HOW TO USE ENVIRONMENTAL PUBLIC HEALTH TRACKING DATA

COMMUNITY HEALTH ASSESSMENTS
Tracking data can help flesh out your community health assessment and help meet state requirements.

COMMUNITY HEALTH IMPROVEMENT PLANS
Use Tracking data and Ideas for Taking Action to prioritize environmental health and plan strategies for community improvement. Use the data to track progress in meeting your goals.

RESEARCH
Tracking data can be used to explore environmental health research questions.

MEDIA STORIES
Strengthen your interview, article, or press release with facts and figures from Tracking and our resources.

ACCREDITATION
The Profiles can be used to address Public Health Accreditation Board standards, such as Standard 1.3: "analyze public health data to identify trends in health problems, environmental public health hazards, and social and economic factors that affect the public's health."

SOCIAL MEDIA
Localize your posts with data from your community.

GRANT PROPOSALS
Tracking data and resources can help you and your team develop rationale for funding requests. These data can help justify existing programs and show where work needs to be done.

EDUCATION AND OUTREACH
When creating programs and outreach materials for your community, Tracking data can help you make your case and show the extent of the problem.

POLICY DEVELOPMENT
Tracking data and these County Environmental Health Profiles contain measures that can be used to identify the need for a policy. Once a policy is in place, the data can be used as a baseline to track progress over time.

If you have questions about how to use Tracking data in your work, let us know!
dhstracking@wi.gov
## Community Health

### Alcohol Outlet Density

Rate of alcohol licenses per 500 people

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.61</td>
<td>1.47</td>
</tr>
</tbody>
</table>

### Motor Vehicle-Related Fatalities

Percent of fatal motor vehicle crashes involving cyclists or pedestrians

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.0%</td>
<td>16.0%</td>
</tr>
</tbody>
</table>

## Home Hazards

### Carbon Monoxide Poisoning

Rate of ER visits per 100,000 people

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11.1</td>
<td>8.1</td>
</tr>
</tbody>
</table>

### Childhood Lead Poisoning

Percent of tested children with blood lead ≥5 µg/dL

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.1%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

### Radon

Percent of tests with results ≥4 pCi/L

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45.9%</td>
<td>35.2%</td>
</tr>
</tbody>
</table>

## Private Water Quality

### Arsenic

Percent of test results above EPA standard of 10 µg/L

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.3%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

### Nitrate

Percent of test results above EPA standard of 10 mg/L

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.4%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

## Health Conditions

### Asthma

Rate of ER visits per 10,000 people

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19.8</td>
<td>33.0</td>
</tr>
</tbody>
</table>

### COPD

Rate of ER visits per 10,000 people

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23.7</td>
<td>26.4</td>
</tr>
</tbody>
</table>

### Lyme Disease

Rate per 100,000 people

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>210.9</td>
<td>37.7</td>
</tr>
</tbody>
</table>

## Climate Change

### Extreme Heat

Projected number of days in 2080 > 90°F

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>33</td>
<td>34</td>
</tr>
</tbody>
</table>

### Extreme Precipitation

Projected number of days in 2080 with ≥1 inch of precipitation

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.0</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Data details on next page

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Vernon County

DASHBOARD | 2021 COUNTY ENVIRONMENTAL HEALTH PROFILE

Wisconsin Environmental Public Health Tracking Program

Bureau of Environmental and Occupational Health
Wisconsin Department of Health Services | Division of Public Health
dhs.wisconsin.gov/epht | dhstracking@wi.gov
DASHBOARD DATA DETAILS

Below are the abbreviated references for the data presented in the dashboard. Note that some measures have more years of data available on the Wisconsin Tracking portal. For additional data details, see pages 15-16. For more information about age-adjustment and other terms referenced in this Profile, visit the Wisconsin Tracking Program's data details webpage or our Tracking 270 tutorial, both available on our website.

