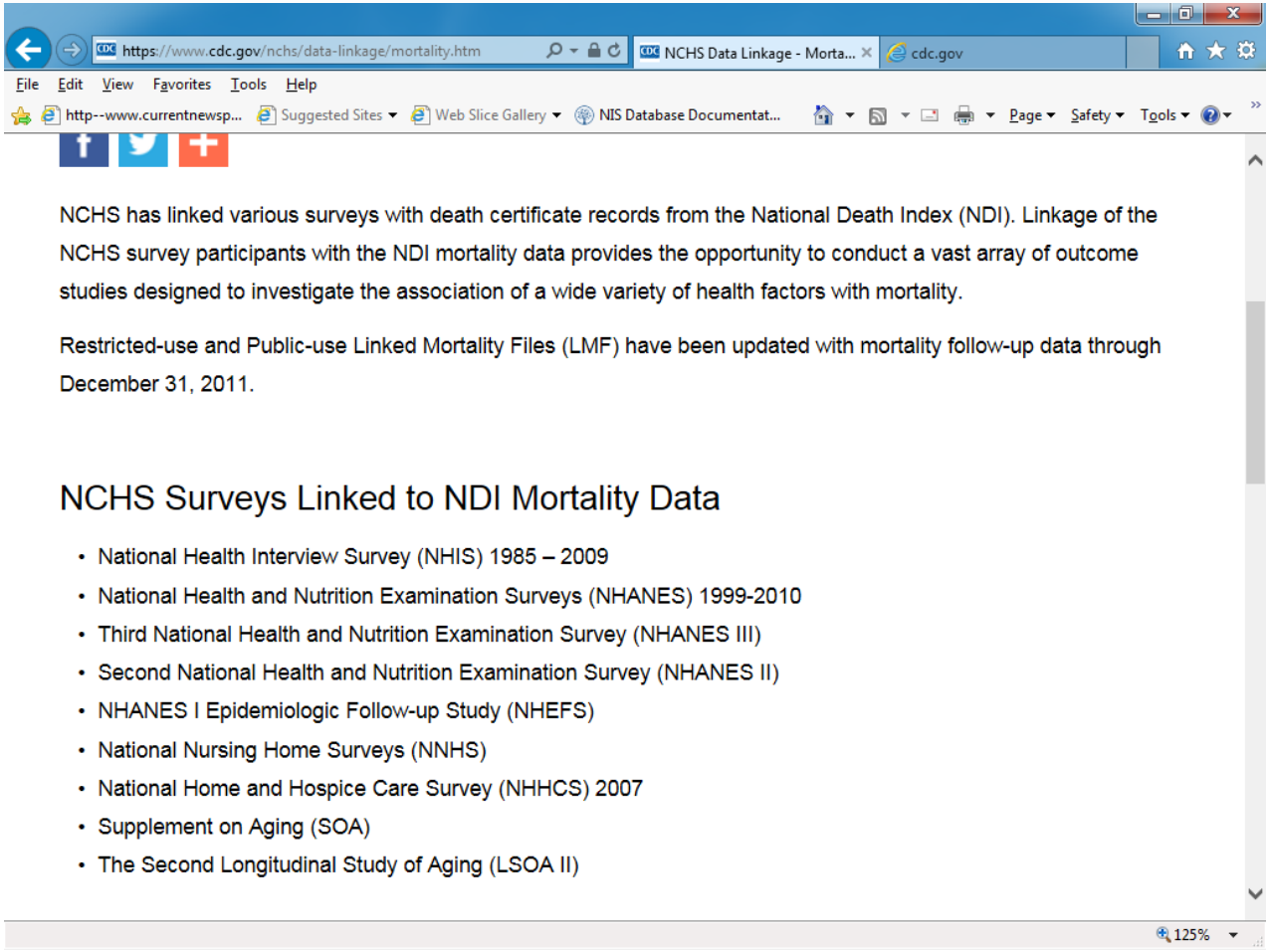
  --Q1 available September of same year, Q2 available November of same year, Q3 available February of following year, Q4 available May of following year

  --For example, 2014 Q1 data available September 2014…full-year 2014 data available June 2015…

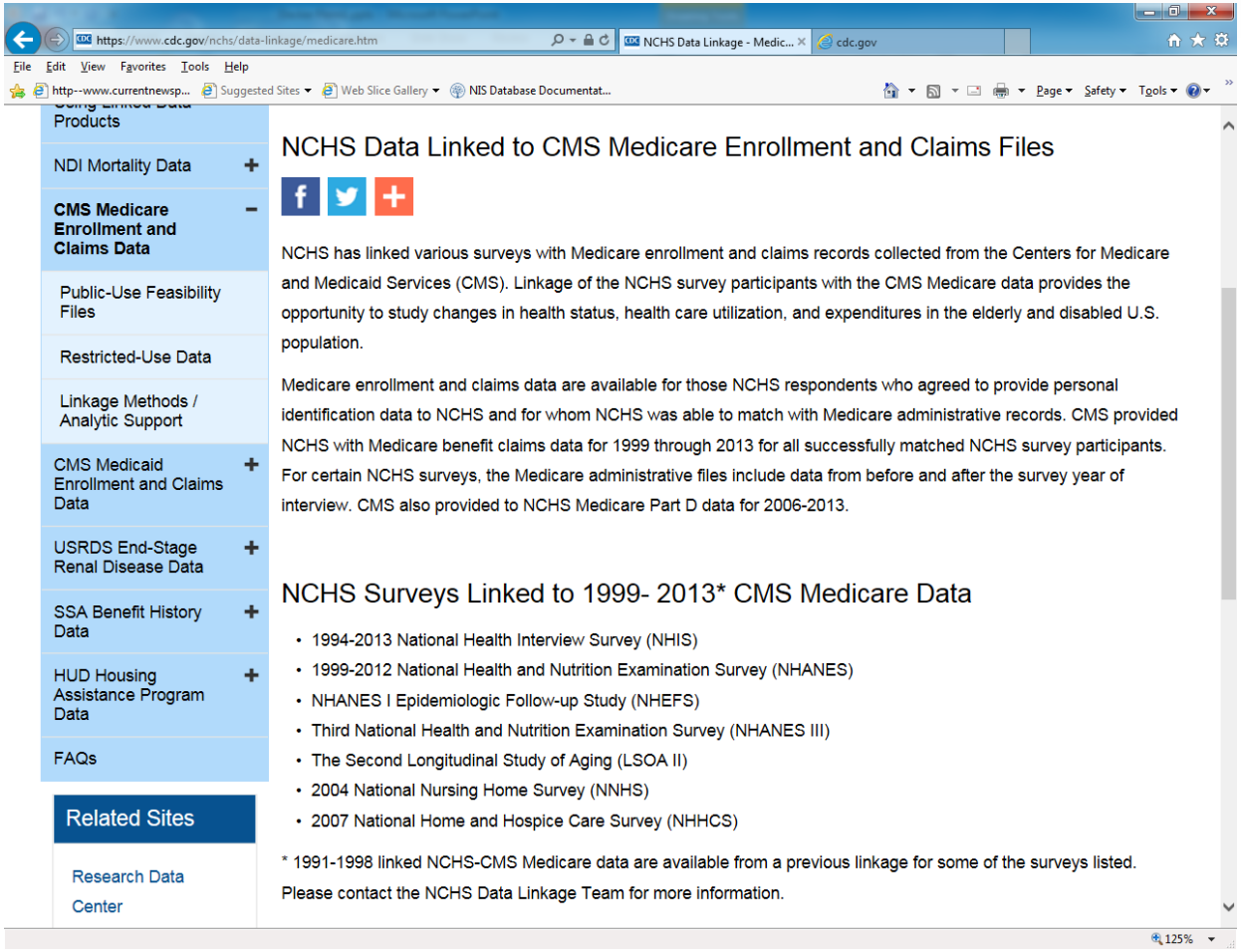
NCHS Data Linkage
https://www.cdc.gov/nchs/data-linkage/



