
Reporting Carbon Monoxide Poisoning

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Wisconsin Environmental Public Health Tracking

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Wisconsin Department of Health Services
Wisconsin Division of Health
Bureau of Environmental and Occupational Health
www.dhs.wisconsin.gov/air/co.htm

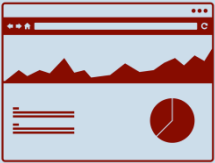




Carbon Monoxide Basics



Carbon Monoxide Poisoning Data



Tracking Carbon Monoxide



Key Messages



Questions & Discussion



Carbon Monoxide Basics



Carbon Monoxide Poisoning Data



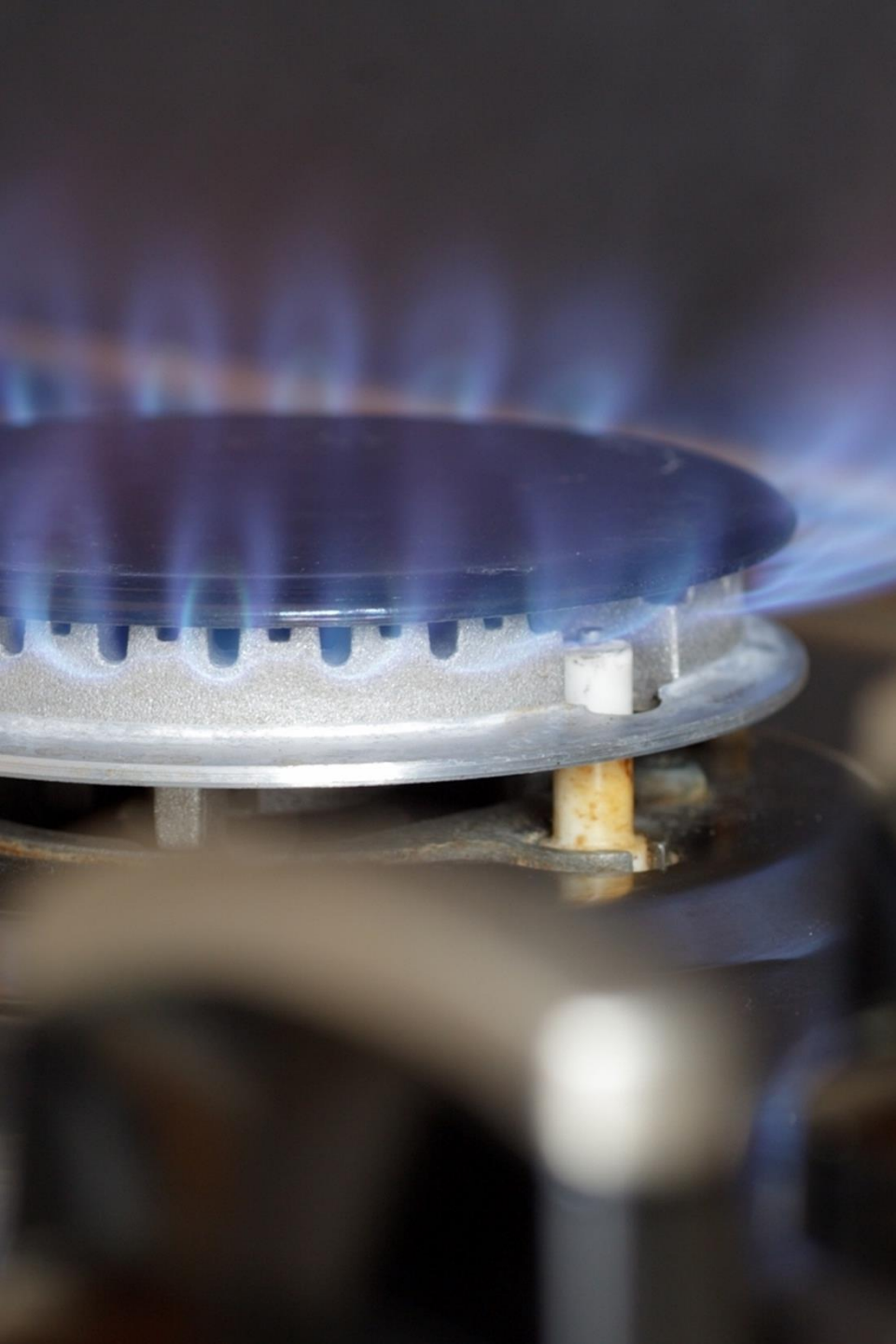
Tracking Carbon Monoxide



Key Messages



Questions & Discussion



Carbon Monoxide (CO) is a Gas

- Colorless
- Odorless