COMMUNITY HEALTH

Alcohol Outlet Density: Crude rate of alcohol licenses per 500 people
Source: Division of Care and Treatment Services, Wisconsin Department of Health Services; primary data source is Wisconsin Department of Revenue
Years displayed: 2017-2018

Motor Vehicle-Related Fatalities: Percent of fatal motor vehicle crashes involving cyclists or pedestrians
Source: CDC National Environmental Public Health Tracking Data Portal; primary data source is National Highway Traffic Safety Administration
Years Displayed: 2014-2018

PRIVATE WATER QUALITY

Arsenic: Percent of test results that exceed EPA standard of 10 µg/L
Nitrate: Percent of test results that exceed EPA standard of 10 mg/L
Source: Well Water Quality Viewer, Center for Watershed Science and Education, University of Wisconsin-Stevens Point
Years displayed: 1988 to July 2019

HOME HAZARDS

Carbon Monoxide (CO) Poisoning: Age-adjusted rate of emergency room visits related to unintentional CO poisoning per 100,000 people
Source: Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services
Years displayed: 2015-2019

Childhood Lead Poisoning: Percent of children (less than 6 years of age) who had a blood lead level ≥5 µg/dL, among those tested
Source: Childhood Lead Poisoning Prevention Program, Bureau of Environmental and Occupational Health, Division of Public Health, Wisconsin Department of Health Services
Year displayed: 2019

Radon: Percent of tests with results at or above EPA standard of 4 pCi/L
Source: Radon and Indoor Air Program, Bureau of Environmental and Occupational Health, Division of Public Health, Wisconsin Department of Health Services
Year displayed: 2020

HEALTH CONDITIONS

Asthma: Age-adjusted rate of emergency room visits related to asthma per 10,000 people
Source: Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services
Year displayed: 2019

Chronic Obstructive Pulmonary Disorder (COPD): Age-adjusted rate of emergency room visits related to COPD for persons 25 years and older per 10,000 people
Source: Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services
Year displayed: 2019

Lyme Disease: Crude rate of confirmed and probable Lyme disease cases per 100,000 people
Source: Vectorborne Disease Program, Bureau of Communicable Diseases, Division of Public Health, Wisconsin Department of Health Services
Year displayed: 2019

CLIMATE CHANGE

Extreme Heat: Projected number of extreme heat days above 90°F
Source: CDC National Environmental Public Health Tracking Data Portal; primary data source is CONUS (Continental U.S.) Downscaled Climate Projections. NOTE: These specific data are no longer available. Please visit our Portal for updated heat projection measures.
Year displayed: 2080

Extreme Precipitation: Projected number of extreme precipitation days with over 1 inch of precipitation
Source: CDC National Environmental Public Health Tracking Data Portal; primary data source is CONUS (Continental U.S.) Downscaled Climate Projections. NOTE: NOTE: These specific data are no longer available. Please visit our Portal for updated heat projection measures.
Year displayed: 2080
COMMUNITY HEALTH VERNON COUNTY

BACKGROUND

Environment includes not only the air we breathe and the water we drink, but also our built environment: the businesses, parks, schools, bike paths, roads, and other surroundings that make up our communities.

Our built environment includes the roads and intersections in our communities. The way that our community is designed can moderate exposure to traffic and the resulting crash fatalities.

Places that sell alcohol are part of that built environment. Examining the number of places that sell alcohol per the county population—which is known as alcohol outlet density—can help us understand how alcohol impacts our health and communities.

MOTOR VEHICLE-RELATED FATALITIES

PERCENT OF FATAL MOTOR VEHICLE CRASHES INVOLVING CYCLISTS OR PEDESTRIANS

Alcohol Outlet Density

<table>
<thead>
<tr>
<th></th>
<th>Rate of alcohol licenses per 500 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>1.61</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>1.47</td>
</tr>
</tbody>
</table>

Motor Vehicle-Related Fatalities

Percent of fatal motor vehicle crashes involving cyclists or pedestrians

<table>
<thead>
<tr>
<th></th>
<th>At or below state value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>0.0%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>16.0%</td>
</tr>
</tbody>
</table>

Biking and walking are healthy, environmentally-friendly modes of transportation. Unfortunately, both bikers and walkers are more likely to be seriously injured or killed when involved in a motor-vehicle related crash.