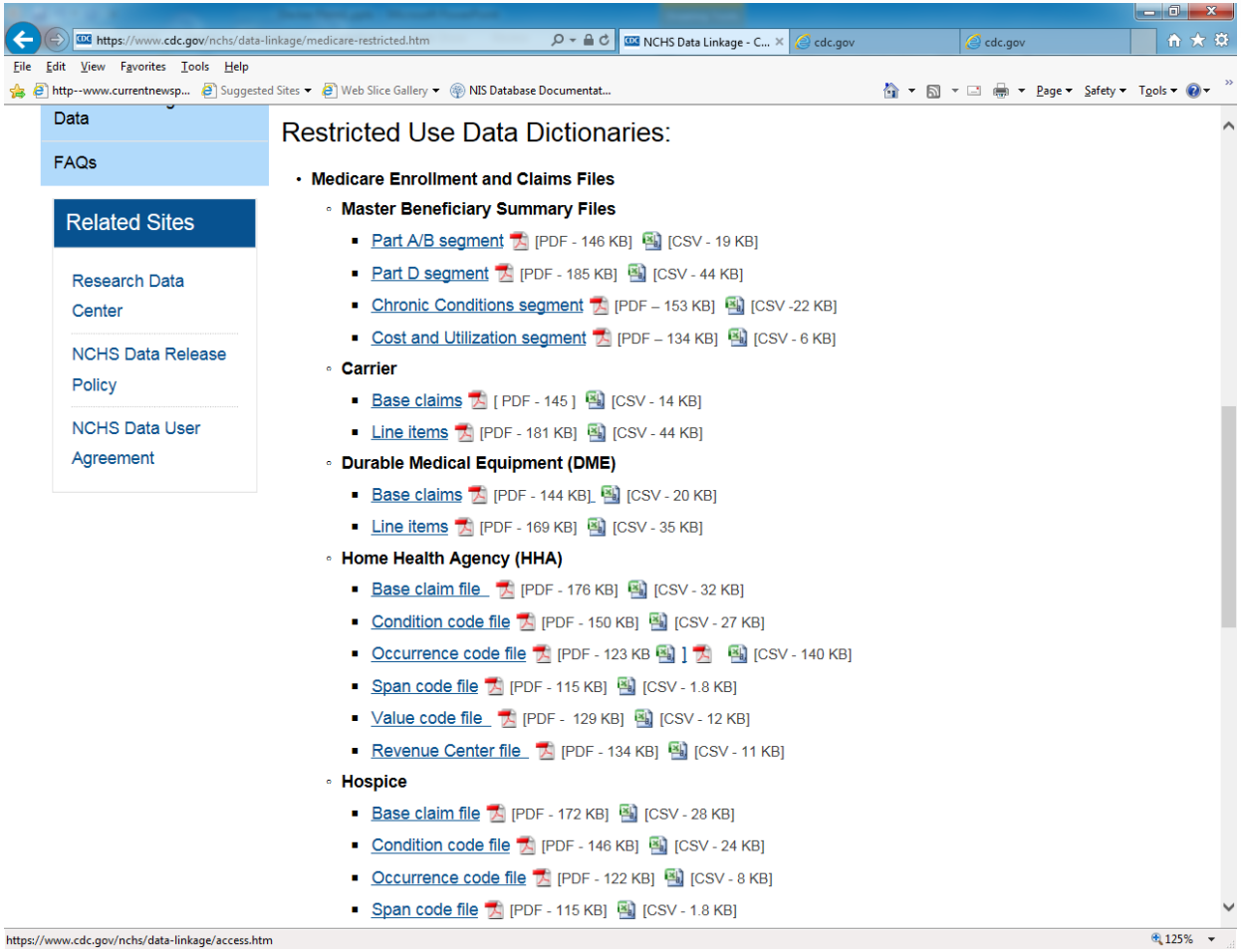
NDI


https://www.cdc.gov/nchs/data-linkage/mortality.htm
NCHS Data Linkage - Morta...
cdc.gov
File Edit View Favorites Tools Help
http--www.currentnewsp... Suggested Sites Web Slice Gallery NIS Database Documentat... Page Safety Tools
NCHS has linked various surveys with death certificate records from the National Death Index (NDI). Linkage of the NCHS survey participants with the NDI mortality data provides the opportunity to conduct a vast array of outcome studies designed to investigate the association of a wide variety of health factors with mortality.
Restricted-use and Public-use Linked Mortality Files (LMF) have been updated with mortality follow-up data through December 31, 2011.
NCHS Surveys Linked to NDI Mortality Data
• National Health Interview Survey (NHIS) 1985 – 2009
• National Health and Nutrition Examination Surveys (NHANES) 1999-2010
• Third National Health and Nutrition Examination Survey (NHANES III)
• Second National Health and Nutrition Examination Survey (NHANES II)
• NHANES I Epidemiologic Follow-up Study (NHEFS)
• National Nursing Home Surveys (NNHS)
• National Home and Hospice Care Survey (NHHCS) 2007
• Supplement on Aging (SOA)
• The Second Longitudinal Study of Aging (LSOA II)
125%