- Produced through incomplete combustion



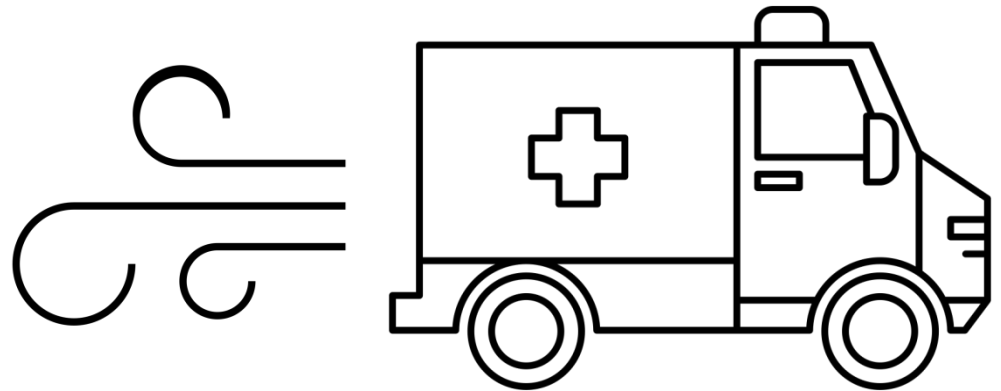
CO is Harmful When Breathed


Carbon monoxide
takes the place of
oxygen in the blood.



Symptoms of Poisoning are Flu-Like

- Headache
- Dizziness
- Weakness
- Upset stomach
- Vomiting
- Chest pain
- Confusion
- Loss of consciousness
- Death





CO Poisoning Diagnosis

- Carboxyhemoglobin (COHb) *blood* test or *pulse* CO-oximetry. COHb expressed as % of total hemoglobin
- Blood test performed in laboratory
- Pulse CO-oximetry is point-of-care



Treatment for CO Poisoning

Supplemental
oxygen

Hyperbaric
treatment
(extreme cases)



Pop

Quiz



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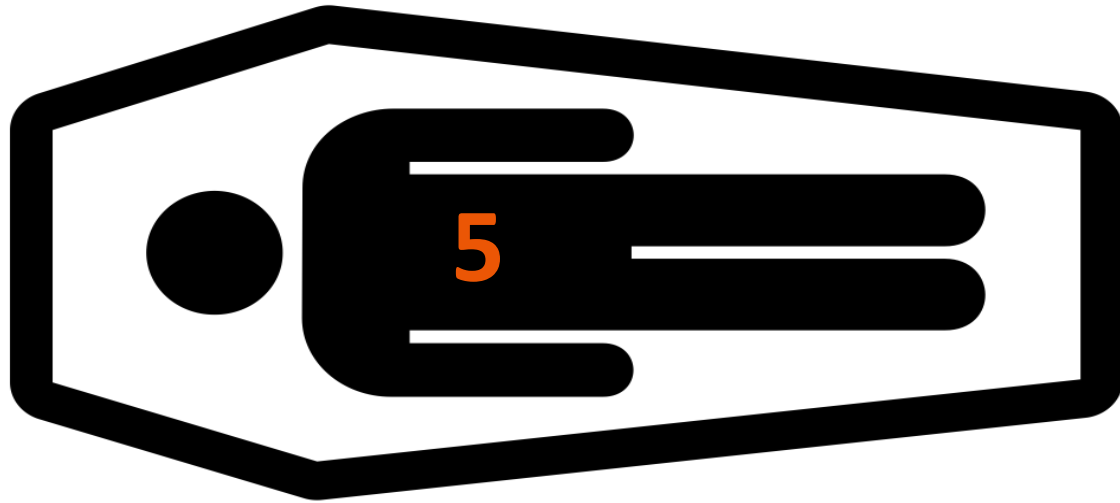
Mortality: CO Poisoning