Pedestrian and cyclist fatalities have been on the rise. According to the Pedestrian and Bicycle Information Center, pedestrian and cyclist fatalities in the U.S. increased by 50.7% in the ten-year period between 2009 and 2018. During that same time period, total traffic fatalities increased by 7.9%.

It is important to integrate pedestrian and bike safety into community design. Examples include lighting, crosswalks, sidewalks, and bike lanes.
ALCOHOL OUTLET DENSITY

Alcohol has many potential health consequences, including increased risk for seven types of cancer.

Alcohol outlets are places where someone can buy alcohol to drink on premises (such as bars) or elsewhere (such as liquor stores).

Communities can use alcohol outlet density data to get a better understanding of how alcohol impacts their residents. We can use these data to monitor alcohol-related measures over time and to educate communities, plan programs, and implement policies.

Alcohol outlet data are collected once annually, which means at any given time in the year, a new license could be issued or an old one may not be renewed.

Differences in alcohol outlet density are difficult to interpret. Rural counties may have a higher number of outlets relative to population, but these outlets may be small and serve fewer people than a single outlet in a larger city.

Learn more about alcohol outlet density and Wisconsin’s alcohol environment by visiting Wisconsin Alcohol Policy Project.

ALCOHOL OUTLET DENSITY
CRUDE RATE OF ALCOHOL LICENSES
PER 500 PEOPLE
2017-2018

99
LICENSES IN
VERNON COUNTY

17,100
TOTAL LICENSES IN
WISCONSIN
BACKGROUND

About four in 10 Wisconsin homes get their water from private wells. Well owners are responsible for monitoring and testing their wells. All private wells should be tested regularly to ensure the water is safe to use and drink.

The University of Wisconsin-Stevens Point's Center for Watershed Science created a mapping tool to improve access to private well water data. The private well data are voluntarily submitted by homeowners and do not include water quality information for all known wells. County-specific measures for arsenic and nitrate in private wells are included in this report. Users can find public water quality data on our data portal.

ARSENIC IN PRIVATE WELLS

PERCENT OF TEST RESULTS ABOVE EPA STANDARD OF 10 µg/L
1988 TO JULY 2019

✅ Arsenic

Percent of test results above EPA standard of 10 µg/L

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>0.3%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

✅ Nitrate

Percent of test results above EPA standard of 10 mg/L

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>6.4%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

ARSENIC IN PRIVATE WELLS

Arsenic can naturally occur in soil and rock formations but can also come from some types of pesticides, treated wood, and certain foods. In Wisconsin, high levels of arsenic in wells are most common in the northeastern part of the state but can be found in any county.

Drinking water with high levels of arsenic can cause skin rashes and stomach problems. Arsenic can also increase the risk for certain kinds of cancer. Infants and children are especially sensitive to arsenic, and high levels can affect learning.

Source: UW-Stevens Point Well Water Viewer
NITRATE IN PRIVATE WELLS

Nitrate naturally occurs in plants and animals and can enter groundwater from fertilizers or animal and human waste.

In Wisconsin, nitrate is one of the most common groundwater contaminants. High nitrate levels are linked with certain birth defects.

Infants who consume drinking water with high nitrate levels are at risk of blue baby syndrome, a condition that limits the blood’s ability to carry oxygen.

NITRATE IN PRIVATE WELLS
PERCENT OF TEST RESULTS ABOVE EPA STANDARD OF 10 mg/L
1988 TO JULY 2019

Source: UW-Stevens Point Well Water Viewer

ABOUT THE PRIVATE WELL WATER DATA

The data displayed in the private well water section include samples collected from 1988 to July 2019. The maps include results of 47,748 arsenic samples and 192,706 nitrate samples. The number of samples collected varies from year to year and by county; accordingly, some years and counties are better represented than others.