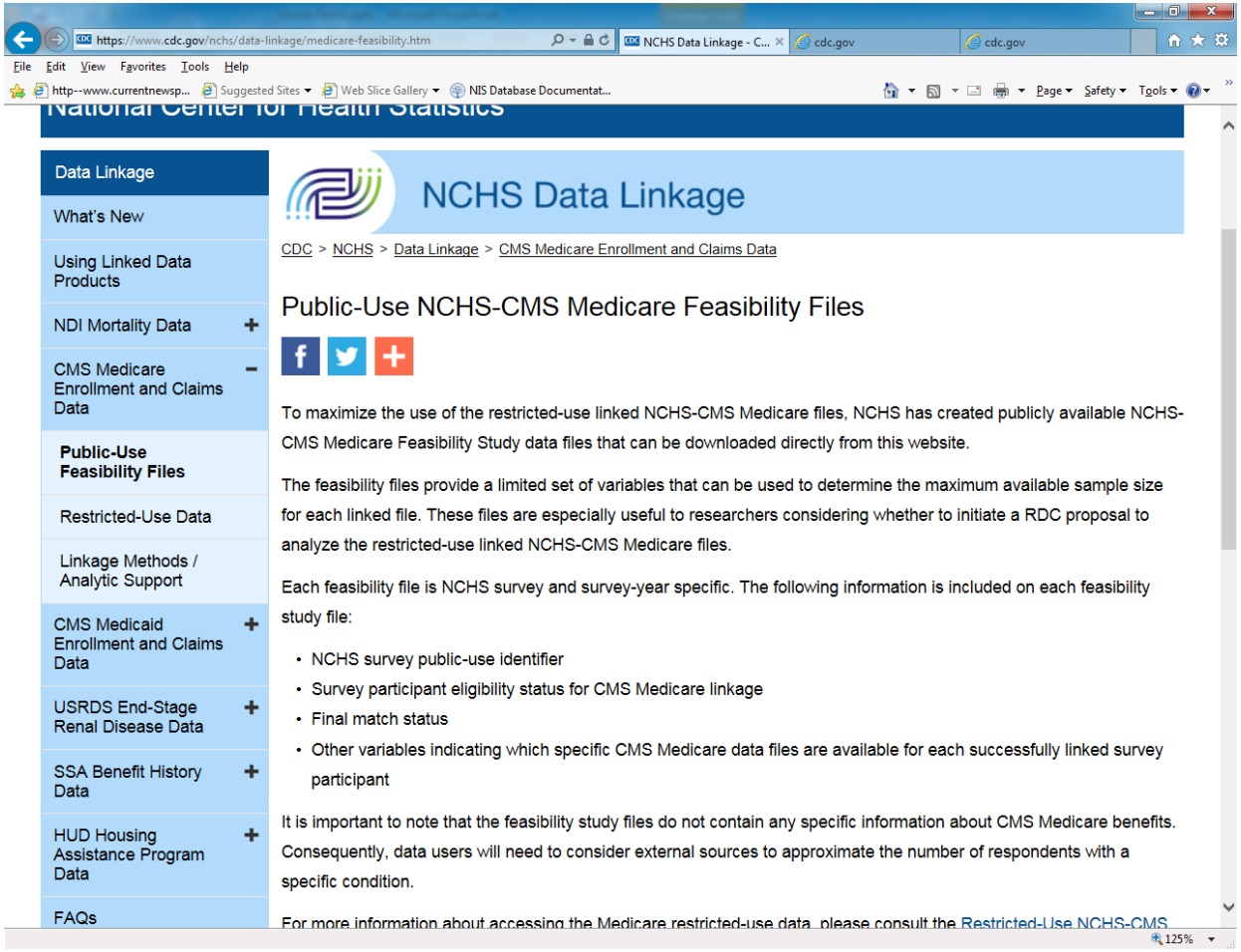
Medicare link



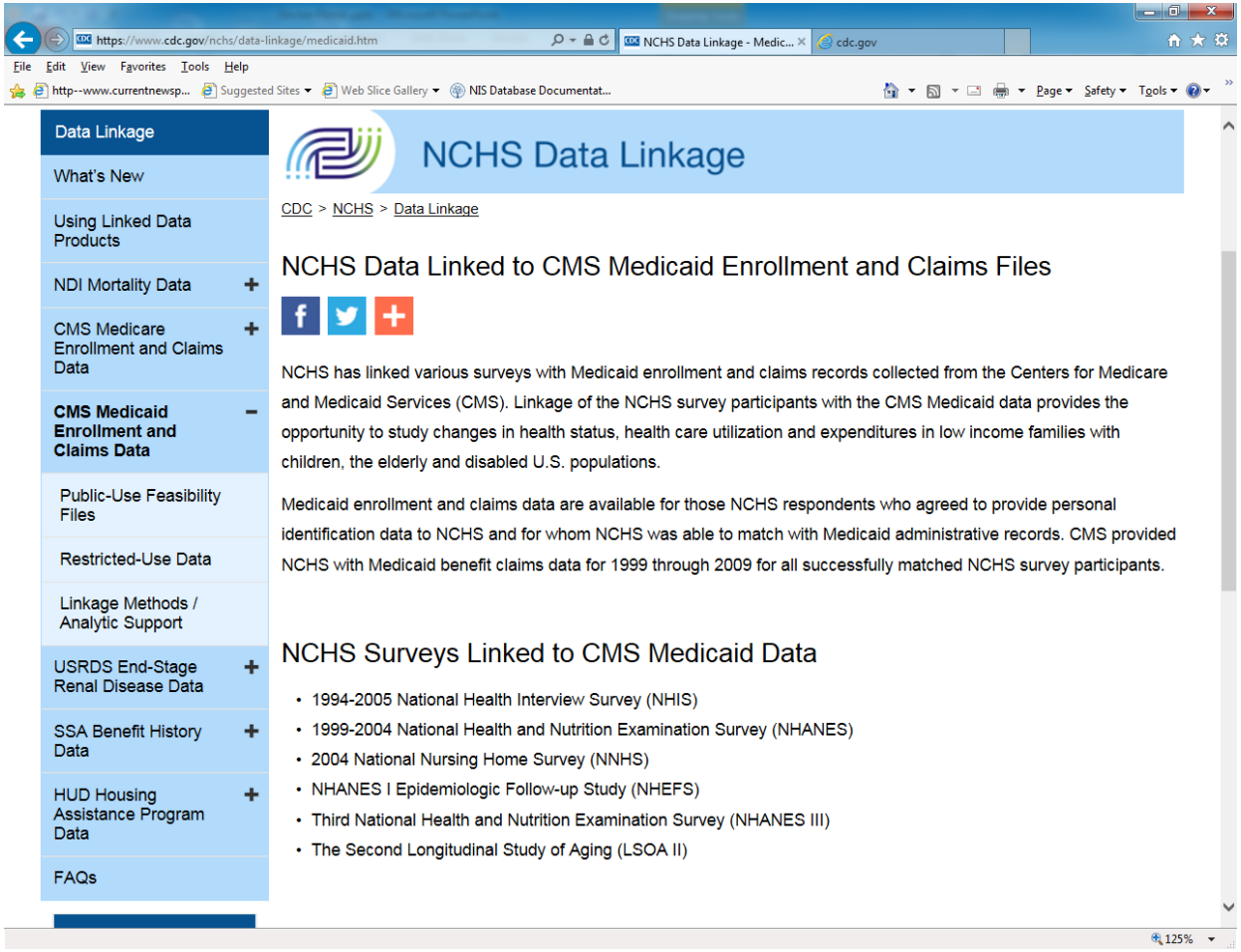
Medicare Variables



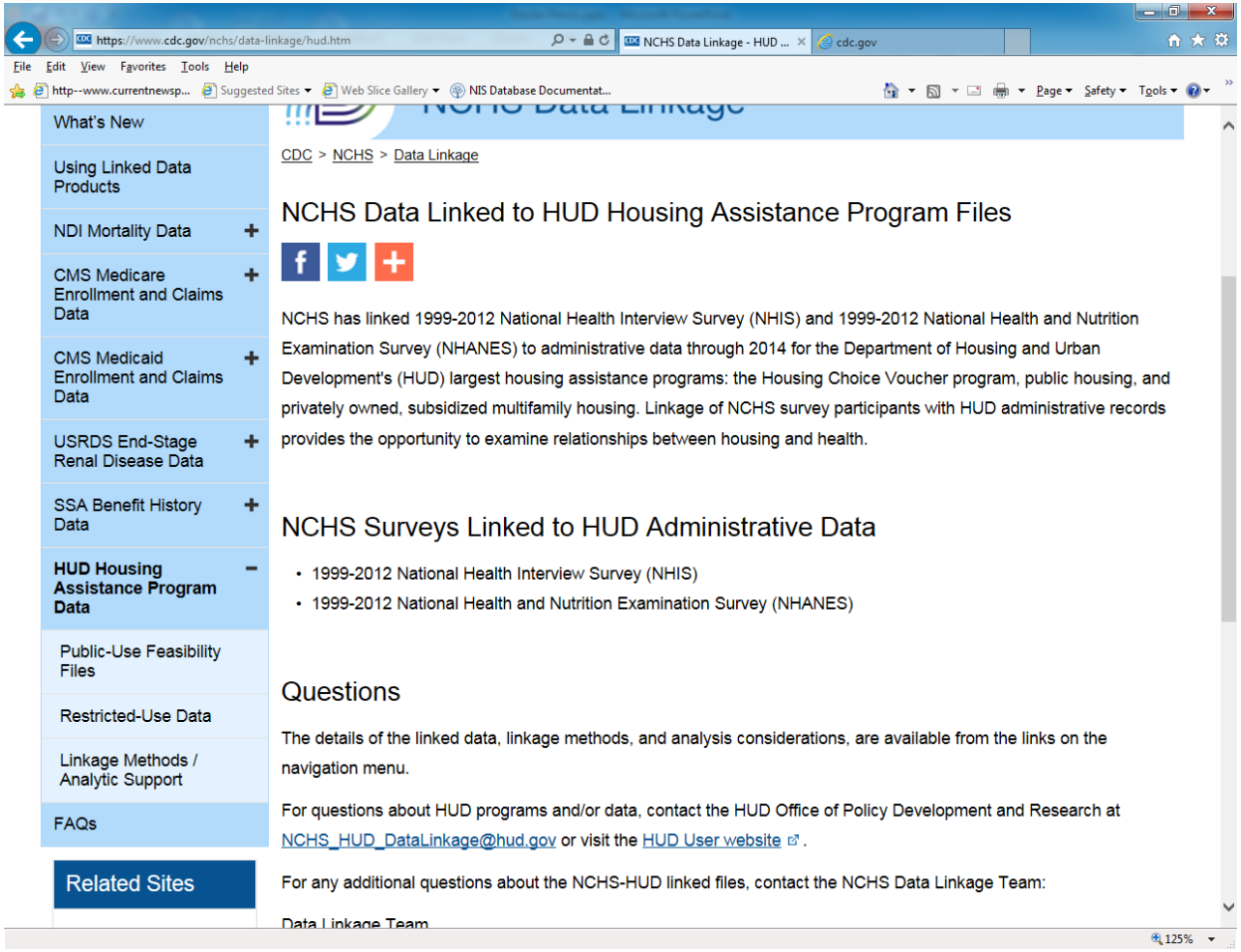
Feasibility files



Medicaid Link



HUD Link


https://www.cdc.gov/nchs/data-linkage/hud.htm
NCHS Data Linkage - HUD ...
cdc.gov
File Edit View Favorites Tools Help
Page Safety Tools
What's New
Using Linked Data Products
NDI Mortality Data
CMS Medicare Enrollment and Claims Data
CMS Medicaid Enrollment and Claims Data
USRDS End-Stage Renal Disease Data
SSA Benefit History Data
HUD Housing Assistance Program Data
Public-Use Feasibility Files
Restricted-Use Data
Linkage Methods / Analytic Support
FAQs
Related Sites
CDC > NCHS > Data Linkage
NCHS Data Linked to HUD Housing Assistance Program Files
NCHS has linked 1999-2012 National Health Interview Survey (NHIS) and 1999-2012 National Health and Nutrition Examination Survey (NHANES) to administrative data through 2014 for the Department of Housing and Urban Development's (HUD) largest housing assistance programs: the Housing Choice Voucher program, public housing, and privately owned, subsidized multifamily housing. Linkage of NCHS survey participants with HUD administrative records provides the opportunity to examine relationships between housing and health.
NCHS Surveys Linked to HUD Administrative Data
1999-2012 National Health Interview Survey (NHIS)
1999-2012 National Health and Nutrition Examination Survey (NHANES)
Questions
The details of the linked data, linkage methods, and analysis considerations, are available from the links on the navigation menu.
For questions about HUD programs and/or data, contact the HUD Office of Policy Development and Research at NCHS_HUD_DataLinkage@hud.gov or visit the HUD User website .
For any additional questions about the NCHS-HUD linked files, contact the NCHS Data Linkage Team:
Data Linkage Team
125%

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Example of use of NHIS and NHANES restricted data

