

An Introduction to DPH Data



Data Management Advisory Team (DMAT)
DMAT Training Workgroup
Updated June 1, 2019

Objectives

- Understand the types of data we use at the Division of Public Health (DPH).
- Become familiar with some of the more common data sources.
- Know where to look for more information about DPH data.

Overview

1. Administrative Data
2. Survey Data
3. Surveillance Systems and Registries
4. Linked Data
5. Reporting Systems
6. Data Resources
7. Data in Action



Administrative Data

Wisconsin Department of Health Services
DMAT Training Workgroup
Updated June 1, 2019

Government recordkeeping and tracking

Vital Records

What is it and what does it include?

Refers to life event data that the government collects, such as birth, death, marriage, divorce, fetal death, and abortion data

Did you know?

The Wisconsin Vital Records Office processes approximately 66,000 births per year and 51,000 deaths.

Vital Records

Where do the data come from?

- Hospitals, clinics, free standing birth centers, midwives, and parents
- Funeral directors, coroners, and medical examiners

Did you know?

The Wisconsin Vital Records Office exchanges data with other states.

Vital Records

How is it used?

- Researchers: to study health conditions and provide recommendations to improve health outcomes
- Local governments and school districts: to plan local programs and estimate enrollment
- Advocacy groups and policy makers: to understand issues and make program and policy recommendations

Health Care Utilization

What is it and what does it include?

- Emergency department (ED) visits
- Inpatient stays
- Ambulatory surgeries
- Treatment for Wisconsin residents in Minnesota and Iowa hospitals

Health Care Utilization

Where do the data come from?

- Collected by the Wisconsin Hospital Association Information Center under contract with the State of Wisconsin
- Submitted quarterly based on discharge date
- Mandated by state statutes

Health Care Utilization

How is it used?

- For surveillance and burden reports, such as injury analysis
- For community needs assessment and planning by local health departments

Did you know?

The State of Wisconsin collected the data from 1988 through 2003. The Wisconsin Hospital Association Information Center has collected data from 2004 to present.

ED Visits Burden of Asthma in Wisconsin Report

Health Care Utilization

Figure 32. Asthma* Emergency Department Visit Rates[†] per 10,000, Wisconsin (2002-2011) and U.S.[‡] (2002-2010)



*Asthma listed as the principal diagnosis (ICD-9-CM 493.00 – 493.92)

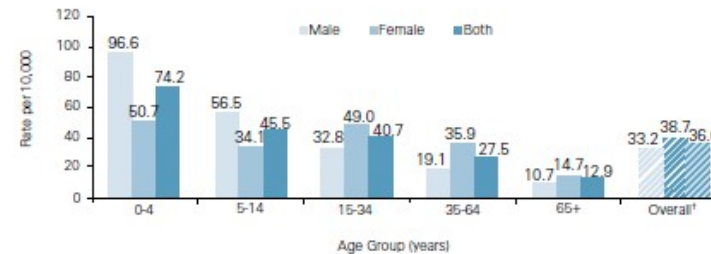
[†]Age-adjusted to the year 2000 U.S. standard population

[‡]U.S. rates include ED visits that are subsequently admitted to the hospital; U.S. rates would be 12-15% lower if these ED visits were excluded

Data Source: 2002-2011 WI Emergency department visit discharge file; CDC/NCHS, National Hospital Ambulatory Medical Care Survey: 2002-2010

By age group, Wisconsin children aged 0-4 years had the highest asthma ED visit rate at 74.2 visits per 10,000 in 2011 (Figure 33). Asthma ED visit rates were lower among older age groups, with adults 65 years of age and older having the lowest rate (12.9 per 10,000). Younger males had significantly higher asthma ED visit rates than younger females. This trend was reversed in adulthood (i.e., adult females had higher asthma ED visit rates than adult males).

Figure 33. Asthma* Emergency Department Visit Rates per 10,000 by Age and Sex, Wisconsin 2011



*Asthma listed as the principal diagnosis (ICD-9-CM codes 493.00 – 493.92)

[†]Age-adjusted to the year 2000 U.S. standard population

Data Source: 2011 Emergency department visit discharge file

Medicaid Data

What is it and what does it include?

- Data on Wisconsin residents covered by one or more Wisconsin Medicaid assistance programs
- Includes eligibility and claims for state Medicaid programs

Did you know?

Medicaid offers health care to some of the most vulnerable and low-income populations.

Medicaid Data

Where do the data come from?

Claims transactions and eligibility determinations

How is it used?

Can assist surveillance and monitoring by providing a more complete picture of health services received and health conditions present

Did you know?

Over 1 million Wisconsin residents are covered by Medicaid programs.

Aging and Disability Services Data

What is it and what does it include?

Records service-delivery details across a multitude of services, including customer interactions and customer demographics

Where do the data come from?

- County and tribal aging units
- Aging and disability resource centers

Aging and Disability Services Data

How is it used?

- County aging units use it to record services funded by Title III of the federal Older Americans Act.
- Aging and disability resource centers use it to record staff interactions with individuals seeking assistance and to record contacts from community organizations.

Did you know?

In 2018, over 3.7 million meals were served to older adults and individuals with disabilities across Wisconsin via the Title III congregate and home-delivered meal programs.



Surveys

Wisconsin Department of Health Services
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Standard way of collecting information from a particular population

Behavioral Risk Factor Surveillance System (BRFSS)

What is it and what does it include?

- Health survey coordinated by the Centers for Disease Control and Prevention (CDC) and conducted by states and territories
- Source of state and national data on topics such as health-related risk behaviors, chronic health conditions, and use of preventive services

Behavioral Risk Factor Surveillance System (BRFSS)

Where do the data come from?

Random sample telephone interviews conducted by University of Wisconsin (UW) Survey Center

How is it used?

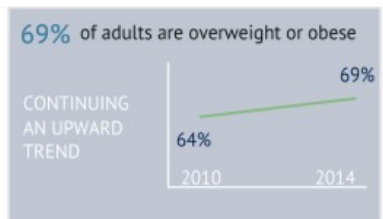
- In health improvement planning and health assessments to better understand health behaviors
- To target and build health promotion activities around health-related risk behaviors

BRFSS Obesity Fact Sheet

Overweight and Obesity in Wisconsin

Chronic Disease Prevention Program Fact Sheet

Overweight and Obesity Prevalence



That 69% is broken down to be 37% overweight and 32% obese. In other words, about 4 in 10 people are overweight and 3 in 10 people are obese.