These data do not include all well tests conducted in the state; some tests done by private labs and local labs are not submitted to be displayed on the Well Water Viewer.

To explore data for other water contaminants, visit the UW Stevens Point Well Water Viewer.
BACKGROUND

Because we spend a great deal of time in our homes, it's important that they are safe and healthy. Carbon monoxide (CO) poisoning, childhood lead poisoning, and radon are three home hazards tracked by the Wisconsin Environmental Public Health Tracking Program.

Carbon Monoxide Poisoning

Carbon monoxide (CO) poisoning prevents oxygen from getting to the body, which can damage tissue and even cause death.

CO is a toxic gas that cannot be seen or smelled. CO is created whenever fuel or other materials are burned. Wisconsin state law requires all homes to have a CO detector on every level.

CO poisoning is also a risk in indoor ice arenas or recreational facilities where fuel-powered equipment (e.g., ice resurfacers, motorbikes, go-karts) is used. While there is no state law requiring CO detectors in these venues, it is still important to monitor CO levels in the air and take action if levels are unsafe.

# Vernon County

## Carbon Monoxide Poisoning

**Rate of ER visits per 100,000 people**

<table>
<thead>
<tr>
<th></th>
<th>2010-2014</th>
<th>2015-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>8.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>8.1</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

## Childhood Lead Poisoning

**Percent of tested children with blood lead ≥5 µg/dL**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>3.7%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>3.7%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

## Radon

**Percent of tests with results ≥4 pCi/L**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon County</td>
<td>45.9%</td>
<td>45.9%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>35.2%</td>
<td>35.2%</td>
</tr>
</tbody>
</table>

CARBON MONOXIDE POISONING

RATE OF ER VISITS PER 100,000 PEOPLE
CHILDHOOD LEAD POISONING

Lead poisoning slows growth and development in children, particularly in the brain. Lead poisoning is also associated with problems later in life, such as poor academic outcomes and increased incarceration.

Exposure to even low levels of lead can cause damage over time, especially in children. Blood lead levels are measured in micrograms per deciliter (µg/dL). The Centers for Disease Control and Prevention (CDC) defines lead poisoning as having a blood lead level at or above 5 µg/dL.

In most Wisconsin counties, the percentage of children poisoned is low. However, because counties vary greatly in the number of children tested for lead poisoning, these percentages should be interpreted with caution. For example, if eight children were tested in a county and two were poisoned, the percentage of children poisoned for that county would be 25%.

To facilitate accurate interpretation, the figure on the right displays both the percentage of children poisoned among those tested and the total number of children tested. More detailed information on the number of children poisoned at the census tract level is available on the Wisconsin Tracking data portal.

RADON

Radon is a naturally-occurring gas that is radioactive and can cause lung cancer. Radon can leak into homes and other buildings through cracks in the foundation.

Like carbon monoxide, radon can't be seen or smelled. Homes both old and new can have unsafe radon levels, and the only way to know if a home has high radon levels is to test for it.

The radon data we present are only a fraction of the tests completed in Wisconsin. The data presented include all tests facilitated by the Radon and Indoor Air Program and Radon Information Centers, but may not include all tests conducted by private contractors. To view more years of data and data at the zip code level, visit The Wisconsin Radon Program.

The Environmental Protection Agency (EPA) recommends all homes with radon levels of four picocuries per liter (4 pCi/L) or higher be fixed. There are many certified radon mitigation contractors throughout the state who can fix radon problems in homes. Learn more at lowradon.org.

Note: The data for this map represent the percent of tests with results at or above the EPA standard of 4 pCi/L. The white asterisk denotes a county with 5 tests from 2017-2020. All other counties display data from 2020 only. These percentages may not be representative of radon levels for the entire county and should be interpreted with caution.
BACKGROUND

The Environmental Public Health Tracking Program monitors data on asthma, chronic obstructive pulmonary disease (COPD), and Lyme disease. Each of these measures is strongly linked to one or more environmental factors.