Journal of Health Economics 44 (2015) 212–225

Contents lists available at ScienceDirect

Journal of Health Economics

journal homepage: www.elsevier.com/locate/econbase

Do Medicaid benefit expansions have teeth? The effect of Medicaid adult dental coverage on the use of dental services and oral health☆

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ARTICLE INFO

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Available online 22 October 2015

I11 , I13, I18Medicaid
Health insurance expansions
Oral health

ABSTRACT

This article examines the effect of Medicaid adult dental coverage on use of dental care and dental health outcomes using state-level variation in dental coverage during 2000–2012. Our findings imply that dental coverage is associated with an increase in the likelihood of a recent dental visit, with the size of the effect increasing with Medicaid payment rates to dentists, and a reduction in the likelihood of untreated dental caries. We are among the first to detect an effect of Medicaid coverage on a clinical health outcome other than mortality. These findings may have implications for states expanding Medicaid coverage to adults with incomes of up to 138% of the federal poverty threshold under the Affordable Care Act as most of these states offer an adult dental benefit.

Background and Objective

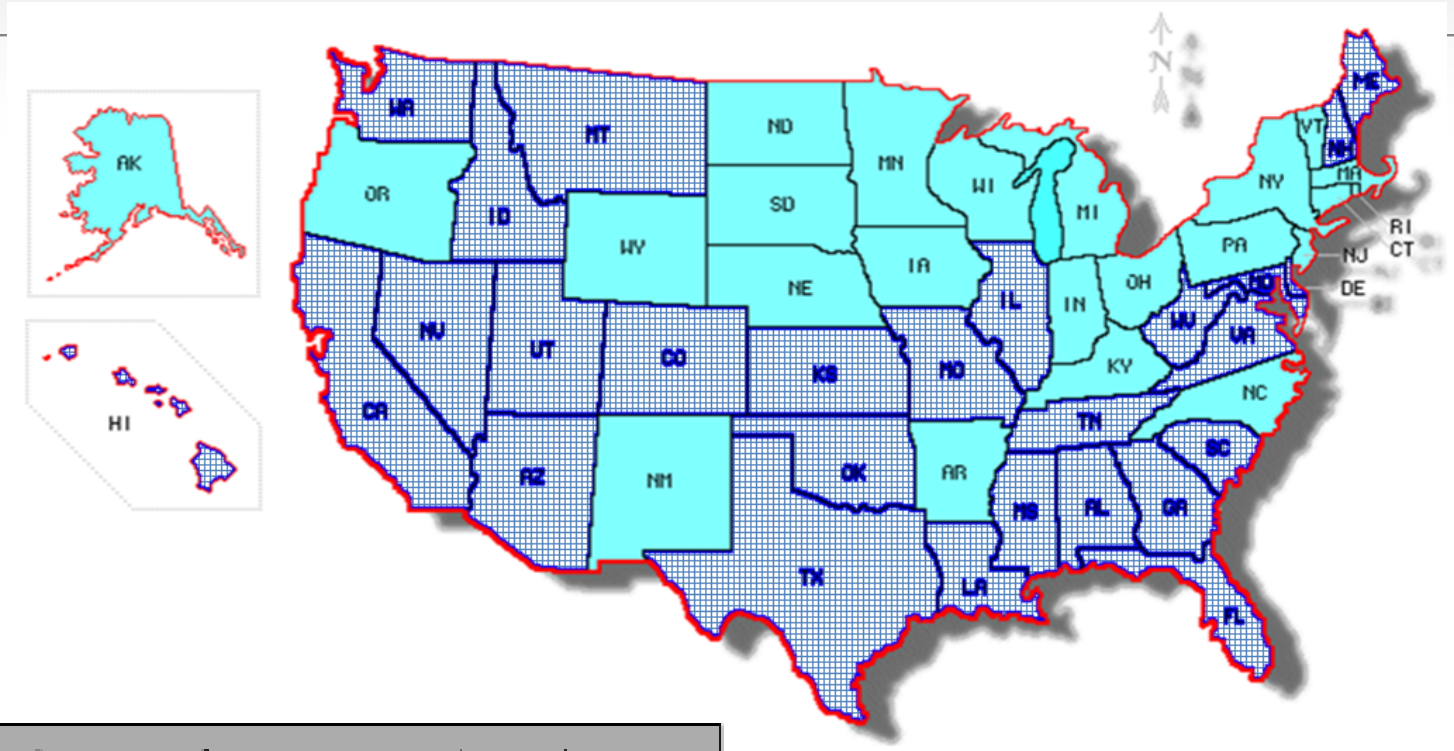
- **Medicaid coverage of dental services for adults is optional**

- **Most states cover emergency services, but only 26 states provided preventive and/or restorative services in 2012**

- **Dental health is associated with systemic health: cardiovascular disease (e.g., Oliveira et al. 2010), respiratory infections (Sjogren et al. 2008), metabolic control for diabetes patients (Simpson et al. 2010)**

The objective of this paper is to assess the relationship between optional coverage of adult dental services and the use of dental care and oral health outcomes for adults on Medicaid