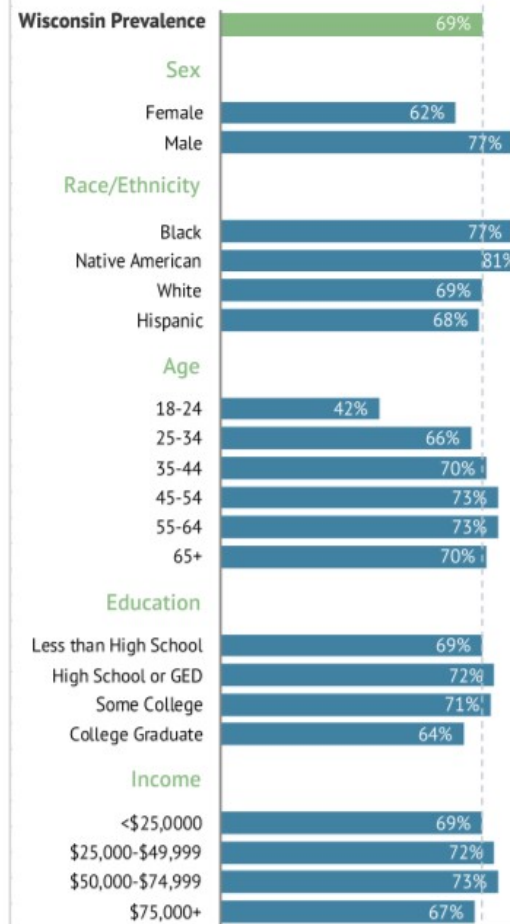


Chronic Disease

Overweight and obesity is a risk factor for many chronic conditions. The following breaks down many diseases and conditions to show the percentage of people with those conditions who are overweight or obese.

- 89% Diabetes
- 83% Pre-Diabetes
- 82% Heart Disease
- 82% Kidney Disease
- 79% Asthma
- 77% Arthritis
- 77% Chronic Obstructive Pulmonary Disorder
- 77% Heart Attack
- 75% Depression (Ever Diagnosed)
- 75% Hypertension
- 73% Stroke

Overweight and Obesity by Demographics



Source: BRFSS <http://www.cdc.gov/brfss/brfssprevalence/index.html> (2014)

BRFSS Chronic Disease Prevention Program Website

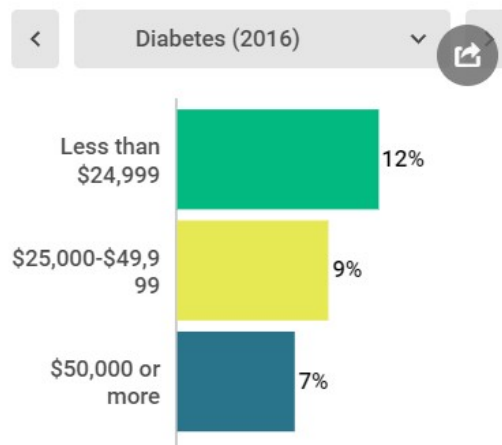
Income and Education

Race and Ethnicity

Age and Sex

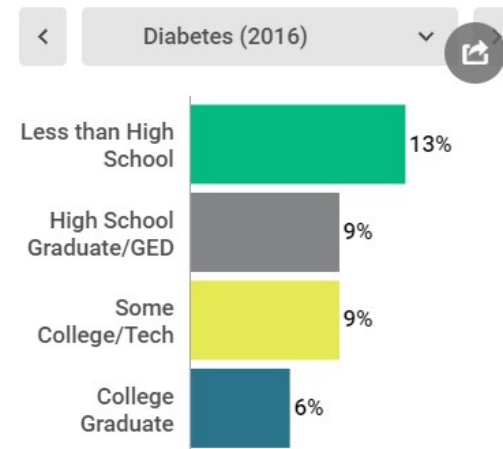
Income

Poor health outcomes increase as socioeconomic position decreases.³ One measure of socioeconomic position is household income. In Wisconsin the prevalence chronic diseases and conditions like diabetes, hypertension, and obesity increase as household income decreases. For example, diabetes rates for those reporting a household income of less than \$24,999 are higher than those reporting greater than \$50,000.



Education

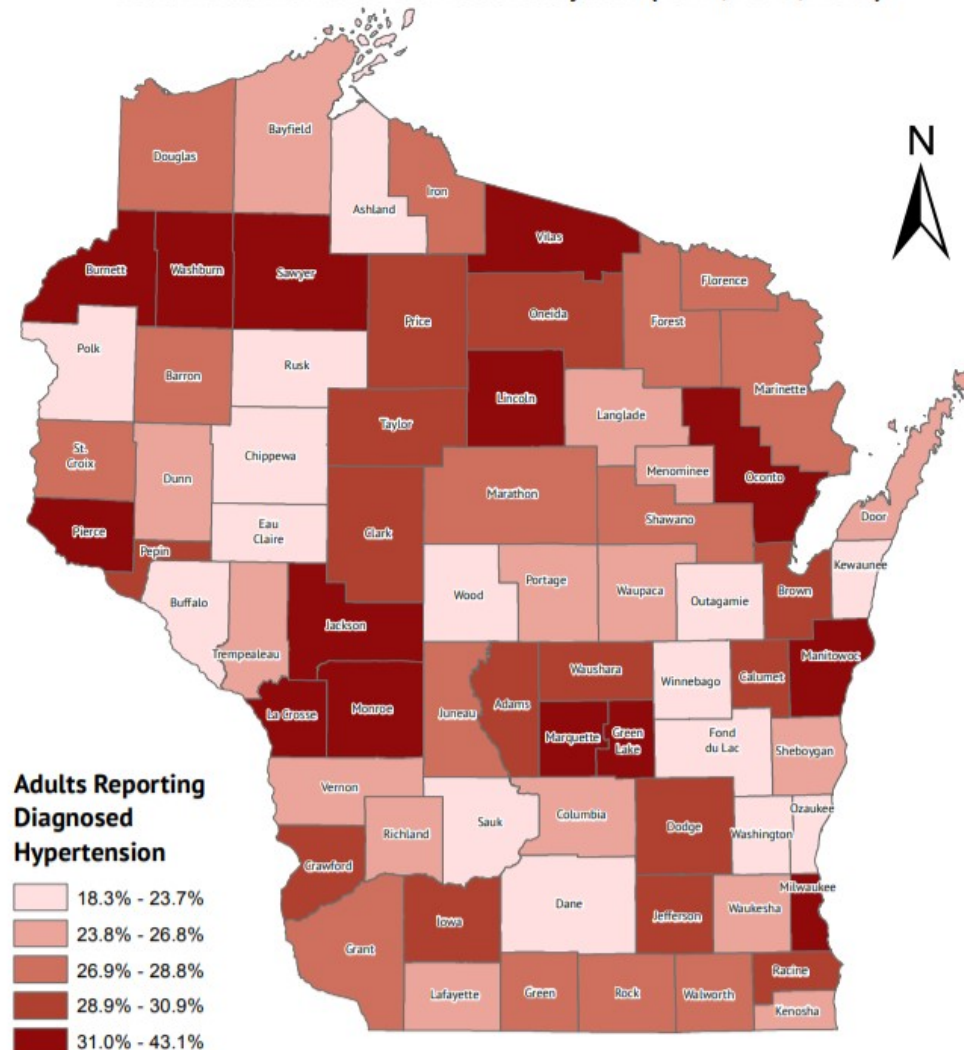
Lower educational attainment is associated with higher prevalence for many chronic diseases and conditions.⁴ Education is closely connected to income: higher educational attainment improves access to higher paying jobs, quality health care, and ability to cover out-of-pocket health expenses.⁵ Additionally, education gives individuals knowledge to improve personal health choices.