**Asthma**

*Rate of ER visits per 10,000 people*

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate per 10,000</td>
<td>19.8</td>
<td>33.0</td>
</tr>
</tbody>
</table>

**COPD**

*Rate of ER visits per 10,000 people*

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate per 10,000</td>
<td>23.7</td>
<td>26.4</td>
</tr>
</tbody>
</table>

**Lyme Disease**

*Rates per 100,000 people*

<table>
<thead>
<tr>
<th></th>
<th>Vernon County</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyme Disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate per 100,000</td>
<td>210.9</td>
<td>37.7</td>
</tr>
</tbody>
</table>

**ASTHMA**

*RATE OF ER VISITS PER 10,000 PEOPLE 2019*

<table>
<thead>
<tr>
<th>Rate per 10,000</th>
<th>Suppressed</th>
<th>0.00 to &lt;14.50</th>
<th>14.50 to &lt;29.00</th>
<th>29.00 to &lt;43.49</th>
<th>43.49 to &lt;57.99</th>
<th>57.99 to &lt;72.49</th>
</tr>
</thead>
</table>

**ASTHMA**

Asthma is a disease that affects breathing and limits the ability to get oxygen to the lungs. Asthma symptoms may occur from exposure to common triggers, such as tobacco smoke, outdoor air pollution, or pollen.

The overall rate of asthma emergency room visits in Wisconsin has slightly declined since 2004. Rates at the county level are more variable. In Wisconsin, asthma rates vary considerably by race and ethnicity. Read more about these differences in our asthma disparities surveillance brief.

To learn more about the burden of asthma and resources in Wisconsin, visit our Asthma Program's webpage. View more years of asthma data on our portal.
HEALTH CONDITIONS  VERNON COUNTY

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

COPD refers to a group of diseases that cause airflow blockage and breathing-related problems. COPD includes emphysema and chronic bronchitis. COPD is usually caused by cigarette smoking, but long-term exposure to other lung irritants, like secondhand smoke, can also contribute to COPD.

According to the CDC, tobacco smoking accounts for as many as 8 out of 10 COPD-related deaths. According to Wisconsin Tobacco Prevention and Control Program, 17% of Wisconsin residents currently smoke.

To learn more about smoking in Wisconsin, visit the Wisconsin Tobacco Prevention and Control webpage.

LYME DISEASE
CRUDE RATE PER 100,000 PEOPLE

INTERPRETING LYME DISEASE DATA

As such, rates of confirmed cases might appear to decrease since 2012, but this is likely due to the change in case definition, not from a reduced burden of Lyme disease.

On the Tracking portal, estimated cases are only available at the state level, not the county level. The crude rate of cases reported here is an underestimate of the true rate of Lyme disease (see data details on page 16 for more information).

COPD
RATE OF ER VISITS PER 10,000 PEOPLE
2019

LYME DISEASE

Lyme disease is spread by the bite of an infected black-legged tick (Ixodes scapularis) and is becoming more common in Wisconsin. The highest number of cases is typically reported in the northwestern region of Wisconsin, but in recent years cases have increased in the central and eastern regions. Lyme disease was Wisconsin’s fourth highest reported notifiable communicable disease in 2019.

Wisconsin’s climate has become generally warmer and wetter, which can provide more favorable conditions for ticks. Climate change has contributed toward the expanded geographic distribution of ticks as well as a longer season of tick activity and potential for Lyme disease transmission. Other factors, such as host populations (for example, deer and mice), awareness of Lyme disease, and land use changes, also impact Lyme disease rates.

The crude rate includes confirmed cases of Lyme disease—not probable or estimated cases—until 2008. Starting in 2008, the crude rate includes confirmed and probable cases.

The criteria for reporting Lyme disease were revised again in 2012 to require reporting and follow-up only for cases with an erythema migrans (EM) rash. To compensate for this change, epidemiologists used a statistical method to estimate the true number of cases based on the number of total laboratory reports for each year since 2012.