State dental coverage policies in 2012

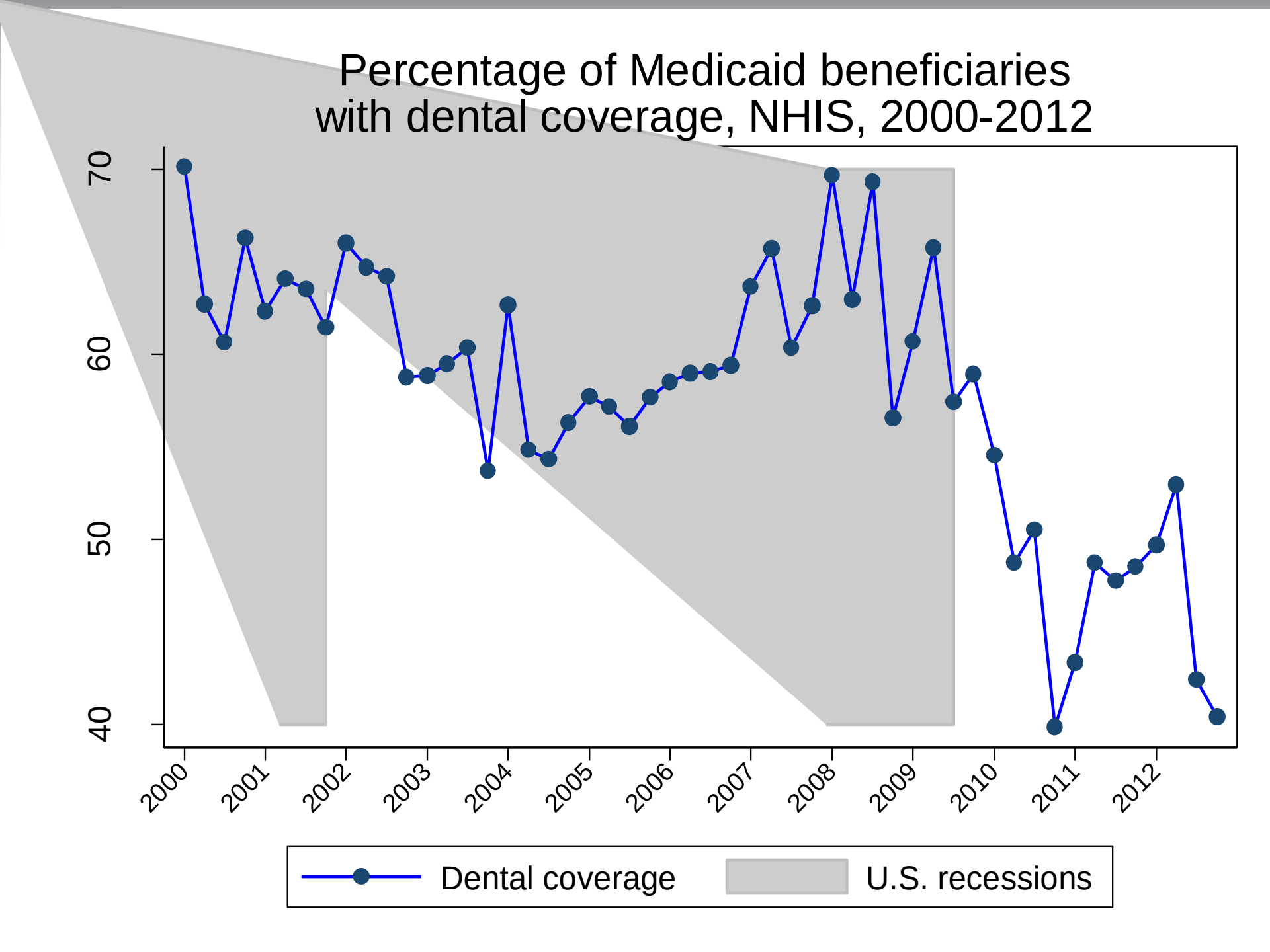


Coverage of emergency services only

Coverage of non-emergency services

Our contribution

- One published national study estimates the effect of Medicaid dental coverage on the likelihood of having a dental visit (Choi, 2011)
- We expand this analysis by using changes within states over time to identify the effect of dental coverage on dental utilization
- In addition, we are the first to:
  - Analyze the effect of payment rates to dentists on dental utilization outcomes
  - Analyze the effect of coverage on dental health outcomes


Percentage of Medicaid beneficiaries
with dental coverage, NHIS, 2000-2012
70
60
50
40
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Dental coverage
U.S. recessions

Data and Outcome Measures

- **NHIS (2000-2012)**
  - **Main analysis includes 14,673 Medicaid beneficiaries aged 22-64 and 89,496 low income adults aged 22-64 not on Medicaid as a control group**
- **NHANES (2000, 2001/2002, 2003/2004, 2005/2006, 2007/2008, 2011/2012)**
  - **Main analysis includes 756 Medicaid beneficiaries aged 22-64 and 6,580 low income adults not on Medicaid as a control group**
- **Medicaid coverage of adult dental 2000-2012**
- **Medicaid reimbursement of adult prophylaxis**
  - **Lewin Group (2000/2001), Urban Institute (2008/2009)**

Data and Outcome Measures

- **Dental utilization**
  - **NHIS 2000-2012: Seen dentist past 6 mos., seen dentist past year, needing but not receiving dental care due to cost**
  - **NHANES 2000-2004, 2011-2012: Seen dentist past 6 mos., seen dentist past year**
- **Dental Health**
  - **NHIS 2008: broken/missing teeth, stained teeth, loose teeth, broken/missing fillings**
  - **NHANES: untreated caries (2000-2008, 2011-2012), teeth missing without replacement (2000-2004, 2011-2012)**

Methodology – Effect of Dental Coverage on Outcomes

$$Y_{ist} = \beta_1 \text{Dental}_{st} + \beta_2 \text{Medicaid}_{it} + \beta_3 \text{Dental}_{st} \times \text{Medicaid}_{it} + \beta_4 X_{ist} + \gamma_{0s} + \gamma_{1s} t + \tau_t + \varepsilon_{ist}$$

- β_1 estimates the effect of dental coverage for the control group
- β_2 estimates the effect of having Medicaid coverage in states without dental coverage
- β_3 is the DDD estimate
- X_{ist} is a vector of controls including age, age squared, race, sex, education, marital status, health status, ratio of family income to the poverty level, an urban area indicator, local supply of dentists per 1,000 population, and the annual local unemployment rate

Regression estimates of the effect of Medicaid coverage of adult dental services on dental utilization outcomes, NHIS and NHANES (2000-2012)

	Medicaid beneficiaries, outcome means			Regression estimates, percentage point difference, dental coverage vs. no dental coverage		
	Dental coverage	No dental coverage	Difference	Low income adults	Medicaid beneficiaries	DDD Estimate
NHIS						
Seen dentist past year	56.48	38.01	18.47***	0.84	13.72***	12.88***
	(0.745)	(0.838)	(1.109)	(1.348)	(1.935)	(1.742)
Seen dentist, past 6 months	35.49	21.53	13.96***	1.45	10.91***	9.46***
	(0.688)	(0.615)	(0.908)	(1.153)	(1.989)	(1.412)
Did not get dental care because of cost	12.77	27.06	-14.29***	-0.54	-12.60***	-12.06***
	(0.563)	(0.837)	(0.981)	(1.327)	(2.230)	(1.928)
NHANES						
Seen dentist past year	52.06	36.08	15.98***	4.92*	17.86**	12.95**
	(3.480)	(3.744)	(4.895)	(2.675)	(4.757)	(4.914)
Seen dentist, past 6 months	34.68	18.74	15.95***	1.95	13.74***	11.79**
	(2.985)	(3.495)	(4.623)	(3.076)	(4.028)	(4.810)

Regression estimates of the effect of Medicaid coverage of adult dental services on dental health outcomes, NHIS (2008) and NHANES (2000-2012)

	Medicaid beneficiaries, outcome means			Regression estimates, Percentage point difference, dental coverage vs. no dental coverage		
	Dental coverage	No dental coverage	Difference	Low income adults	Medicaid beneficiaries	DiD Estimate
NHIS (2008)[b]						
Broken or missing teeth, past year	27.77 (2.353)	46.42 (3.661)	-18.65*** (4.362)	-0.71 (1.498)	-15.19*** (4.711)	**-14.48***** **(4.983)**
Stained teeth, past year	26.17 (2.953)	43.95 (3.889)	-17.78*** (4.884)	0.13 (2.004)	-15.27*** (-26.29, -4.25)	**-14.51***** **-5.559**
Loose teeth, past year	11.28 (2.062)	13.88 (2.591)	-2.61 (3.320)	0.60 (1.009)	-4.03 (-11.38, 3.32)	**-2.70** **(3.634)**
Broken/missing fillings, past year	16.21 (2.013)	25.98 (4.220)	-9.77** (4.688)	0.34 (1.635)	-8.22 (5.273)	**-8.57*** **(4.902)**
NHANES[c]						
Any untreated caries	34.69 (2.890)	46.93 (3.270)	-12.24*** (4.490)	-3.25 (2.311)	-12.77*** (4.214)	**-9.52***** (3.383)
Any missing teeth, not replaced	56.05 (4.521)	58.50 (4.958)	-2.40 (6.684)	-1.34 (4.630)	-3.80 (6.830)	**-2.46** **(6.121)**
Any missing teeth due to dental disease, not replaced	53.09 (4.006)	55.14 (5.435)	-2.04 (6.995)	-0.54 (4.269)	-3.02 (6.537)	**-2.48** **(5.829)**

Conclusions

- **Our study found that Medicaid coverage of adult dental was associated with increased utilization of dental services and reduced the likelihood of negative oral health outcomes.**
- **Further, payment rates to dentists were associated with the size of the effect of dental coverage.**
- **Effective January 2014, 26 states expanded Medicaid eligibility, and 20 of these states offer at least limited dental services.**
- **The positive association between coverage and utilization of dental services will increase Medicaid spending in the short run, while the reduction in oral health problems may reduce spending in the long run.**
  - **This work may aid in determining the magnitude of these opposing effects**

Example of use of NHIS linked to Medicare claims

HEALTH ECONOMICS
Health Econ. **21**: 1155–1168 (2012)
Published online 24 August 2011 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/hec.1780

HEALTH SERVICE USE AMONG THE PREVIOUSLY UNINSURED: IS SUBSIDIZED HEALTH INSURANCE ENOUGH?

