



PROVE IT! “LITE”

Data Training for the
Tri State Learning Collaborative on Aging

Jo Porter

Amy Costello

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Introductions

- Who are you?
- Where are you from?
- Why did you choose this session?





Agenda for the session

- Why do we need data?
- How do we locate and evaluate data?
- How do we know what data to request?
- How do we request data?
- How do we interpret analysis?
- What do you do if you need to collect your own data?



WHY DO WE NEED DATA?



Ranges of Data Uses

ACTIVITY 1: BRAINSTORM

- What do you need data to do for you?
- What functions require data?
- What functions are informed by data?



Let's Dig In!

ACTIVITY 2:

So, you want to implement a program....

- Guiding Questions

- What do you want to prove to make your case?
- What do you want to improve in your work that you need to measure?



HOW DO WE LOCATE AND EVALUATE DATA?



NEW HAMPSHIRE HEALTH DATA INVENTORY

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NH HealthWRQS Reports

A library of standardized community health indicator reports... public health data at your fingertips!

Age Groups

Children (1-18)
Adolescent (12-25)
Adult (18-55)
Older Adult (55+)

Health Indicators

Pregnancy & Infant Health
Injury
Cancer
Heart Disease & Chronic Conditions
Mental Health
Oral Health
Substance Abuse
Communicable Disease

Risk Factors

Alcohol, Tobacco & Other Drugs
Physical Activity
Nutrition & Diet
Preventive Services
Sexual Health

Health Care

Access to Health Care

Welcome to the New Hampshire Health Data Inventory!

With support from the New Hampshire Department of Health and Human Services, the New Hampshire Institute for Health Policy and Practice will continue to maintain and grow the Health Data Inventory that was developed in 2000 by Institute and Department as part of the Empowering Communities Project.

The Health Data Inventory is an INVENTORY of health data sources and reports. The Health Data Inventory (HDI) provides useful information about these sources and links to organizations that manage the data. The HDI is not a warehouse of raw data.

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Think of the HDI as your list of Internet "Favorites" for population or community health data. The Internet can be confusing and overwhelming with the vast amounts of information; we hope you find that your search for good data about the health of New Hampshire is streamlined through the use of the HDI. We have carefully selected high quality data sources and provided information about those sources here.

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- Preventive Services
- Sexual Health

Health Care

- Access to Health Care

Keywords

Enter keywords to search for:



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Contact Us

We greatly appreciate feedback. If you have specific questions or comments feel free to **email us**, or fill out the survey below.



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Access to Health Care

A to Z Index

Data | Reports

Data Source	State Data	National Data
Data		
American Community Survey Data	State & National Data are the same	
Behavioral Risk Factor Surveillance System Data	State Data	National Data
Birth Data	State Data	National Data
Cancer Registry Data	State & National Data are the same	
Communicable Diseases Data	State Data	No info available
EPA Envirofacts Data	State & National Data are the same	
Estimates of US Cities and Towns Population Data	No info available	National Data
Fetal Death Data	State & National Data are the same	
GRANIT Data	State Data	No info available
Historical Health Insurance Data	State & National Data are the same	
HRSA Geospatial Data Warehouse Data	State & National Data are the same	
HRSA Health Workforce Analysis/Area Resource File	State & National Data are the same	
Inpatient Hospital Data	State Data	No info available
Lead Poisoning Data	State Data	National Data
Linked Births/Infant Deaths Data	State & National Data are the same	



EXAMPLE 1

How many NH residents do not exercise?



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Preventive Services
Sexual Health

Health Care

Access to Health Care

[Home](#) » [Heart Disease & Chronic Conditions](#)

Results for: Heart Disease & Chronic Conditions

Data Source	State Data	National Data
Data		
Behavioral Risk Factor Surveillance System Data	State Data	National Data
Fetal Death Data	State & National Data are the same	
Inpatient Hospital Data	State Data	No info available
Linked Births/Infant Deaths Data	State & National Data are the same	
Mortality Data	State Data	National Data
National Ambulatory Medical Care Survey Data	No info available	National Data
National Health and Nutrition Examination Survey Data	No info available	National Data
National Health Interview Survey Data	No info available	National Data
National Health Provider Inventory Data	No info available	National Data
National Home and Hospice Care Survey Data	No info available	National Data
National Hospital Ambulatory Medical Care Survey Data	No info available	National Data
National Hospital Discharge Survey Data	No info available	National Data
National Maternal and Infant Health Survey Data	No info available	National Data
National Mortality Followback Survey Data	State & National Data are the same	
National Survey of Ambulatory Surgery Data	No info available	National Data



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Nutrition & Diet
Preventive Services

[Home](#) » [Heart Disease](#) » [Behavioral Risk Factor Surveillance System Data](#)

Results for: Behavioral Risk Factor Surveillance System Data

State Level ▼

The NH Behavioral Risk Factor Surveillance System is a random, anonymous telephone-based survey of adults that measures a variety of health-related behaviors and indicators.



What is available?

Data: [Available Here](#)

Request Analysis: Request Analysis



Sponsor

Health Statistics and Data Management, DHHS



What is in the Data?