BRFSS

Hypertension County Map

Diagnosed Hypertension by County, Behavioral Risk Factor Surveillance System (2011, 2013, 2015)



Data Source: Behavioral Risk Factor Surveillance System, 2011, 2013, and 2015.
 Diagnosed hypertension prevalence estimates are age-adjusted to U.S. 2000 Census.
 Menominee and Pepin counties exclude 2015 data due to small sample size.

Family Health Survey

What is it and what does it include?

Statewide survey of Wisconsin households that collects information on topics such as health status, health insurance coverage, and use of health care services

Where do the data come from?

Random sample telephone interviews conducted by UW Survey Center

Family Health Survey

How is it used?

DHS policy makers and researchers use estimates to assess the health and health care of Wisconsin's population.

Did you know?

Except for 2013, the Wisconsin Family Health Survey has been collected every year since 1989.

Pregnancy Risk Assessment Monitoring System (PRAMS)

What is it and what does it include?

- Population-based survey of women who have recently given birth
- Includes questions on experiences before, during, and after pregnancy on topics such as health care experiences, stressful life events, maternal health behaviors, and selected birth record data

Did you know?

PRAMS data from other states can be requested from the CDC to compare with Wisconsin's data.

Pregnancy Risk Assessment Monitoring System (PRAMS)

Where do the data come from?

- Mail and telephone surveys
- Birth records

Did you know?

PRAMS soon will be adding a web-based option for survey completion.

How is it used?

- For Maternal and Child Health program planning and implementation
- By epidemiologists to monitor health risks and outcomes in Wisconsin

Youth Risk Behavior Survey (YRBS)

What is it and what does it include?

High school-based survey that monitors health-related behaviors

Where do the data come from?

- Self-administered during school day
- Conducted each odd-numbered year

Youth Risk Behavior Survey (YRBS)

How is it used?

- Determine the prevalence of health behaviors
- Assess health behaviors over time
- Examine two or more health behaviors that occur at the same time
- Provide comparable data:
 - At multiple geographical levels, such as national or local
 - For subpopulations of youth, such as race and ethnicity

Did you know?

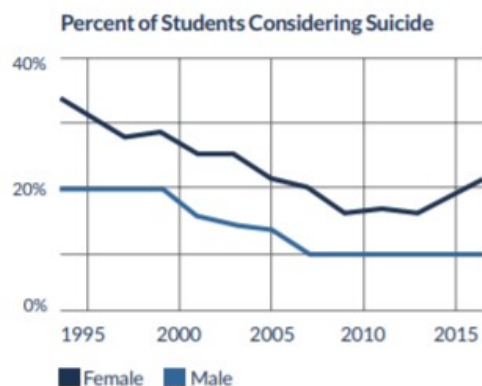
Data is collected from more than 4.4 million high school students.

YRBS Wisconsin Summary Report

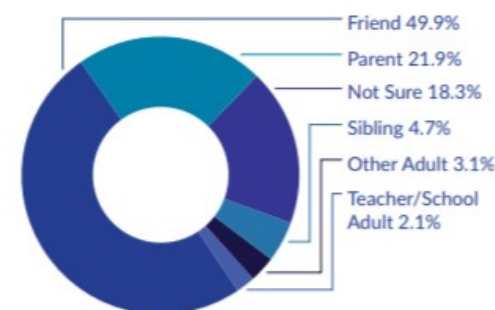
SUICIDE AND HELP SEEKING

At the extreme of emotional distress is suicidal ideation.

- 16.4% have considered suicide.
- 15.0% made a plan.
- 7.8% actually attempted suicide.
- Suicidal ideation decreased through the early 2000s, but appears to be increasing.
- The increase is most notable for females.
- Considering suicide is highest among students who are LGBT (41%), have disabilities (35%), lack stable housing (31%), or get mostly D's or F's (28%).
- Rates are also higher for students who report experiences of violence or bullying.
- About half of the students who are considering suicide also report having made an attempt. Thus, students' talk of suicide should not be taken lightly.



Who Do Students Talk to When Upset?



Seeking and finding help is an important component of mental health. Students were asked whether they got the kind of help they needed when they felt distressed. Only 28.1% of students replied that they got the help they needed. On the other hand, students were also asked who they turned to when they were sad, hopeless, anxious, or otherwise distressed.

- Of the students who reported having such feelings, over 80% indicated that they do have someone who they were likely to talk to.
- Approximately half of the students listed friends as their most likely confidantes.
- Just over one in five listed a parent.
- Only 2% of students listed a teacher or other adult at school.
- Altogether, students were twice as likely to mention a peer (e.g. friend or sibling) as an adult (e.g. parent, teacher or other adult).



Surveillance Systems and Registries

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Database of individual records collected for a specific public health purpose

Wisconsin Electronic Disease Surveillance System (WEDSS)

What is it and what does it include?

- Secure, web-based system designed to facilitate reporting, investigation, surveillance, and notification of communicable diseases in Wisconsin.
- Governed by state statutes, collects data including:
 - Disease-specific information, such as lab results, symptoms, and treatment.
 - Public health follow-up interview data.

Wisconsin Electronic Disease Surveillance System (WEDSS)

Where do the data come from?

Infection control practitioners, clinics, clinical laboratories, long-term care facilities, local and state public health

How is it used?

- To track outbreaks of notifiable conditions
- By local and state public health agencies to follow up with citizens who have tested positive for a reportable condition

Did you know?

WEDSS has been in use since 2007. Over 1 million electronic lab reports were submitted in the first 10 years.