SANDRA L. DECKER[a,*], JALPA A. DOSHI[b], AMY E. KNAUP[c] and DANIEL POLSKY[b]

[a]*National Center for Health Statistics, Hyattsville, MD, USA*
[b]*University of Pennsylvania, Philadelphia, PA, USA*
[c]*University of Maryland, College Park, MD, USA*

SUMMARY

Although it has been shown that gaining Medicare coverage at age 65 years increases health service use among the uninsured, difficulty in changing habits or differences in the characteristics of previously uninsured compared with insured individuals may mean that the previously uninsured continue to use the healthcare system differently from others. This study uses Medicare claims data linked to two different surveys—the National Health Interview Survey and the Health and Retirement Study—to describe the relationship between insurance status before age 65 years and the use of Medicare-covered services beginning at age 65 years. Although we do not find statistically significant differences in Medicare expenditures or in the number of hospitalizations by previous insurance status, we do find that individuals who were uninsured before age 65 years continue to use the healthcare system differently from those who were privately insured. Specifically, they have 16% fewer visits to office-based physicians but make 18% and 43% more visits to hospital emergency and outpatient departments, respectively. A key question for the future may be why the previously uninsured seem to continue to use the healthcare system differently from the previously insured. This question may be important to consider as health coverage expansions are implemented.

Research Question and Motivation

Is Medicare spending after age 65 higher for those who were uninsured prior to age 65?

If so, then maybe Medicare spending for these individuals beginning at age 65 would be lower if they had been insured before the age of 65.

Policy Considerations

- Medicare eligibility that begins at age 65 does imply that some of the uninsured before the age of 65 go untreated for certain conditions until they become Medicare eligible

- This problem would be exacerbated if the age of Medicare eligibility were raised

- This problem would be alleviated if the age of Medicare eligibility were lowered

Table I. Percent characteristics of HRS and NHIS records that match to Medicare records by insurance status before age 65

	NHIS-Medicare			HRS-Medicare		
	Uninsured	Publicly insured	Privately insured	Uninsured	Publicly insured	Privately insured
Attributes before age 65						
Female	59.9	53.0	52.7	57.4	51.3	50.3
Married	55.4	63.3	79.6	60.8	56.7	79.3
Non-Hispanic Black	13.3	14.3	5.7	21.2	27.0	9.9
Hispanic	16.1	8.7	3.7	19.0	14.7	3.3
Non-Hispanic and Non-Black or non-White	6.4	4.2	1.9	3.0	2.2	1.2
Less than high school	48.2	36.6	16.3	48.8	48.9	16.5
High school degree	29.8	32.1	38.5	33.2	34.1	41.9
Some college	13.0	20.0	24.0	10.4	11.9	20.1
Income < $20,000	69.1	68.9	46.6	51.6	57.8	11.6
Income ≥ $20,000, <$45,000	28.3	31.3	42.2	29.6	23.2	27.5
Health - very good	21.0	17.8	34.3	19.2	9.8	35.4
Health - good	32.5	29.2	30.0	31.0	23.0	32.6
Health - fair	21.4	25.1	8.8	28.0	34.8	13.1
Health - poor	6.2	16.6	1.6	10.8	28.2	3.0

Table II. Use of Medicare services beginning at age 65 according to insurance status before age 65

		Difference relative to privately insured					
		Unadjusted		Adjusted		Adjusted including supplemental insurance and extra health controls	
	Mean for privately insured	Uninsured	Publicly insured	Uninsured	Publicly insured	Uninsured	Publicly insured
NHIS–Medicare							
Expenditures	4930.84	416.49	2349.22***	–609.40	504.79*	–	–
		(570.70)	(391.96)	(430.10)	(289.58)		
Inpatient stays	0.20	0.08*	0.13***	0.02	0.04***	–	–
		(0.04)	(0.02)	(0.03)	(0.01)		
Physician visits	7.29	–1.64***	0.94**	–2.02***	0.09	–	–
		(0.47)	(0.29)	(0.44)	(0.29)		
HRS–Medicare							
Expenditures	4148.46	330.29	3274.15***	–88.50	1809.65***	–59.66	1275.52***
		(365.60)	(291.57)	(386.30)	(315.21)	(352.24)	(308.87)
Inpatient stays	0.18	0.07***	0.19***	0.04*	0.10***	0.04*	0.07***
		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Physician visits	6.50	–0.38	2.57***	–1.07***	1.32***	–0.70**	0.84***
		(0.38)	(0.29)	(0.34)	(0.31)	(0.30)	(0.28)

Table III. Use of physician services beginning at age 65 according to insurance status before age 65

	Mean for privately insured	Difference (uninsured − privately insured)		
		Unadjusted	Adjusted	Adjusted including supplemental insurance and extra health controls
NHIS–Medicare				
Physician visits	7.29	–1.64***	–2.02***	–
		(0.47)	(0.44)	
Office based	6.67	–2.42***	–2.37***	–
		(0.42)	(0.39)	
General	3.07	–0.34	–0.64***	–
		(0.24)	(0.19)	
Specialist	3.10	–0.62	–1.39***	–
		(0.09)	(0.27)	
Other and nonphysician	0.50	–0.20**	–0.13**	–
		(0.09)	(0.06)	
Hospital outpatient department	0.33	0.39***	0.17**	–
		(0.09)	(0.08)	
Emergency room	0.29	0.20***	0.08*	–
		(0.05)	(0.04)	
HRS–Medicare				
Physician visits	6.50	–0.38	–1.07***	–0.70**
		(0.38)	(0.34)	(0.30)
Office based	6.03	–1.10***	–1.39***	–0.97***
		(0.35)	(0.31)	(0.28)
General	2.69	–0.35*	–0.70***	–0.53***
		(0.19)	(0.18)	(0.17)
Specialist	2.87	–0.58**	–0.42*	–0.21
		(0.28)	(0.26)	(0.23)
Other and nonphysician	0.48	–0.18**	–0.21***	–0.17***
		(0.07)	(0.06)	(0.05)
Hospital outpatient department	0.30	0.41***	0.15**	0.13**
		(0.07)	(0.07)	(0.06)
Emergency room	0.17	0.10***	0.03**	0.03**
		(0.02)	(0.02)	(0.01)

Example of use of MEPS restricted data

INSURANCE COVERAGE & THE ACA

By Jessica P. Vistnes and Joel W. Cohen

DOI: 10.1377/hlthaff.2016.0500
HEALTH AFFAIRS 35,
NO. 10 (2016): 1825–1829

DATAWATCH

Gaining Coverage In 2014: New Estimates Of Marketplace And Medicaid Transitions

We used data from the Medical Expenditure Panel Survey–Household Component to examine coverage transitions for nonelderly US adults. We found that 71.5 percent of Marketplace enrollees in 2014 had some period of uninsurance before enrollment. In Medicaid expansion states, 17.4 percent of adults who were uninsured throughout 2013 gained Medicaid coverage in 2014, compared with only 5.6 percent in those states between 2012 and 2013.

There is growing evidence that implementation of major coverage provisions of the Affordable Care Act (ACA) in 2014, such as the expansion of eligibility for Medicaid and the introduction of the federal and state-based Marketplaces, has reduced the number of uninsured people in the United States.[1] However, little is known about insurance transitions associated with the ACA's coverage provisions. This analysis uses newly available nationally representing that period (Exhibit 1). In states that expanded eligibility for Medicaid, 17.4 percent of adults uninsured in 2013 gained Medicaid coverage in 2014, compared with only 5.6 percent in those states between 2012 and 2013 (Exhibit 2).