As such, rates of confirmed cases might appear to decrease since 2012, but this is likely due to the change in case definition, not from a reduced burden of Lyme disease.

On the Tracking portal, estimated cases are only available at the state level, not the county level. The crude rate of cases reported here is an underestimate of the true rate of Lyme disease (see data details on page 16 for more information).
CLIMATE CHANGE VERNON COUNTY

BACKGROUND
Consistent with global climate change trends over the past 60 years, Wisconsin has become generally warmer and wetter. Changes in the climate may lead to drought, temperature extremes (very hot and very cold days), more precipitation and flooding, and more carriers of disease (for example, mosquitoes and ticks). Climate change can contribute to mental health problems, water and vectorborne diseases, allergies, water and food insecurity, and even death.

In this section, we focus on projections of heat and precipitation. This information can help inform decision-making and policies that can help local communities assess vulnerabilities, estimate the burden, and build overall resilience against the effects of a changing climate.

PROJECTED NUMBER OF FUTURE EXTREME HEAT DAYS
NUMBER OF DAYS > 90°F

EXTREME HEAT PROJECTIONS
As temperatures rise, there is an increased risk of more heat-related illness and deaths in both urban and rural areas. These more intense heat-related events will threaten lives as well as disrupt health and social services.

Certain populations, such as adults who live alone or have limited social contacts, older adults, males who work or play outside, and people without access to air conditioning are at increased risk of heat-related illness.

The projected number of future extreme heat days (those above 90°F) is expected to increase in all Wisconsin counties over the next several decades.
EXTREME PRECIPITATION PROJECTIONS

The frequency and intensity of extreme precipitation events have increased and are likely to increase further, raising the risk of flash flooding. These more frequent heavy rain events can have adverse effects on our health.

These events will likely increase our exposure to waterborne illnesses, including those linked to sewage contamination of drinking water. Our lakes and rivers are likely to have more outbreaks of aquatic pathogens, including bacteria and harmful algal blooms.

The projected number of extreme precipitation events with over 1 inch of precipitation is expected to increase over future decades.

PROJECTED NUMBER OF FUTURE EXTREME PRECIPITATION DAYS

NUMBER OF DAYS WITH ≥ 1 INCH OF PRECIPITATION

If you are looking for more information on the climate and health connection, check out our Climate and Health Program!
COMMUNITY HEALTH

Alcohol Outlet Density: Crude rate of alcohol licenses per 500 people
Source: Division of Care and Treatment Services, Wisconsin Department of Health Services; primary data source is Wisconsin Department of Revenue
Years displayed: 2017-2018
Data details: Data are a point-in-time estimate, meaning the data are shared once annually and, at any given time throughout the year, a new license could be issued or an old one not renewed. Data are not suppressed for this measure. Crude rate of alcohol licenses per 500 people is the number of establishments with a liquor license divided by the total number of people in the county, expressed as a number per 500 people in the population.

Motor Vehicle-Related Fatalities: Percent of fatal motor vehicle crashes involving cyclists or pedestrians
Source: CDC National Environmental Public Health Tracking Data Portal; primary data source is National Highway Traffic Safety Administration
Years displayed: 2004-2018; data from 2014-2018 displayed on dashboard
Data details: Data were obtained from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS). Percentages were calculated by dividing the number of distinct crashes involving bicyclists or pedestrians by the total number of distinct fatal crashes, then multiplying by 100.

PRIVATE WATER QUALITY

Arsenic: Percent of test results for arsenic that exceed EPA standard of 10 µg/L
Nitrate: Percent of test results for nitrate that exceed EPA standard of 10 mg/L
Source: Well Water Quality Viewer, Center for Watershed Science and Education, University of Wisconsin-Stevens Point
Years displayed: 1988 to July 2019
Data details: The statewide comparison number was calculated by dividing the total number of tests that exceed EPA standard by the total number of tests and multiplying by 100. Per the Well Water Quality Viewer, "The viewer summarizes private well water quality data from the Center for Watershed Science and Education, the Wisconsin Department of Agriculture, Trade, and Consumer Protection, the Department of Natural Resources Groundwater Retrieval Network, Eau Claire City-County Health Department, and LaCrosse County Health Department. It is not considered a scientific study and does not represent well water quality information for all known private wells."