Content: health-related perceptions, conditions, behaviors, smoking, tobacco, cigarettes, obesity, BMI, alcohol, diet, nutrition, exercise, activity, insurance, folic acid, screening, cancer, drinking, drugs, drug use, asthma, diabetes, chronic disease, mental health, arthritis, HIV, sex, injury, seatbelt, safety, helmet, drug, dependence, dependent, substance, Healthy New Hampshire, Healthy People

Population: adult

Org: Health Statistics and Data Management

Address: Division of Public Health Services
29 Hazen Drive

City: Concord

State: NH

Zip: 03301

Phone: 603.271.5926



← → ↻ 🏠 <https://www.dhhs.nh.gov/dphs/hsdm/brfss/index.htm> NH BRFSS

an official **NEW HAMPSHIRE** government website

dhhs New Hampshire Department of HEALTH AND HUMAN SERVICES

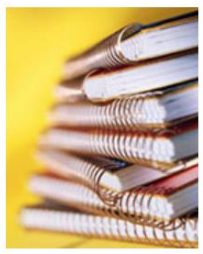
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Behavioral Risk Factor Surveillance System



Each year, the Division of Public Health Services (DPHS) conducts a telephone health survey of NH adults. This survey, called the Behavioral Risk Factor Surveillance System (BRFSS) survey is supported by a grant from the Centers for Disease Control and Prevention (CDC).

Results of the survey are used for planning and evaluating public health programs, focusing resources and monitoring the health of NH residents.

The primary focus of the survey is on behaviors and conditions that are linked with the leading causes of death – heart disease, cancer, stroke, diabetes, and injury – and other important health issues.

Examples include:

- Diet
- Exercise

search this site 🔍

DHHS Events Calendar

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11	12	13	14	15	16	17			
18	19	20	21	22	23	24			
25	26	27	28	29	30				

Program Information

- Have you been asked to participate in the BRFSS health survey? 📞
- Publications
- Contact Health Statistics & Data Management

Related Resources

- Centers for Disease Control



Browser address bar: nhhealthwrqs.org/HealthWRQS2?SubSystem=BRFSS

New Hampshire HealthWRQS
web reporting and querying system

For detailed information on the data and methods, please see the [user's guide](#). To return to the HealthWRQS home page click [here](#) or the logo on the left. For technical assistance, click [here](#). Do not use your browser's back button on any module page. Instead, please click on "Module Home" in the menu to return to the module home page and select new parameters if you would like to generate additional reports. Please note that several of our user's guides and reports require software such as Adobe Reader to view. Please visit www.adobe.com to download the free viewer.

WRQS Home | [Module Home](#) Login

Behavioral Risk Factor Surveillance System (BRFSS) Report Module

Please select from the parameters below.

Select Year(s)

☐ 2005 ☐ 2006 ☐ 2007 ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011 ☐ 2012 ☐ 2013 ☐ 2014 ☐ 2015

☒ See individual year(s) ☐ See years combined together (option available for 2 or more years)



nhhealthwrqs.org/HealthWRQS2

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WRQS Home | Module Home Login

Behavioral Risk Factor Surveillance System (BRFSS) Report Module

Please select from the parameters below.

Select Year(s)

☐ 2005 ☐ 2006 ☐ 2007 ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011 ☐ 2012 ☐ 2013 ☐ 2014 ☒ 2015 ⓘ

☒ See individual year(s) ☐ See years combined together (option available for 2 or more years)

Select Report Type ⓘ **Select Topic Category & Question (ROW)** ⓘ

☒ Single Report ☐ Report Package

Category: Exercise

Question: --Choose--
--Choose--
Meets aerobic and strengthening physical activity guidelines
Exercised in past 30 days



***NH BRFSS Web Reporting and Query Module
Measurement Year 2015***

(ROW) Exercised in past 30 days	Statistic	Value
Had physical activity or exercise	Percent	77.1%
	95% C.I. Percent	(75.6%-78.6%)
	Weighted N	743,650
	95% C.I. Weighted N	(719,731-767,569)
No physical activity or exercise in last 30 days	Percent	22.9%
	95% C.I. Percent	(21.4%-24.4%)
	Weighted N	220,435
	95% C.I. Weighted N	(204,959-235,910)
COL Total	Percent	100.0%
	95% C.I. Percent	N/A
	Weighted N	964,085
	95% C.I. Weighted N	(939,926-988,244)



EXAMPLE 2

How many people will be living in Belknap County in 2020?