Study Data And Methods

We examined transitions in coverage by using the longitudinal panels in the Medical Expenditure Panel Survey–Household Component

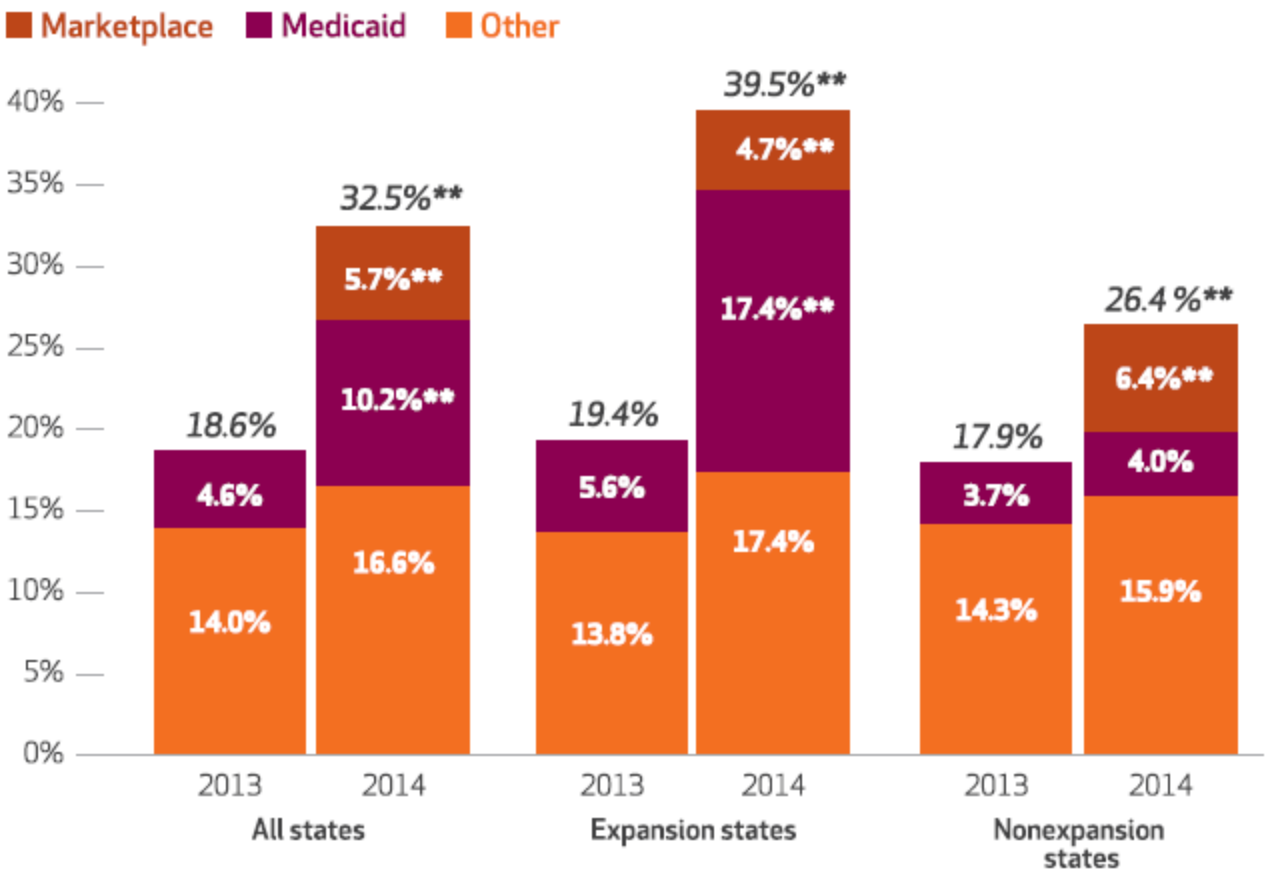
Jessica P. Vistnes (Jessica.Vistnes@ahrq.hhs.gov) is a senior economist in the Center for Financing, Access, and Cost Trends at the Agency for Healthcare Research and Quality (AHRQ), in Rockville, Maryland.

Joel W. Cohen is director of the Center for Financing Access and Cost Trends at AHRQ.

INSURANCE COVERAGE & THE ACA

EXHIBIT 2

Continuously uninsured adults who gained coverage in 2013 or 2014, by type of coverage gained and state Medicaid expansion status



Example of use of restricted data - NAMCS

MEDICAID EXPANSION

By Sandra L. Decker

In 2011 Nearly One-Third Of Physicians Said They Would Not Accept New Medicaid Patients, But Rising Fees May Help

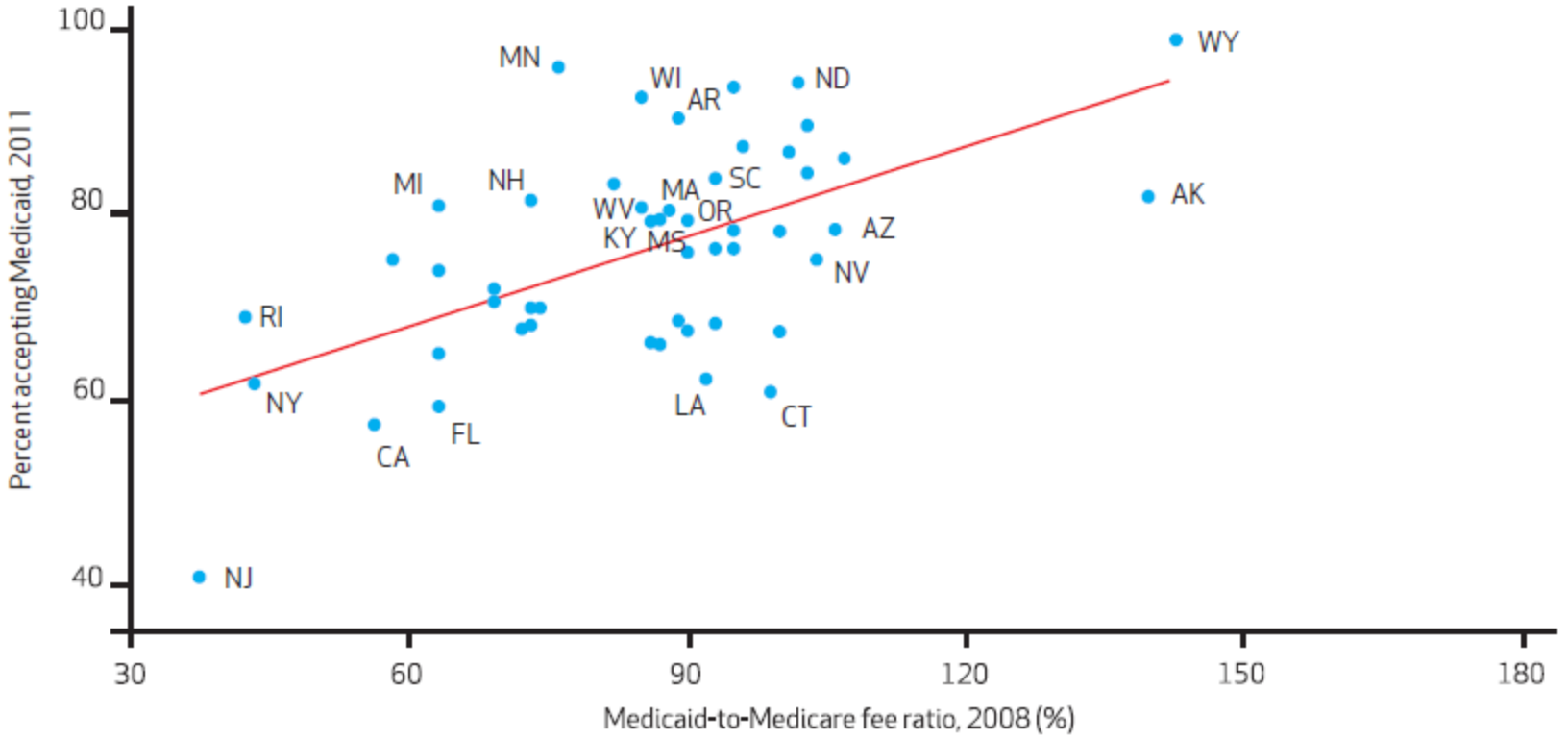
DOI: 10.1377/hlthaff.2012.0294
HEALTH AFFAIRS 31,
NO. 8 (2012): 1673–1679

ABSTRACT When fully implemented, the Affordable Care Act will expand the number of people with health insurance. This raises questions about the capacity of the health care workforce to meet increased demand. I used data on office-based physicians from the 2011 National Ambulatory Medical Care Survey Electronic Medical Records Supplement to summarize the percentage of physicians currently accepting any new patients. Although 96 percent of physicians accepted new patients in 2011, rates varied by payment source: 31 percent of physicians were unwilling to accept any new Medicaid patients; 17 percent would not accept new Medicare patients; and 18 percent of physicians would not accept new privately insured patients. Physicians in smaller practices and those in metropolitan areas were less likely than others to accept new Medicaid patients. Higher state Medicaid-to-Medicare fee ratios were

Sandra L. Decker (sdecker@cdc.gov) is an economist at the National Center for Health Statistics, in Hyattsville, Maryland.