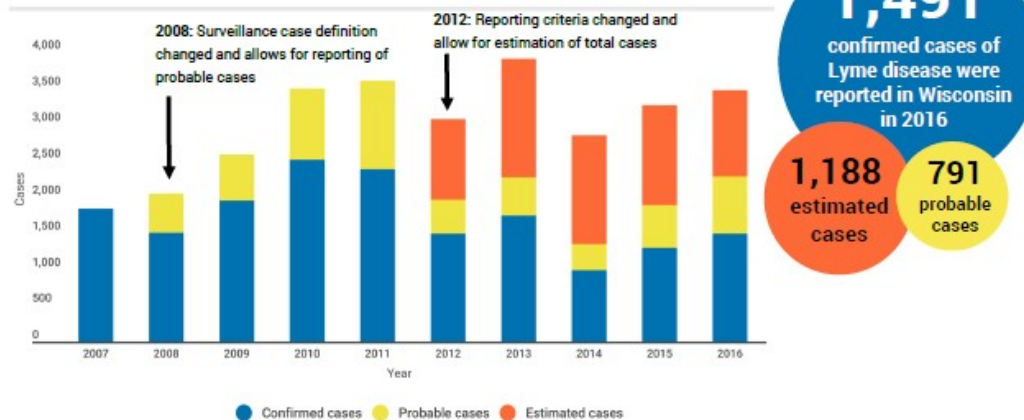
12.7 | LYME DISEASE

Lyme disease is an illness caused by the bacterium, *Borrelia burgdorferi*. It is spread to humans by the *Ixodes scapularis* tick (also known as the black-legged or deer tick). Anyone can get Lyme disease, but people who spend time outdoors are at a higher risk of being bitten by a tick. In Wisconsin, the highest number of cases is seen in the western and northern regions, but recently cases have increased in the central and eastern regions. Early symptoms of Lyme disease can include a characteristic bull's eye rash (erythema migrans), fever, joint pain or swelling, muscle aches, fatigue, headache, or stiff neck. If left untreated, more severe symptoms may develop including meningitis, facial palsy, heart abnormalities, or arthritis. To spread Lyme disease to a person, an infected tick must be attached for at least 24 hours. Lyme disease can be spread by both adult and nymph stage ticks, but because of their small size, nymphs are more likely to go undetected and are, therefore, more likely to spread the disease. Ticks are found in areas with woods, brush, or tall grass, with nymph populations typically peaking during the late spring and summer, and adult populations peaking in late summer and fall. People may not remember being bitten by a tick because the black-legged nymphs are very small, about the size of a poppy seed. Wisconsin had 3,470 reported cases of Lyme disease in 2016.

WEDSS

Wisconsin Communicable Disease Report

Lyme Disease Cases, Wisconsin 2007-2016



Ages affected

24% of confirmed and probable Lyme disease cases in 2016 were in children and youth less than 20 years old.



Case estimation

In order to account for all cases of Lyme disease, an estimation algorithm is used to identify additional cases that would be missed by current surveillance methods.



All counties

Lyme disease was reported in every county in Wisconsin in 2016.

Wisconsin Immunization Registry (WIR)

What is it and what does it include?

- WIR is a centralized state registry developed to record and track immunizations.
- It contains information for anyone born in Wisconsin since 1995. Patients born before 1995, or elsewhere, get populated in the registry after receiving immunizations in Wisconsin.

Wisconsin Immunization Registry (WIR)

Where do the data come from?

Medical providers, schools, Medicaid, Women, Infants and Children Program, pharmacies, health maintenance organizations, and Vital Records Section

Did you know?

Each day the WIR receives over 13,000 immunizations for patients residing in Wisconsin.

Wisconsin Immunization Registry (WIR)

How is it used?

- Track influenza immunizations for weekly respiratory report
- Measure immunization coverage rates
- Inform medical providers
- Allow for personal tracking of immunization history

Did you know?

The WIR code, which was developed in Wisconsin, serves as the base code for about 20 other state immunization registries in the U.S.

Trauma Registry Data

What is it and what does it include?

- This data describes patients seen for injuries by a traumatic mechanism, such as fall, traffic collision, and firearms.
- Includes information around the event, such as demographics, prehospital information, imaging, diagnosis, treatment, outcomes, and costs.

Did you know?

The trauma registry uses the same vendor as the state's EMS database. This allows trauma care centers to directly link to an ambulance report and import data directly to their trauma record.

Trauma Registry Data

Where do the data come from?

- Submitted by local hospitals, first responder services, and ambulance service providers
- Entered directly or uploaded to state web-based system

How is it used?

- Track performance improvement initiatives
- Reduce death and disability resulting from traumatic injury by providing optimal care of trauma patients and their families

Wisconsin Cancer Reporting System (WCRS)

What is it and what does it include?

- Population-based registry that collects data about all newly diagnosed cancers in the state
- Includes elements such as patient demographics, tumor characteristics, stage of disease, treatment, and outcomes

Did you know?

Cancer became a reportable disease in Wisconsin in 1932, with voluntary reporting by physicians to the state health department. WCRS was established by the Wisconsin Legislature in 1976, making it the ninth oldest state population-based cancer registry in the U.S.

Wisconsin Cancer Reporting System (WCRS)

Where do the data come from?

- Hospitals
- Outpatient clinics
- Doctor's offices
- Pathology labs

How is it used?

- By researchers for cancer prevention and control
- To improve the quality of life of cancer patients and improve treatments

Wisconsin Ambulance Run Data System (WARDS)

What is it and what does it include?

- WARDS is a data system of emergency medical service (EMS) responses from ambulance services including:
 - Times, locations, and destinations for ambulance service.
 - Medical care provided.
 - Health information and narrative surrounding event.
- Wisconsin Admin. Code § DHS 110.34(8) requires submission within seven days of incident.
- Around 90% of EMS agencies report into WARDS.

Wisconsin Ambulance Run Data System (WARDS)

Where do the data come from?

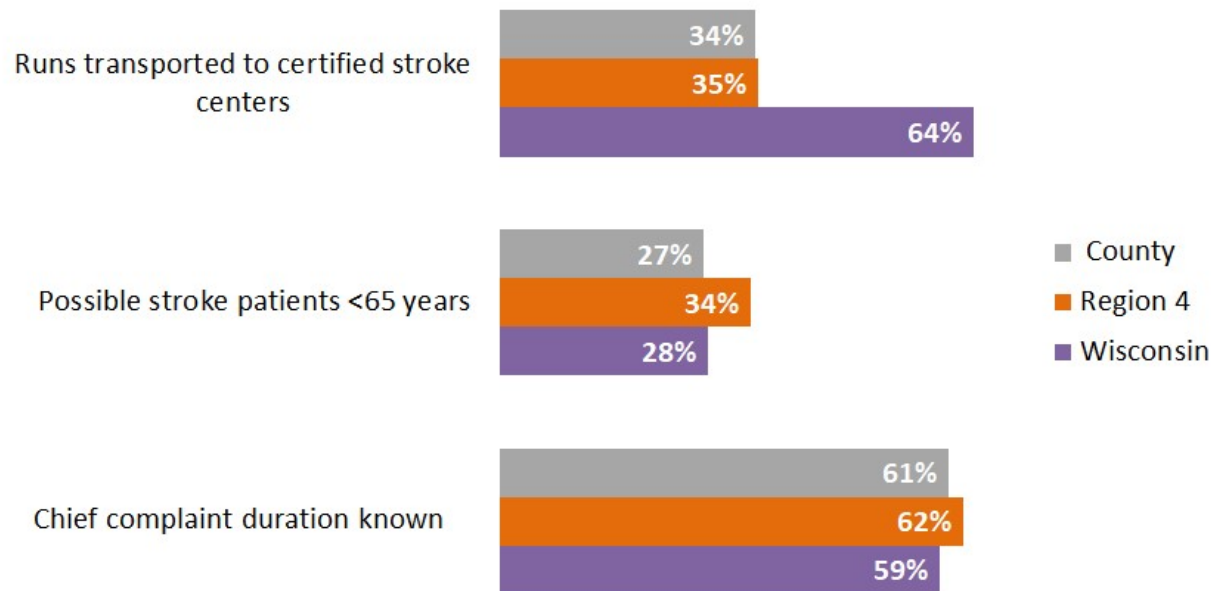
Data is entered by the EMS provider.