Order Menu (007)

Health Indicators

- Pregnancy & Infant Health
- Injury
- Cancer
- Heart Disease & Chronic Conditions
- Mental Health
- Oral Health
- Substance Abuse
- Communicable Disease

Risk Factors

- Alcohol, Tobacco & Other Drugs
- Physical Activity
- Nutrition & Diet
- Preventive Services
- Sexual Health

Health Care

- Access to Health Care
- Health Care Workforce
- Use of Health Care

Socio-economic

- Employment
- Income/Poverty
- Housing
- Education

Population Information

- Estimates & Projections

Environmental

- Assessment & Planning

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Sexual Health

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Access to Health Care

[Home](#) » [Estimates & Projections](#)

Results for: Estimates & Projections

Data Source	State Data	National Data
Data		
American Community Survey Data	State & National Data are the same	
Fetal Death Data	State & National Data are the same	
Linked Births/Infant Deaths Data	State & National Data are the same	
Mortality Data	State Data	National Data
National Death Index Data	State & National Data are the same	
National Mortality Followback Survey Data	State & National Data are the same	
NH Cities and Towns Population Data	State Data	No info available
Pregnancy Risk Assessment Monitoring System Data	State & National Data are the same	
Tobacco Data Book	State Data	No info available
Reports		
New Hampshire Births, 1999-2000 Report	State Data	No info available



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Terms List

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[Adolescent \(12-25\)](#)
[Adult \(18-55\)](#)
[Older Adult \(55+\)](#)

Health Indicators

[Pregnancy & Infant Health](#)
[Injury](#)
[Cancer](#)

Results for: NH Cities and Towns Population Data

State Level ▼

U.S. Census Bureau and the NH Office of Energy & Planning produce estimates and projections of population size and demographics for New Hampshire cities and towns.



What is available?

Data: [Available Here](#)



Sponsor

NH Office of Energy and Planning

Org: NH Office of Energy and Planning

Address: 57 Regional Drive
Suite 3

City: Concord

State: NH

Zip: 03301-8519

Phone: 603-271-2155





an official NEW HAMPSHIRE government website

OFFICE OF
Strategic Initiatives

Monday, November 20, 2017

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State Data Center

Resource Library

Contact OSI

Population Projections

Population projections for New Hampshire counties, cities and towns.

All documents have been saved in Portable Document Format .

State and County Population Projections - September 2016

County Population Projections, By Municipality - September 2016

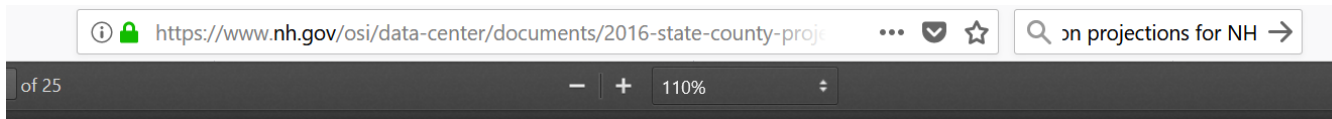
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State of New Hampshire State and County Population Projections

September 2016

The New Hampshire Office of Energy and Planning (OEP) has been preparing projections or forecasts of future population for the state and its political subdivisions since 1964. The projections are used by a wide variety of government agencies and private interests to guide public policy, gauge market potential and estimate future target populations. The projections can be applied directly and unaltered to guide public or private endeavors. The projections can also serve as a *beginning*, or point of departure, in developing further projection efforts or refining existing ones.

In partnership with the state's Regional Planning Commissions (RPCs) and their consultant, Robert Scardamalia of RLS Demographics, OEP presents the attached report titled: *State of New Hampshire, Regional Planning Commissions, County Population Projections, 2016, By Age and Sex*. This report includes details on the state and county projections for the period 2020 through 2040 and summarizes the projections' highlights. A separate document developed by OEP in partnership with the RPCs contains the companion municipal population projections for the same time period.

These projections are the second iteration based on the 2010 U.S. Census, with updated inputs of



Table 1: Summary of Projected Total Population

	2010	2015	2020	2025	2030	2035	2040
New Hampshire	1,316,470	1,330,501	1,349,908	1,374,702	1,402,878	1,422,530	1,432,730
Belknap	60,088	60,407	61,340	62,330	63,333	64,336	65,361
Carroll	47,818	47,968	48,239	48,858	49,792	50,245	50,192
Cheshire	77,117	77,345	77,653	78,002	78,315	78,543	78,695
Coos	33,055	33,652	32,389	31,206	30,059	28,919	27,756
Grafton	89,118	89,418	91,099	92,815	94,829	97,142	99,673
Hillsborough	400,721	404,295	409,478	416,445	424,492	429,538	431,284
Merrimack	146,445	147,780	150,434	154,459	159,899	164,046	166,771
Rockingham	295,223	300,575	307,013	314,418	321,441	325,474	326,238
Strafford	123,143	125,334	128,801	132,513	136,472	139,738	142,204
Sullivan	43,742	43,727	43,462	43,656	44,246	44,549	44,556



NH Health **WISDOM**

Search

Search

A A A

User ▾ **Help**

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NH DIVISION OF
Public Health Services
Improving health, preventing disease, reducing costs for all
Department of Health and Human Services

WISDOM

Connecting NH to Health Data

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State Health Improvement Priorities

Asthma

Cancer

Healthy mothers and babies

Injury prevention

Misuse of alcohol and drugs

Obesity/Diabetes

State Initiatives

NH Environmental Public Health Tracking Program

Perfluorochemical (PFC) Blood Testing and Community Exposure

Health Equity



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Maine Center for Disease Control & Prevention

An Office of the Maine Department of Health and Human Services

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Demographic Information

Demographics

Health Indicators

Chronic Disease

Environmental Health

Health Disparities

Injury and Violence

Infectious Disease

Maternal and Child Health

Mental Health

Oral Health

Quality of Life

Substance Abuse

Maine Public Health Data Reports

Maine Public Health Data Reports are the collation of documents, reports, images, and other information published by the Maine Center for Disease Control and Prevention.