EXHIBIT 4

Percentage Of US Office-Based Physicians Accepting New Medicaid Patients In 2011 And The Medicaid-To-Medicare Fee Ratio



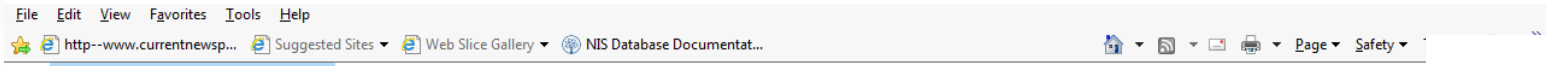
Plan for Presentation

- Description of AHRQ data (MEPS)
- Description of NCHS datasets
- Description of restricted data

  --Geocodes
  --Other restricted variables
  --Early release data (NHIS)
  --Linked administrative records

- Examples of use of restricted data
- Some proposal tips

RDC



RDC Staff

FAQs

Related Sites

National Center for Health Statistics

U.S. Census Bureau, Center for Economic Studies

NCHS RDC Analyst

- Facilitates review of your proposal
- Creates your analytic data set
- Accepts NCHS payment
- Accepts your NCHS Confidentiality requirements
- Transfers your dataset to Census
- Reviews your output for disclosure risk
- At any time, if you have questions, please contact your NCHS RDC Analyst.

Census RDC Administrators

- Answer logistical questions about the FSRDC such as, statistical software availability, and Census Fees
- Ensure you have completed all the Census Bureau Security requirements
- Accepts Census payments
- Census transfers your output to NCHS for a review

Before Submitting a Proposal

Researchers interested in accessing NCHS data through a Federal Statistical RDC must submit their proposals dire to NCHS. You will not have to submit a separate proposal to the FSRDC but, in addition to the NCHS requirements, will be required to follow all requirements that the Census Bureau imposes to protect the security and confidentiality the data. If you are considering using an FSRDC, contact your FSRDC Administrator to discuss access requirement how to obtain Special Sworn Status (SSS), and fees for using the FSRDC as well as any other logistical concerns. Please note NCHS and Census fees are independent of each other.

Before Your Visit

In addition, to the NCHS requirements outlined by your RDC Analyst, the following steps should occur after you rec an approval email from your RDC Analyst:

Restricted Data +
Access Modes +
Proposal Process +
Confidentiality
Accessing Restricted Data
Providing the Public Use Data
Fees and Invoicing
Publishing Guidelines +
Reference Materials
Directions
RDC Staff
FAQs

Related Sites

National Center for Health Statistics
U.S. Census Bureau, Center for Economic

Providing the Public Use Data

Researchers are responsible for providing the NCHS public dataset as well as any non-NCHS data. Compiling th
use dataset provides you the opportunity to become familiar with the data and expedite the data creation proces

- Exception: For NHDS, NAMCS, NHAMCS, and other DHHS data hosted by the RDC, you do not need to pro
public dataset. Your RDC Analyst will provide an extract from the restricted files that includes all of the variat
specified in your proposal.
- Non-NCHS Data includes any data collected by the researcher, another government agency, or a private ins
that the researcher wishes to merge with NCHS data, often using geographic codes. Examples for policy res
have included air pollution data, proximity of fast food restaurants, or location of health care providers.

Instructions:

1. Create a public data set that includes only the variables specified in your proposal.
2. Original NCHS variables must retain the name they are given in the public data set. If you would like to renar
variables, include the original variable name in the variable description.
3. If you choose to create derived variables prior to working with the data onsite or via remote access, make su
variables are clearly defined. The variable description should include the original variable name(s) from whic
derived and any arithmetic manipulation must be explained. Please save the code you used to create these
as your RDC Analyst may request it.
4. If you are also sending another source of data, for example Census data, this data set should only include th
variables specified in your proposal.
5. Discuss with your RDC Analyst the preferred format for any merge variables. This is especially important for
merges that involve multiple data sets and multiple merge variables. Create the variables as your RDC Analy

RDC Proposal

A. Abstract: Please limit the abstract to 300 words.

B. Research Question: Include study purpose, hypotheses, goals, or research questions.

C. Background: Include a short literature review, no more than 2 pages, focusing on papers that discuss your topic or address the methodology that you plan to use. Please limit your reference list to 10 items or less.

D. Public Health Benefit: In one paragraph, how does your research benefit public health?

E. Data Requirements:
Remember to provide an explanation to "yes/checked" responses from the Data Requirements Summary.

1. **Survey, Years, Files**:
   For examples, NHIS 2005-2007 Household, Person and Sample Adult Files, NAMCS 2005-2006 Provider and Patient Visit Files, or NHANES 2005-2006 Examination and Demographic Files.
2. **Restricted Data:**
   List and describe the restricted variables that you will need. These variables must be listed in the Data Dictionary section as well. Explain why each variable is needed and how you will include them in your analysis. Specify how geographic variables, if applicable, will be used to merge files, analyze the data and/or presented in output.
3. **Non-NCHS Data:**
   Will you provide data from another source (such as Census or EPA)? If yes, describe the source, list the files, and provide a general description of the data. These variables must be listed in the Data Dictionary section.

RDC Proposal

F. Methodology:
We highly recommend you familiarize yourself with the analytic guidelines of the data you intend to use. Any deviations from the methodology suggested in the guidelines will require explanation as it may pose a disclosure risk.

1. **Unit or Level of Analysis and Subpopulation(s):**
   There can be many levels of analysis: be as detailed as possible. A common example for an analysis of NHANES is where the unit of analysis is the person while the subpopulation is adults ages 18-64. A common example involving geography is when you aggregate persons to the state level so you can compare states with policy A to states with policy B.
2. **Analysis Plan:** Provide an overall analysis plan that specifies what analytic procedures or models you will use, such as prevalence estimates, logistic regression, or log-linear modeling, or list specific statistical package procedures.
3. **Complex Survey Design:** Indicate how you will address sample weights, design variables, and other adjustments for the use of complex survey data, if applicable, using the statistical software listed in the General Information area. A detailed description per weight, design variables, and other adjustments are required and central to understanding the limitation of the data. This is a critical element during the proposal review process.

RDC Proposal

H. Data Dictionary:
Include a data dictionary for each data source. Provide a public and restricted data dictionary for NCH
This should simply be a listing of variables you would like in your dataset. See instructions and examp
creating the data dictionary. When asking for multiple years of data, make sure to reflect the public us
layout for each year as variable names can change over years. Include all explanations in Section E. Da
Requirements.

1. **NHDS, NAMCS/NHAMCS, Mortality, Natality, and DHHS Hosted Data Users:** Provide a single
   dictionary that includes all the variables (public and restricted) you would like extracted for yo
   data set.

I. References: Please limit the list to 10 items or less.

J. Resumes/C.V.: Please include a 2-page C.V. for each member of the research team listed in the initi
(not as attachments).

Workshop on Restricted Health Data available at the Philadelphia FSRDC

Sandra L. Decker, Ph.D.
Email: Sandra.Decker@AHRQ.GOV

University of Pennsylvania
March 22, 2017