How is it used?

- For continuous quality improvement of EMS services
- As a primary source of timely data for opioid overdose surveillance during the opioid crisis

Coverdell Stroke Program Presentation

EMS – Stroke Measures



WARDS

Coverdell Stroke Program Report Card

WI Coverdell EMS Partner Report Card			
Q1-Q3 2018			
	EMS Agency	Coverdell EMS Partners	All Wisconsin EMS
Number of stroke patients identified via primary or secondary impression	15	2338	8295
EMS on-scene time recorded ¹	100%	84%	85%
EMS left scene within 15 minutes of arriving to patient (of those with an on-scene time)	47%	53%	55%
Situation last known well (LKW) time entered	0%	16%	27%
Situation LKW and Patient arrived at destination times were both entered	0%	15%	24%
Percent of stroke patients who arrived at hospital within 3.5 hours of time LKW ²	N/A	57%	64%
Stroke screening (e.g. CPSS) performed and documented as a vital sign	67%	43%	59%
Blood glucose obtained and documented as a vital sign	0%	57%	64%
Neuro exam, stroke screening, or Glasgow Coma Scale performed and documented as a vital sign	100%	83%	91%
Records complete with blood glucose, stroke scale (neuro, stroke scale list, or Glasgow Coma Scale), and on-scene time	0%	43%	52%
Percent of runs transported to a designated stroke center	93%	72%	66%

Color Key:

75% - 100%

50% - 74%

25% - 49%

<25%

Prescription Drug Monitoring Program (PDMP)

What is it and what does it include?

- Data system of controlled substance prescriptions dispensed in Wisconsin, administered by the Wisconsin Department of Safety and Professional Services
- Contains all patient demographic information, prescription drug class and type, dates of dispense and dosage, and providers and dispensing pharmacies

Did you know?

Researchers need high-performing computers to use the data on a daily basis.

Prescription Drug Monitoring Program (PDMP)

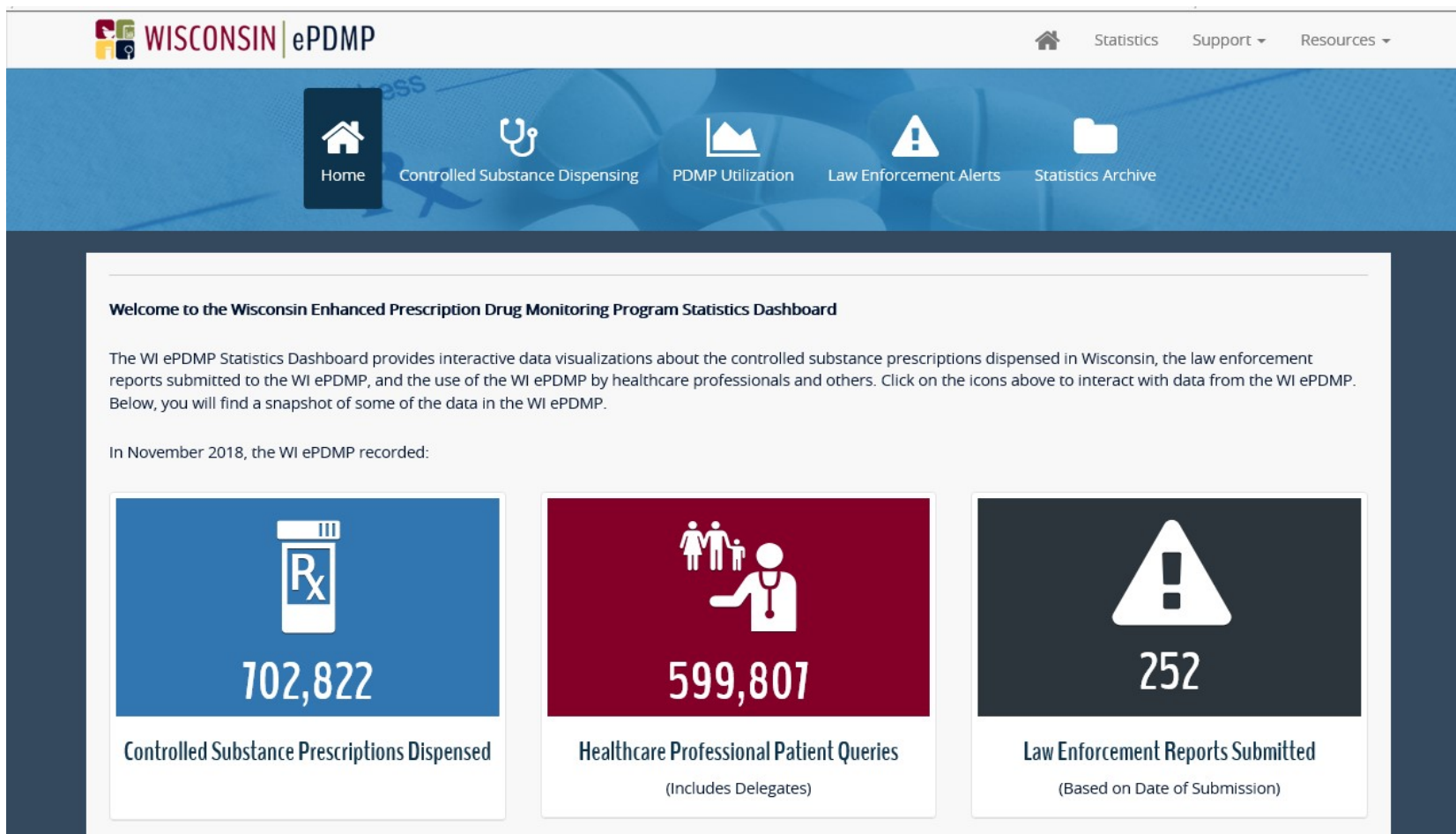
Where do the data come from?

Pharmacies

How is it used?

- Helps health care professionals make informed decisions about prescribing and dispensing controlled substance prescription drugs to patients
- Allows doctors and health providers to monitor their patients' prescription histories

PDMP Statistics Main Webpage



Census Data and Population Estimates

What is it and what does it include?

- The U.S. Census counts every resident in the U.S every 10 years.
- A more detailed, American Community Survey is administered to 3% of U.S. households each year.