What's new?

[2012 State health Assessment Data now available](#)

168 indicators in 22 topic areas provide an overview of the health status of Maine people. Wherever possible, the data is also presented by county, public health district, sex, age, race, ethnicity, and sexual orientation, and for a limited number of indicators, by income and educational status. Trends for up to ten years are also provided.

How Can We Help You?

[Find information about a specific health topic.](#)

[Find health information about areas of Maine, i.e. a health district or county.](#)

[Compare health information across health districts.](#)

Reports

[Regional and Local Reports](#)

[Maine CDC/DHHS District-State-US Public Health Indicator Comparison Tables](#)

[Maine CDC/DHHS District Health Profiles](#)

[State Health Plan 2008](#)

[Healthy Maine 2010](#)

Additional Resources

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2008 MAINE STATE PROFILE of SELECTED PUBLIC HEALTH INDICATORS

Maine Center for Disease Control and Prevention/DHHS

INJURY AND VIOLENCE INDICATORS	DISTRICT								MAINE State ± Margin of Error	UNITED STATES	Bench- mark State (healthiest)
	Aroostook ± Margin of Error	Central ± Margin of Error	Cumberland ± Margin of Error	Downeast ± Margin of Error	Midcoast ± Margin of Error	Penquis ± Margin of Error	Western ± Margin of Error	York ± Margin of Error			
Motor Vehicle Traffic Crash Deaths (age-adjusted rate per 100,000 and average number per year) [2001-2005]	16.4 (±4.8) 12 avg/yr.	15.0 (±2.8) 26 avg/yr.	9.7 (±1.8) 27 avg/yr.	19.2 (±4.7) 17 avg/yr.	16.7 (±3.0) 25 avg/yr.	13.8 (±2.5) 23 avg/yr.	14.9 (±2.4) 30 avg/yr.	12.4 (±2.2) 24 avg/yr.	13.8 (±0.9) 185 avg/yr.	14.5 [2005]	MA 7.8 [2001-05]
Hip Fracture Hospitalizations Among 65+ Year Olds (rate per 100,000 and 5 yr. count) [2001-2005]	707.8 (±85.8) 447	762.7 (±49.0) 932	827.7 (±41.9) 1,497	754.5 (±63.8) 538	739.0 (±49.5) 856	780.6 (±51.8) 878	745.2 (±45.2) 1,044	649.4 (±43.1) 874	751.3 (±17.5) 7,066	778.4 [2003-05]	n/a
Reported Rapes (rate per 10,000 female population and average number per year) [2001-2005]	2.3 (±0.5) 16 avg/yr.	5.7 (±0.7) 50 avg/yr.	3.4 (±0.3) 85 avg/yr.	2.3 (±0.6) 10 avg/yr.	3.0 (±0.5) 23 avg/yr.	3.1 (±0.5) 26 avg/yr.	7.7 (±0.8) 76 avg/yr.	3.0 (±0.4) 55 avg/yr.	2.8 (±0.1) 340 avg/yr.	n/a	n/a
Domestic Assaults Reported to the Police (rate per 10,000 population and count) [2005]	36.7 (±4.4) 269	55.8 (±3.5) 964	40.6 (±2.4) 1,115	22.7 (±3.2) 198	27.0 (±2.8) 411	26.7 (±3.8) 440	50.7 (±3.2) 986	53.2 (±3.2) 1,076	41.3 (±1.1) 5,549	n/a	n/a

<http://www.maine.gov/dhhs/mecdc/phdata/2008-ph-indicators-pdf-doc/2008-phi-injury-and-violence-indicators.pdf>



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[Quality of Life](#)

[Substance Abuse](#)

Maine Public Health Data Reports

Technical Notes

Term	Description
Age-adjusted Rates Defined	What are age-adjusted rates?
Age-adjusted Rates	Why age adjust? And how is age-adjustment done?
Association and Causation	Why association does not necessarily mean causation?
Confidence Intervals	The true value of a statistic.
Data Variability	Issues around data variability and small numbers.
Defining Disability	Defining disability.
Measuring Disability	How disability is measured.
Five-year Trailing Average	Combining five years of data.
Incidence and Prevalence	Two ways to measure disease rates.
Making Two Populations Comparable	There are two ways to make two populations comparable when known characteristics are distributed differently between them.