HOME HAZARDS

Carbon Monoxide (CO) Poisoning: Annual average rate of emergency room visits related to unintentional CO poisoning, age-adjusted per 100,000 people
Source: Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services
Years displayed: 2010-2019; data averaged from 2015-2019 displayed on the dashboard
Data details: This measure includes carbon monoxide poisonings that were unintentional (fire- or non-fire-related) and of unknown intent. These data are from emergency room visit records. The measure includes cases with an ICD-9 code (from 2010 through quarter three of 2015) of 986 or cause of injury code E868.2, E868.3, E868.8, E868.9, E982.0, or E982.1 and cases with an ICD-10 code (from quarter four of 2015 through 2019) of T58.01, T58.04, T58.11, T58.14, T58.2X1, T58.2X4, T58.8X1, T58.8X4, T58.91, and T58.94. Cases are excluded if there is any ICD-9 or ICD-10 code that indicates intentional exposure. Data for counties with fewer than five visits are suppressed to protect confidentiality. However, data from counties with zero visits are not suppressed. Direct age-adjustment is conducted using the 2000 U.S. standard population.

Childhood Lead Poisoning: Percent of children (less than 6 years of age) who had a blood lead level ≥5 µg/dL, among those tested; and the total number of children (less than 6 years of age) who were tested
Source: Wisconsin Childhood Lead Poisoning Prevention Program, Bureau of Environmental and Occupational Health, Division of Public Health, Wisconsin Department of Health Services
Years displayed: 2006-2019; data from 2019 displayed on dashboard
Data details: Wisconsin blood lead testing data from children less than 6 years of age are reported to the Childhood Lead Poisoning Prevention Program. Data are de-duplicated such that they contain the most recent confirmatory (venous) test following an elevated screening (capillary) test. If no confirmatory test for the individual is available, the most recent screening test result is used. The Wisconsin average includes all tests, regardless of whether there is location data for a given test.

Radon: Percent of radon tests with results at or above EPA standard of 4 pCi/L
Source: Wisconsin Radon and Indoor Air Program, Bureau of Environmental and Occupational Health, Division of Public Health, Wisconsin Department of Health Services
Year displayed: 2020
Data details: The map of these data comes from the CDC National Environmental Public Health Tracking Data Portal. The Wisconsin Radon and Indoor Air Program requested data from six private labs: AccuStar, Air Chek Inc., DrHomeAir, PRO-LAB Inc., Radonova, and Radon Testing Corporation of America (RTCA). The radon data we present from these six companies do not include all of the tests completed in Wisconsin. Data are those from pre-mitigation tests or those where mitigation status was not designated. Post-mitigation tests are not included. Data from tests where the testing media was water were excluded. Some records were missing county name, so county had to be determined by using a 5-digit zip code. Although this technique proved to be accurate in most cases, there may be some records where the county was misclassified. To view more years of data and data at the zip code level, visit lowradon.org.
HEALTH CONDITIONS

**Asthma:** Rate of emergency room visits related to asthma, age-adjusted per 10,000 people

**Source:** Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services

**Year displayed:** 2019

**Data details:** These data are collected from emergency room visit records. This measure includes cases with an ICD-10 code of J45 (inclusive of all sub-variation codes). Data for counties with fewer than five visits are suppressed to protect confidentiality. However, data from counties with zero visits are not suppressed. Direct age-adjustment is conducted using the 2000 U.S. standard population.