Census Data and Population Estimates

Where do the data come from?

Mandatory survey of all U.S. households and institutional populations

How is it used?

By governments to make informed decisions regarding planning for:

- Education
- Emergency preparedness
- Employment
- Health
- Housing

Census Data Standard Hierarchy of Geographic Entities



Syndromic Surveillance

What is it and what does it include?

A secure, web-based data system that collects symptoms and diagnoses from patients' health care visits, including:

- Demographic data
- Chief complaint and symptoms
- Reason for admission
- Diagnoses

Did you know?

Syndromic surveillance collected data from over 5 million patient emergency room visits in 2017.

Syndromic Surveillance

Where do the data come from?

- Emergency departments
- Hospital organizations' electronic medical records
- Clinics

How is it used?

- Early detection of bioterrorism events
- Tracking of hazardous events and disease outbreaks
- Research on health statistics



Linked Data

Wisconsin Department of Health Services
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One or more data sources linked by a common element
where a new product is created

Customer Hub

What is it and what does it include?

- Automatically links clients from different data sources with no common identifier without having to manually match records
- Creates “golden record”
- Contains personally identifiable information

Customer Hub

Where do the data come from?

Data are transferred daily from source systems to the Customer Hub.

Did you know?

In the Customer Hub, there are 15 mothers with 15 or more children. A few of their grandchildren are older than their own children.

Customer Hub

How is it used?

- Client Health Profile uses the linkages in the Customer Hub to put together the program data from the source systems.
- WE-TRAC (early infant hearing screening) uses the linkage between WE-TRAC newborns and their birth records.
- Childhood lead staff use the data to de-duplicate the clients in their system.
- The linkage between WEDSS and death records are provided to the hepatitis C program to identify clients who have died.

Client Health Profile (CHP)

What is it and what does it include?

- Uses the linkages from the Customer Hub to assemble data from various programs
- Includes data from:
 - Newborn hearing screening
 - Newborn metabolic screening
 - Critical congenital heart disease screening
 - Birth records

Did you know?

The original idea for the CHP was called the Child Health Profile and dates back to 2010.

Client Health Profile (CHP)

Where do the data come from?

- Newborn screening results from hospitals and Wisconsin State Lab of Hygiene
- Birth data from vital records

How will it be used?

- System still under development
- Will provide DPH staff, local health departments, and providers with easy access to all newborn screening information

Linked Birth Outcomes Surveillance System (LBOSS)

What is it and what does it include?

- Describes the extent and quality of prenatal and postpartum services, the circumstances of the birth event, and health conditions present at the time of birth
- Contains both mother and infant records
- Links data from three contributing data sources:
 - Vital records births
 - Medicaid
 - Hospital discharge

Linked Birth Outcomes Surveillance System (LBOSS)

Where do the data come from?

- Birthing facilities
- Hospitals
- Medicaid claims

Did you know?

Over half of Wisconsin births can be linked with an existing Medicaid enrollee.

How is it used?

- For Medicaid program development and management
- By maternal and child health epidemiologists to improve birth outcomes



Reporting Systems

Wisconsin Department of Health Services
DMAT Training Workgroup
Updated June 1, 2019

System used to generate and distribute the information or data collected

Wisconsin Interactive Statistics on Health (WISH)

What is it and what does it include?

- Publicly accessible online data query system
- Includes:
 - Behavioral risk factors, such as smoking or drinking
 - Opioid morbidity and mortality
 - Information on birth and infant health outcomes
 - Disease and injury morbidity and mortality
 - Population information

Did you know?

Students at the University of Wisconsin were able to use WISH to write and publish scientific papers featured in the Wisconsin Medical Journal.

Wisconsin Interactive Statistics on Health (WISH)

Where do the data come from?

Variety of data sources, such as Wisconsin Hospital Association, BRFSS, census, vital records

How is it used?

- Allows policy makers, health professionals, and the public to access public health data
- Aids research for grant writing, community needs assessments, and improvement planning

WISH Query System

Step 1. Which measure do you wish to focus on?

- Total Population
- Population Density per Square Mile
- Median Age
- Age Dependency Ratios

Step 2. Choose One or More Geographic Areas

- Wisconsin statewide

Region:

All
Southern
Southeastern
Northeastern
Western

County:

All
ADAMS
ASHLAND
BARRON
BAYFIELD

Step 3. Choose One or More Years

- One or more years:

All
2017
2016
2015
2014
2013

Query: WISH, Wisconsin Population Module (Wisconsin 1990 - 2017)

- ((Sex = Female))
- and ((Hispanic/Ethnicity = Hispanic))
- and ((Year=2017))

Step 4. Cho

Sex

All
Male
Female

Use the [drill-down](#) variable tool to amend the current query Region of Residence ▾

Wisconsin Population

Sex	Year	
	All	2017
All Selected	192,133	192,133
Female	192,133	192,133

Wisconsin Environmental Public Health Tracking Program (WI Tracking)

What is it and what does it include?

- Publicly accessible data portal of primarily environmental public health topics, such as air quality, asthma, and Lyme disease
- Provides interactive maps, bar charts, and tables
- Select topics include sub-county estimates and demographics

Wisconsin Environmental Public Health Tracking Program (WI Tracking)

Where do the data come from?

- Variety of internal and external data sources
- National Environmental Public Health Tracking Program

Wisconsin Environmental Public Health Tracking Program (WI Tracking)

How is it used?

- Environmental Health Profiles are generated for every county in Wisconsin to help locals understand the issues in a given community.
- Data portal is accessed by local public health for community health improvement planning.

Did you know?

In the past year, “Lyme disease case counts” was the most popular query on the portal.



ADAMS COUNTY

DASHBOARD | 2017 ENVIRONMENTAL HEALTH PROFILE

HOME HAZARDS

Childhood Lead Poisoning
3.4% | Percent with blood lead $\geq 5 \mu\text{g/dL}$
Wisconsin: 6.4%

Carbon Monoxide Poisoning
10.2 | Rate of ER visits per 100,000 people
Wisconsin: 7.9

CLIMATE

Heat Stress
53.9 | Rate of ER visits per 100,000 people
Wisconsin: 16.5

Lyme Disease
69.5 | Crude rate per 100,000 people
Wisconsin: 22.7

HEALTH OUTCOMES

Asthma
30.9 | Rate of ER visits per 10,000 people*
Wisconsin: 39.5

Melanoma
24.4 | Rate of cases per 100,000 people
Wisconsin: 21.6

Heart Attack
18.2 | Rate of hospitalizations per 10,000 people*
Wisconsin: 27.4

WATER QUALITY

Arsenic
0.7 | Average concentration in $\mu\text{g/L}$
Wisconsin: 1.4

Nitrate
2.2 | Average concentration in mg/L
Wisconsin: 1.5

Fluoride
74.5% | Percent of population with fluoridated public water
Wisconsin: 88.6%

AIR QUALITY

Ozone
3 | Annual days above standard
Wisconsin: 3.8

Particulate Matter (PM) 2.5
0 | Annual days above standard
Wisconsin: 0.3

*Note these rates are per 10,000 people, while the others are per 100,000. To compare these measures to others, be sure to multiply the rates by 10. ● Above state value (with exception of fluoride where below state value is not preferred) ● At or below state value (with exception of fluoride where above state value is preferred) ^ Data are suppressed Data details on next page

WI Tracking County Environmental Health Profile



Data Resources

Wisconsin Department of Health Services
DMAT Training Workgroup
Updated June 1, 2019

Available data support, processes, and materials

Public Health Surveillance Framework

What is it and what does it include?