- HEALTH STATISTICS & VITAL RECORDS
- HOW HEALTHY ARE WE? PUBLIC HEALTH DATA EXPLORER
- VITAL RECORDS & POPULATION DATA
- PUBLIC HEALTH GIS
- POPULATION HEALTH SURVEYS & DATA
- HEALTH CARE SYSTEMS REPORTING
- REGISTRIES
- SURVEILLANCE & REPORTING BY TOPIC

www.healthvermont.gov/stats/hv2020

department of health

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RT @vermont: Get WX, road, and other alerts from VT Alert this winter and be #WinterReadyVT ... <https://t.co/FRZ0AhbeDC>
Read More

HOME / HEALTH STATISTICS & VITAL RECORDS /

HOW HEALTHY ARE WE? PUBLIC HEALTH DATA EXPLORER

Vermont continues to be one of the [healthiest states in the nation](#) but there are challenges ahead. To meet these, we track, measure, report on, and apply data in order to achieve our shared goals for improving public health. Our data explorer allows you to access this information, view trends over time, and visualize the indicators on Vermont maps. The data explorer highlights data that is part of Healthy Vermonters 2020 and Environmental Public Health Tracking by bringing together environmental and health data in one place. This data should be used to assess and understand health and well-being in Vermont. It can be used to guide decision making, apply for funding, engage community partners, and demonstrate achievements.

ENTER PUBLIC HEALTH DATA EXPLORER

RELATED CONTENT:

- [VT Agency of Human Services Outcomes of Well-Being \(ACT 186\)](#)
- [Healthy Vermonters 2020 Plans & Reports](#)
- [VT Topic Specific Data](#)
- [National Healthy People 2020](#)
- [National Environmental Public Health Tracking](#)
- [How Are We Doing? Performance Scorecards](#)



https://apps.health.vermont.gov/ias/querytool



department of health →



Data Explorer

Info

Tables, Maps & Charts

Data Download

Resources & Metadata

[View in new window](#)

[Link to search results](#)

Injury & Violence Prevention

Fall Related Emergency Department Visits Per 100000 Adults Age 65 and Older 2009-2011



*This is a Healthy Vermonters 2020 objective

Fall Related Emergency Department Visits Per 100000 Adults Age 65 and Older

District Offices (2009-2011)	Indicator Value	Statistically Compared to State
Barre	6,214.7	Worse
Bennington	5,530.3	Same
Brattleboro	6,397.2	Worse
Burlington	4,027.8	Better
Middlebury	7,092.4	Worse
Morrisville	6,025.2	Worse
Newport	7,145.7	Worse
Rutland	5,489.8	Same
Springfield	6,230.3	Worse
St. Albans	3,981.5	Better
St. Johnsbury	5,583.0	Same
White River Junction	3,786.2	Better

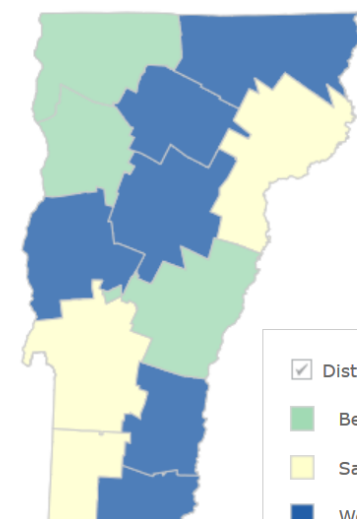
INSTRUCTIONS: This webpage is interactive. To sort, click table column headings. To display data on the TREND chart, select the table, map, or legend (ctrl-click for multiple selections). To watch a slideshow of changes over time, click Play on the ANIMATION bar below.

About this indicator

Rate of fall-related emergency department visits for adults age 65 and older, as captured through the Vermont Uniform Hospital Discharge Data Set.

Help

Share





Dimensions of Data Quality

- Relevance
- Accuracy
- Timeliness
- Accessibility
- Interpretability
- Coherence



HOW DO WE KNOW WHAT DATA TO REQUEST?

AKA: YIKES! Statistics
(but just a little bit)

Based on work by Robert McGrath



Statistical Data Analysis

- “The *art* of examining, summarizing, and drawing conclusions from data” (Norusis, M. J. 2002. *SPSS 11.0 Guide to Data Analysis*)
- Practical, Applied approach. Different kinds of statistics, where to find them and when to use them
- Need Good Data
 - GIGO (Garbage In, Garbage Out)
- But what is a statistic??



Data types

- Qualitative
 - Differences in qualities.
 - Interview transcripts, focus groups
- Quantitative
 - Differences in amount -- numbers.
 - Survey data, databases, administrative data



Summary Statistics

- Measures of Center or Central Tendency
 - Mean: Mathematical Average
 - Median: 50th Percentile, or the value that cuts the distribution into two equal halves.
 - Median is ROBUST, or resistant to high (or low) outlying points.
 - Mode: Most common response or data point
 - Also robust



Measures of Central Tendency

- An Income Example
 - \$25,000, \$27,000, \$33,000, \$65,000, \$88,000
 - What is the median?
 - What is the mean?
 - What is the mode?
 - Replace \$88,000 with \$300,000
 - What is the median?
 - What is the mean?
 - What is the mode?



Measures of Dispersion

- The measure you use can be deceiving.
 - Two very different distributions can have the same mean, median, and mode.
 - What is of interest, then, is the variability of the data. Are the data spread out, or central around the mean? This is termed *dispersion*.
- Measures of Dispersion
 - Range: Minimum – Maximum
 - Variance: The total amount of deviation from the mean
 - Standard Deviation: The square root of the variance. The *average* distance of any one value from the mean.