**Chronic Obstructive Pulmonary Disorder (COPD):** Rate of emergency room visits related to COPD for persons 25 years and older, age-adjusted per 10,000 people

**Source:** Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services

**Year displayed:** 2019

**Data details:** These data are collected from emergency room visit records. This measure includes cases with an ICD-10 code of J44 through J44 (inclusive of all sub-variation codes). Data for counties with fewer than five visits are suppressed to protect confidentiality. However, data from counties with zero visits are not suppressed. Direct age-adjustment is conducted using the 2000 U.S. standard population.

**Lyme Disease:** Crude rate of confirmed and probable Lyme disease cases per 100,000 people

**Source:** Vectorborne Disease Program, Bureau of Communicable Diseases, Division of Public Health, Wisconsin Department of Health Services

**Years displayed:** 2003-2019; data from 2019 are displayed on the dashboard

**Data details:** These data are from the Wisconsin Electronic Disease Surveillance System (WEDSS). County-level data are based on the county of residence of the case; some infections may have been acquired during travel to other areas. The crude rate numerator includes only confirmed and probable (when available) cases and does not include estimated cases. Confirmed cases of Lyme disease include: 1) those with an erythema migrans (EM) rash that is greater than or equal to 5 cm in diameter and diagnosed by a medical professional or 2) those with at least one non-EM confirmatory sign or symptom indicating late manifestation of disease (arthritis, Bell’s palsy or other cranial neuritis, encephalomyelitis, lymphocytic meningitis, radiculoneuropathy, or 2nd or 3rd degree atrioventricular block) that also has laboratory evidence of infection that meets criteria. In 2008, the national surveillance case definition for Lyme disease introduced probable cases. In 2012, the criteria for reporting Lyme disease changed so only cases with an EM rash required follow-up. Read the [data details on our website](#) for more information.

CLIMATE

**Extreme Heat:** Projected number of extreme heat days > 90°F

**Source:** CDC National Environmental Public Health Tracking Data Portal; primary data source is CONUS (Continental U.S.)

**Downscaled Climate Projections. NOTE:** These specific data are no longer available. Please visit our [Portal](#) for updated heat projection measures.

**Years displayed:** 2030-2080; data from 2080 are displayed on the dashboard

**Data details:** The CONUS Downscaled Climate Projections calculated temperature projections using outputs from 16 global change models at 1/8th degree resolution to generate a single comprehensive dataset. Daily maximum and daily minimum temperature grid-level data were converted to county-level estimates using a population-weighted centroid approach. The projected number of future extreme heat days above 90°F was calculated using the Intergovernmental Panel for Climate Change (IPCC) A2 (high emissions) scenario.

**Extreme Precipitation:** Projected number of extreme precipitation days with > 1 inch of precipitation

**Source:** CDC National Environmental Public Health Tracking Data Portal; primary data source is CONUS (Continental U.S.)

**Downscaled Climate Projections. NOTE:** These specific data are no longer available. Please visit our [Portal](#) for updated heat projection measures.

**Years displayed:** 2030-2080; data from 2080 are displayed on the dashboard

**Data details:** The CONUS Downscaled Climate Projections calculated precipitation projections using outputs from 16 global change models at 1/8th degree resolution to generate a single comprehensive dataset. Grid-level meteorological data were converted to county-level estimates using a population-weighted centroid approach. The projected number of future extreme precipitation days with over 1 inch of precipitation was calculated using the Intergovernmental Panel for Climate Change (IPCC) A2 (high emissions) scenario.
Present to Stakeholders and Partners
We created a Profile Template Slide Deck as a guide for presentations. The slide deck is free to use and completely customizable. See the notes section for ideas and considerations for tailoring your talk. Visit the Profiles page of our website to download the template.

Plan Strategies for Taking Action
We know it’s a challenge to translate data into action. To help get you started, we created a short menu of potential strategies for addressing the topics in this Profile called Ideas for Taking Action. To help communities of all sizes and resource levels, we organized them by the scope of the strategy, from increasing knowledge to addressing laws and policies. We also publish success stories from the recipients of our mini-grant program. Reviewing these stories is a great way to get ideas and connect with communities doing similar work. Visit the Ideas for Taking Action page of our website to learn more.

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