- Organizes indicators used by DPH programs
- Collects metadata about the indicator and data source

Did you know?

There are over 400 indicators to help us measure the health of Wisconsin residents.

Public Health Surveillance Framework

Where do the data come from?

DPH programs and staff provide indicators.

How is it used?

DPH staff use it to identify indicators for activities such as:

- State health assessment.
- Performance management.
- Quality improvement.
- Grant writing.



Public Health Surveillance Framework

Health Outcomes (Categories)	Mortality (<i>length of life</i>) (Focus Area)	
	<ul style="list-style-type: none"> • Leading Causes of Death (Basket of Indicators) <ul style="list-style-type: none"> ○ Heart Disease (sub-basket) <ul style="list-style-type: none"> ▪ Total number of deaths and age-adjusted rates (indicators) ▪ Age-adjusted rates by demographic characteristics (indicators) • Years of Potential Life Lost 	
	<ul style="list-style-type: none"> • Leading Causes of Illness • Measure of Overall Health • Low Birth Weight Babies • Oral Health 	<ul style="list-style-type: none"> • Chronic Diseases • Communicable Disease • Mental Health • Injury and Violence • Healthy Growth and Development throughout the life course

Factors that Shape Our Health	Social Determinants of Health	
	<ul style="list-style-type: none"> • Education • Employment • Adequate Income 	<ul style="list-style-type: none"> • Community Safety • Health Literacy • Social Support and Cohesion • Racism
	Health Behaviors	
	<ul style="list-style-type: none"> • Alcohol and Other Drug Use • Physical Activity • Tobacco Use and Exposure 	<ul style="list-style-type: none"> • Reproductive and Sexual Health • Health Nutrition
	Health Care Delivery and Public Health Systems	
	<ul style="list-style-type: none"> • Access to High Quality Health Services • Improved and Connected Health Services Systems • Chronic Disease Prevention and Management 	<ul style="list-style-type: none"> • Emergency Preparedness, Response and Recovery • Collaborative Partnership • Public Health Infrastructure
	Physical Environment	
	<ul style="list-style-type: none"> • Built Environment (housing buildings, roads, parks, access to food) • Natural Environment (air, water, soil) • Occupational Environment 	

Health Disparity

Effective Policies and Systems Aligned for Improved Health

Public Health Surveillance Framework Outline

Data Request Tracking System

What is it and what does it include?

- Inventories DPH data requests
- Tracks the following information:
 - Who is requesting data
 - How requesters are using data
 - Data Governance Board decisions
 - Billing
- Stores related data request documents

Data Request Tracking System

Where do the data come from?

Data owners, data stewards, data experts, and data requesters

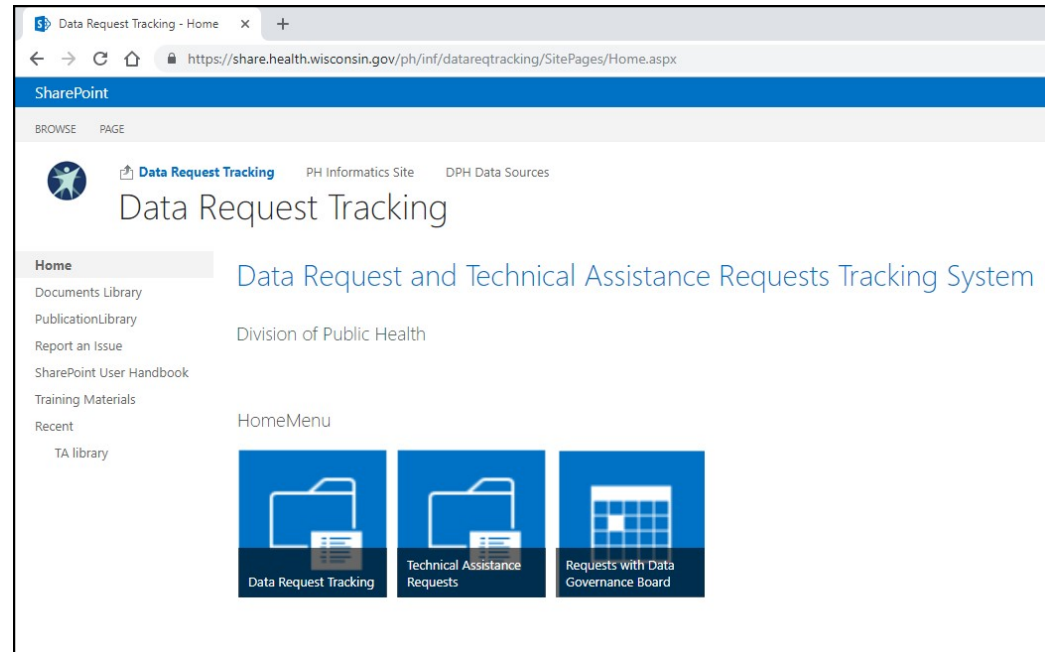
How is it used?

- Used to monitor and track data requests
- Used by Office of Legal Counsel to track Data Use Agreements

Did you know?

There were over 250 requests for birth data over the last three years.

DRTS Sharepoint Site



The screenshot shows the "DataTARequests" list view in SharePoint. The list contains four records with the following details:

Name	Status	AnalystName	Request Type	Organization/COH	Agency/Units/Org	DataSource	Description	RequiresDGBReview	DoesNotRequireDGBReview	DateDGBMet	DGBDecision	DGBDecisionDate	DuplicateDate
Individual record- 2018-07- 31116_36_33	Approved	Felisa Javelier E	Individual record	External Request	UW		Big Data for Little Kids Program -- Birth and Infant Deaths to WI residents occurring in WI for 2013-2016.	No			Approved		
Individual record- 2019-02- 11114_00_38	Invoiced	Wang, Xiaoyan	Individual record	External Request	School District		Individual birth records for New London school district from 1/1/2018 to 12/31/2018	No			DGB Exempt		1/18/2018
Individual record- 2019-01- 11108_44_09	Invoiced	Wang, Xiaoyan	Individual record	External Request	School District		Individual birth records for West DC Pine School district from 01/11/2018 to 01/09/2019	No			DGB Exempt		1/24/2018
Individual record- 2019-02- 12110_39_34		SIL, Danielle N	Individual record	External Request	Other		They are requesting individual-level records for birth...						