Confidence Intervals

- Interpretation of the 95% Confidence Interval:
 - If the study is done correctly we are 95% confident that the true population mean falls within this estimated range



Rates

- Using Raw Numbers:
 - There were 633,842 deaths from heart disease in 2015, compared with 614,348 in 2014. Are these different?
- Using Rates allows us to compare. A rate has a population base that some outcome is divided across.
- Rates typically incorporate some time period. For example a mortality (death) rate for a given year. This is the number of deaths divided by the population (all).

<https://www.cdc.gov/nchs/fastats/deaths.htm>

https://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_05.pdf



Crude Rates

- For Example:

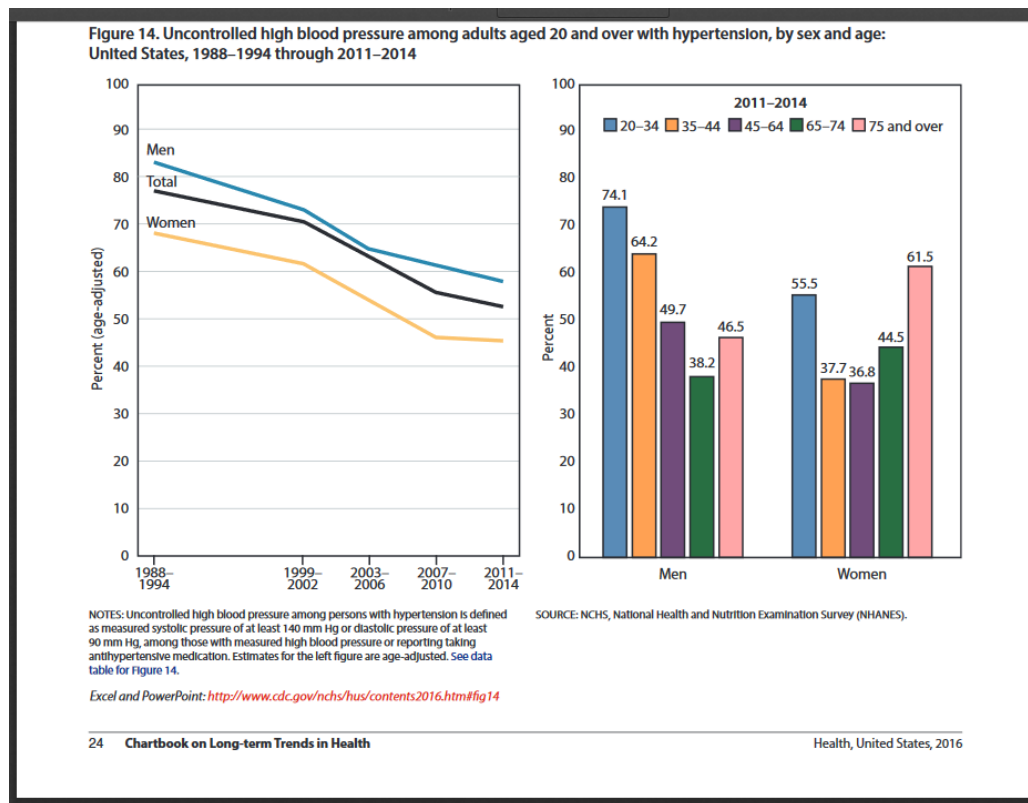
State	# of Heart Disease Deaths	Rate
Vermont	1,311	209.4
New Hampshire	2,571	193.2
Maine	3,009	226.4

- Single rates which are used as summary measures for entire populations are called CRUDE rates. They do not distinguish populations by other characteristics (age, gender, geographic location, etc.)

https://www.cdc.gov/nchs/data/dvs/LCWK9_2015.pdf

Specific Rates

- Looking by age
- Age composition between groups differs substantially



<https://www.cdc.gov/nchs/data/hus/hus16.pdf#o19>



Adjusted rates

- Adjusted rates
 - Beyond scope but really common
 - Try to allow for comparison by holding other things constant

Table 21 (page 1 of 4). Death rates for all causes, by sex, race, Hispanic origin, and age: United States, selected years 1950–2015

Excel and PDF versions (with more data years and standard errors when available): <http://www.cdc.gov/nchs/hus/contents2016.htm#021>.

[Data are based on death certificates]