Data Governance Board

What is it and what does it include?

- It is an advisory group that reviews data sharing requests for DPH.
- This review ensures the right people get access to the right data at the right time to make better informed decisions.
- Members include the state health officer, DPH deputy administrator, and the OHI director. Others are invited based on the topics covered.

Did you know?

In 2015-2016, the Data Governance Board reviewed 124 requests for DPH data.

Data Governance Board

Where do the data come from?

Data owners, data stewards, data experts, and data requesters

How is it used?

To increase transparency regarding data sharing and transfer responsibility for data sharing from the data owner to the state health officer.

Data Sources Repository

What is it and what does it include?

Inventory of DPH data sources, data collection systems, and data delivery systems

Where do the data come from?

DPH data experts

Data Sources Repository

How is it used?

DPH staff and local health departments use it to identify available data and data experts.

Did you know?

DPH has over 55 different data sources.



Data in Action

Wisconsin Department of Health Services
DMAT Training Workgroup
Updated June 1, 2019

Using data to deliver impact and inform actions or
decisions

Healthy Wisconsin Report

Wisconsin State Health Assessment and Health Improvement Plan

Adverse Childhood Experiences (ACEs)

Adverse Childhood Experiences (ACEs) are negative life events or experiences that occur during childhood (before age 18) and have the potential to impede healthy child development. ACEs can have long-term, damaging consequences and are associated with risk behaviors and poor general health.

Data show that 57% of Wisconsin residents have at least one ACE, and as the number of ACEs increases (higher ACE score), a person is increasingly likely to experience negative health outcomes.¹ (An ACE score does not capture the severity or frequency of an adverse experience; instead, it describes the number of ACE categories experienced.)

Research shows ACEs may be passed down within families, which can cause a cycle of ACE transmission. Wisconsin adults with high ACE scores may be more likely to struggle with substance use disorder (such as misuse of alcohol or drugs), mental health diagnoses, depression, or suicidality. In turn, these risk behaviors and mental health outcomes expose any children living in the household to those specific ACEs.

To assess the occurrence of ACEs among Wisconsin adults, the Wisconsin Behavioral Risk Factor Survey (BRFS)¹ asks people if they experienced any of the following events or circumstances prior to the age of 18:

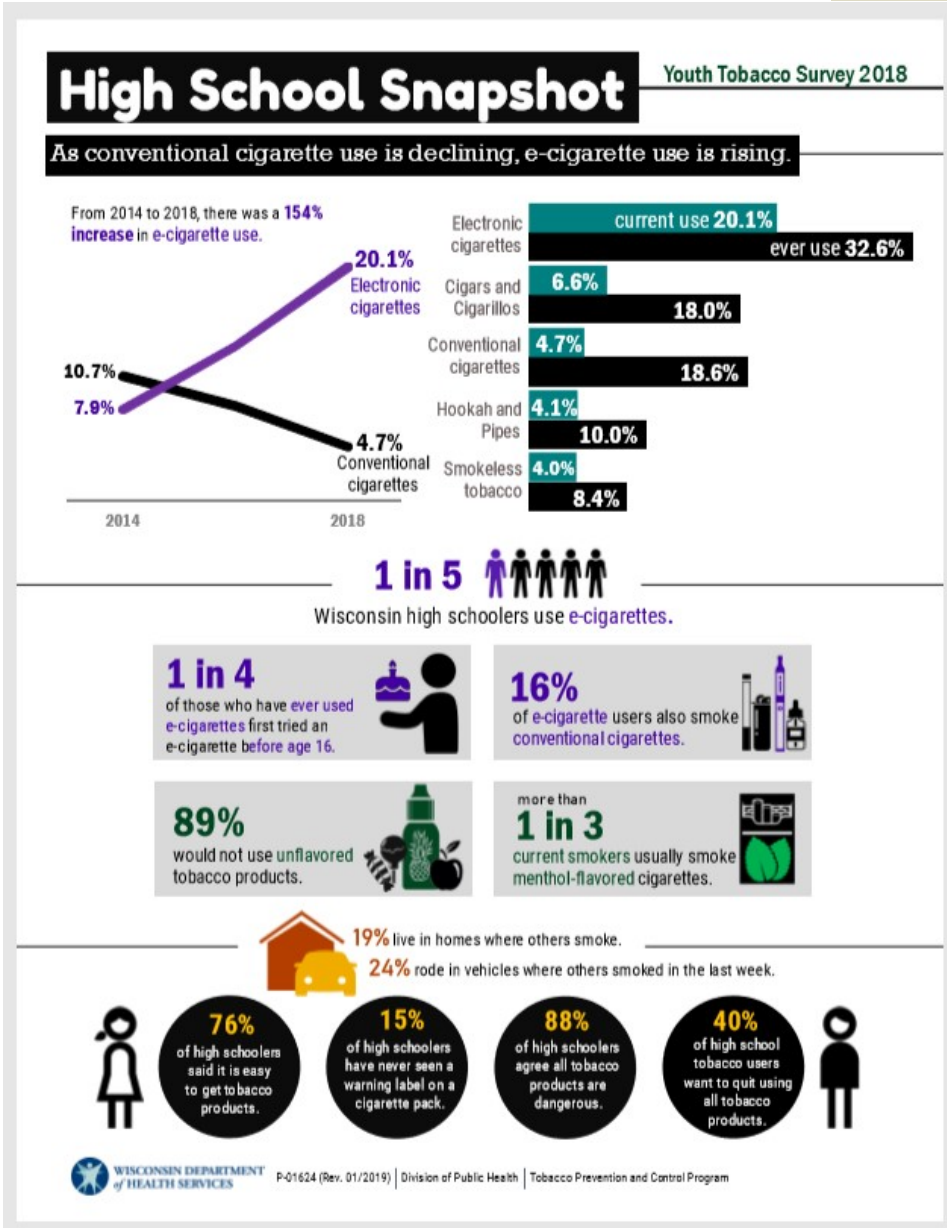
- Physical abuse
- Emotional abuse
- Sexual abuse
- An alcohol and/or drug abuser in the household
- An incarcerated household member
- A household member who was chronically depressed, mentally ill, institutionalized, or suicidal
- Violence between adults in the home
- Parental separation or divorce

Wisconsin 2011–2016 BRFS prevalence rates by individual ACE¹

Household Dysfunction	Prevalence	Abuse	Prevalence
Substance abuse in household	26%	Emotional abuse	28%
Divorce or parental separation	23%	Physical abuse	17%
Violence between adults in household	16%	Sexual abuse	10%
Mental illness in household	16%		
Incarcerated member of household	7%		



Tobacco Factsheet



Wisconsin Aging Population Projections