Sex, race, Hispanic origin, and age	1950 ¹	1960 ¹	1970	1980	1990	2000	2014	2015
All persons								
Deaths per 100,000 resident population								
All ages, age-adjusted ²	1,446.0	1,339.2	1,222.6	1,039.1	938.7	869.0	724.6	733.1
All ages, crude	963.8	954.7	945.3	878.3	863.8	854.0	823.7	844.0
Under 1 year	3,299.2	2,696.4	2,142.4	1,288.3	971.9	736.7	588.0	589.6
1–4 years	139.4	109.1	84.5	63.9	46.8	32.4	24.0	24.9
5–14 years	60.1	46.6	41.3	30.6	24.0	18.0	12.7	13.2
15–24 years	128.1	106.3	127.7	115.4	99.2	79.9	65.5	69.5
25–34 years	178.7	146.4	157.4	135.5	139.2	101.4	108.4	116.7
35–44 years	358.7	299.4	314.5	227.9	223.2	198.9	175.2	180.1
45–54 years	853.9	756.0	730.0	584.0	473.4	425.6	404.8	404.0
55–64 years	1,901.0	1,735.1	1,658.8	1,346.3	1,196.9	992.2	870.3	875.3
65–74 years	4,104.3	3,822.1	3,582.7	2,994.9	2,648.6	2,399.1	1,786.3	1,796.8
75–84 years	9,331.1	8,745.2	8,004.4	6,692.6	6,007.2	5,666.5	4,564.2	4,579.2
85 years and over	20,196.9	19,857.5	16,344.9	15,980.3	15,327.4	15,524.4	13,407.9	13,673.9
Male								
All ages, age-adjusted ²	1,674.2	1,609.0	1,542.1	1,348.1	1,202.8	1,053.8	855.1	863.2
All ages, crude	1,106.1	1,104.5	1,090.3	976.9	918.4	853.0	846.4	868.0
Under 1 year	3,728.0	3,059.3	2,410.0	1,428.5	1,082.8	806.5	638.6	639.2
1–4 years	151.7	119.5	93.2	72.6	52.4	35.9	26.7	28.0
5–14 years	70.9	55.7	50.5	36.7	28.5	20.9	14.9	15.0
15–24 years	167.9	152.1	188.5	172.3	147.4	114.9	93.8	99.5
25–34 years	216.5	187.9	215.3	196.1	204.3	138.6	148.8	160.5
35–44 years	428.8	372.8	402.6	299.2	310.4	255.2	216.7	226.0
45–54 years	1,067.1	992.2	958.5	767.3	610.3	542.8	496.5	496.6
55–64 years	2,395.3	2,309.5	2,282.7	1,815.1	1,553.4	1,230.7	1,098.2	1,103.9
65–74 years	4,931.4	4,914.4	4,873.8	4,105.2	3,491.5	2,979.6	2,175.5	2,190.0
75–84 years	10,426.0	10,178.4	10,010.2	8,816.7	7,888.6	6,972.6	5,369.2	5,376.3
85 years and over	21,636.0	21,186.3	17,821.5	18,801.1	18,056.6	17,501.4	14,642.2	14,795.8

<https://www.cdc.gov/nchs/data/hus/2016/o21.pdf>



HOW DO WE INTERPRET AND SHARE DATA?

PROVE IT!

Based on work by Michael A. Stoto



Interpretation of data

- Goal: Illustrate data interpretation
 - Comparing age-specific rates
 - Determining statistical significance
- Be careful about definitions and appropriate denominators
- Confidence intervals



NH BRFSS: Physical Activity

- What percentage of NH adults meet the recommendations for physical activity in NH in 2011?
 - 22.7% (95% CI: 21.2- 24.3) meet the recommendation
- Look at this one by age (younger populations better)

Age	Percentage (95% CI)
18-24 year olds	33.0% (25.9, 40.1)
25-34 year olds	27.5% (22.5, 32.5)
35-44 year olds	23.5% (19.6, 27.4)
45-54 year olds	21.3% (18.4, 24.1)
55-64 year olds	16.9% (14.5, 19.3)
65 and older	19.6% (17.5, 21.7)



Principles for Sharing the Story

- Goal
 - Clear and concise presentations using tables and data graphs
 - To allow the data to tell their story
- Tables and figures must stand alone
 - Clearly labeled and readable
 - Headers, legend
 - Footnotes
 - Axes
 - Data definitions
 - Data source



BRFSS data

- 2015 NH BRFSS
- Physical Activity, by Age



States MMSAs

Location
Maine

Class
Physical Activity

Topic
Physical Activity Index

Year
2015

GO

Maine
Topic: Physical Activity Index
Select questions to view (1 of 1 selected)

Hide Footnotes
Save as PDF

States Conducting Surveillance, by Year
View all available locations

Participated in 150 minutes or more of Aerobic Physical Activity per week (variable calculated from one or more BRFSS questions)

Maine

Year
All Available Years 2015

View by
Age Group

Response
All responses

Data type
Crude Prevalence

Maine - 2015
Participated in 150 minutes or more of Aerobic Physical Activity per week (variable calculated from one or more BRFSS questions) (Crude Prevalence)
View by: Age Group
Response: (All)

	18-24	25-34	35-44	45-54	55-64	65+
Yes						
Percent (%)	56.3	54.3	51.5	52.5	53.2	55.8
95% CI	49.3 - 63.2	49.2 - 59.5	47.1 - 55.9	49.1 - 56.0	50.4 - 56.0	53.5 - 58.2
n	140	296	445	739	1184	1772
No						
Percent (%)	43.8	45.7	48.5	47.5	46.8	44.2
95% CI	36.8 - 50.7	40.5 - 50.8	44.1 - 52.9	44.0 - 50.9	44.0 - 49.6	41.8 - 46.5
n	136	267	416	636	922	1318

Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

Title →

Definition →

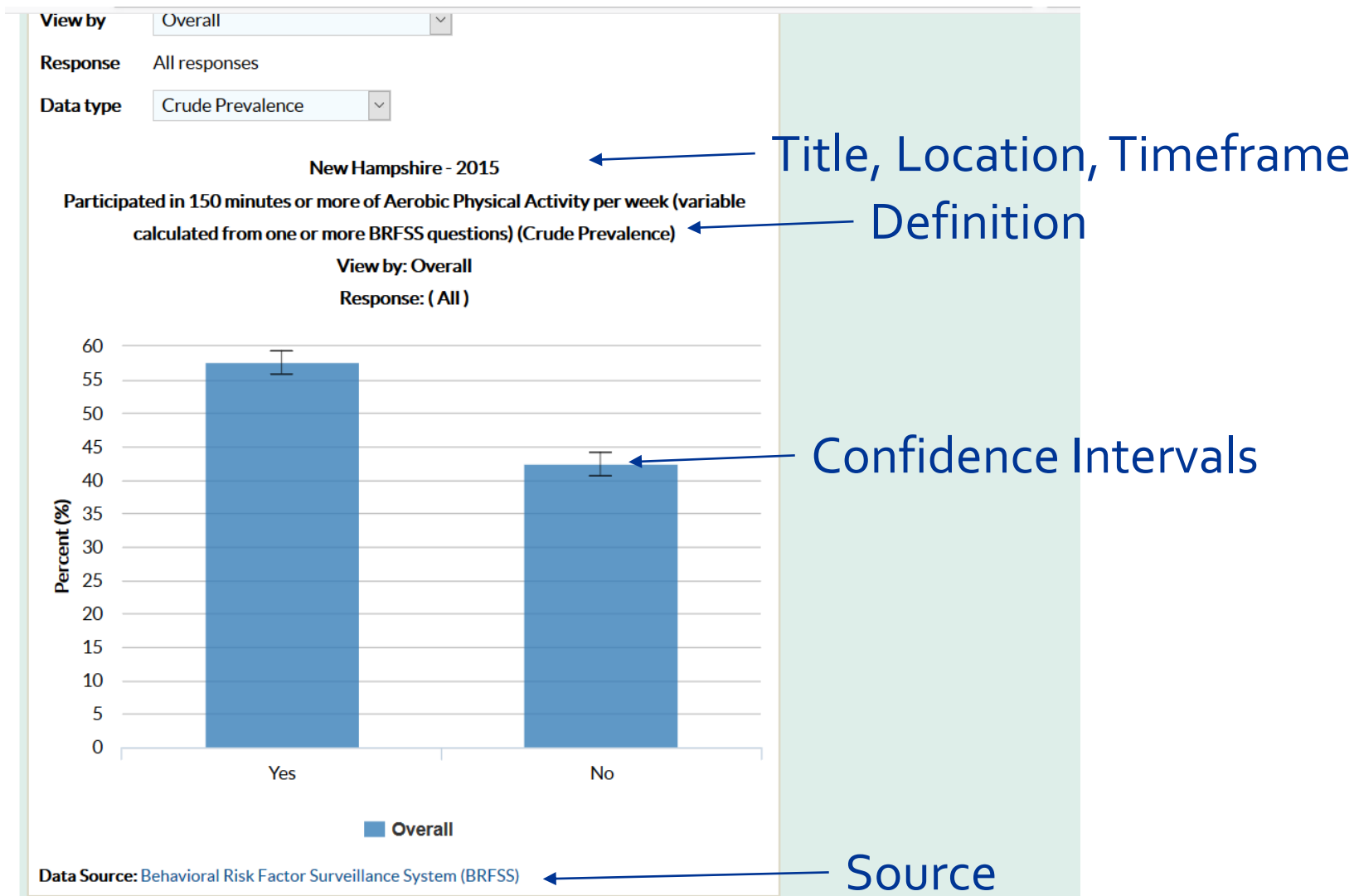
Rate and
Confidence
Intervals →

← Sample Size

← Lots of
Definitions!!

Source →

<https://www.cdc.gov/brfss/brfssprevalence/#>



<https://www.cdc.gov/brfss/brfssprevalence/#>



Tips

- Focus on the story to be told
 - Table or figure?
 - Only what's relevant
- Highest information/ink ratio as possible
- Use order of rows, columns, bars, scale, etc. effectively
- Parallel construction



Suppression of Small Cells

- Reasons
 - Statistical precision
 - Confidentiality
- How to overcome
 - Combine years
 - Combine (don't break out) demographic groups
 - Combine geographical areas
 - Statistical smoothing



WHAT IF YOU NEED TO COLLECT YOUR OWN DATA?



Key Concepts - Ethics

- No Harm
- Confidentiality is assumed
- Voluntary, not coerced
- Transparency in funding
- Transparency in uses
- Up-front knowledge of what will be asked
- Transparency in limitations
- Do good work



Key Concepts – Question Design

- Why am I writing this question?
- What do I want from the question?
- Types:
 - Open-ended
 - In their own words
 - Close-ended
 - Fit into answers that are pre-determined



Key Concepts – Question Content

- Brevity
- Clarity
- Reality
- Uni-dimensionality
- Completeness
- Loaded/Leading Questions



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Adapted from Prove It! Let the Data tell the Story. <https://goo.gl/bGQNCA>