National Statistics



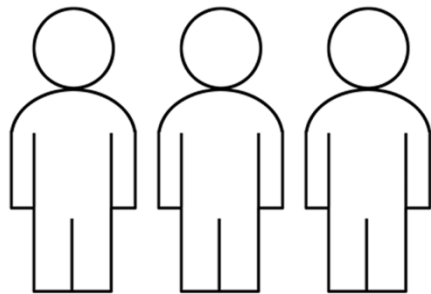
Mortality: CO Poisoning

Wisconsin Statistics

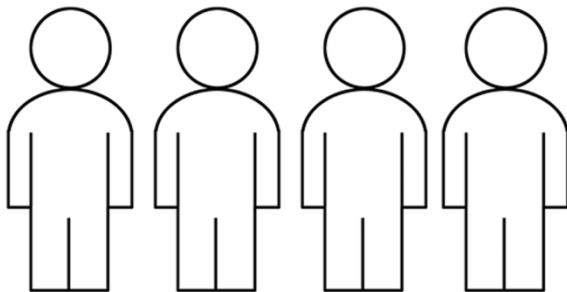


Emergency Department Visits: CO Poisoning

National Statistics



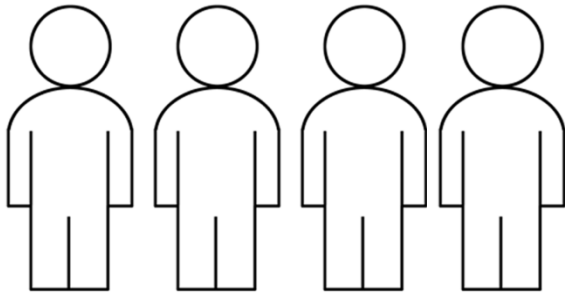
7 per 100,000



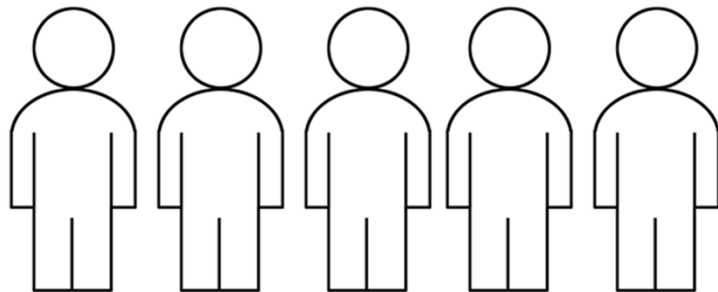
Data

Emergency Department Visits: CO Poisoning

Wisconsin Statistics



9 per 100,000



Data

Notable Outbreaks

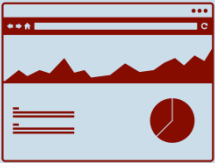




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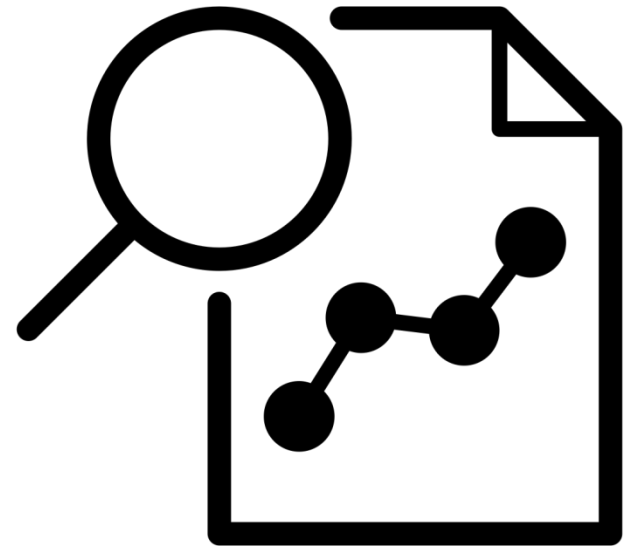
Key Messages



Questions & Discussion

Why We Need CO Poisoning Surveillance

- Better data and idea of how exposures occur
- Key to prevention and education focus
- Nationally-notifiable condition



Tracking

Tracking CO Poisoning Helps Us...

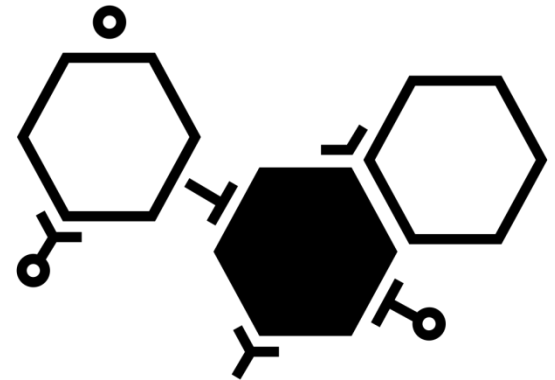
- Learn about causes of CO poisoning
- Monitor trends
- Identify high risk groups
- Supports policy development aimed at preventing CO poisoning



Tracking

Case Definition

- Based on blood test (COHb %) and smoking status
- If no lab evidence, can be determined based on symptoms, *pulse* CO-oximetry (COHb %), and/or exposure information



Tracking

Case Definition: Blood Test + Smoking Status

Case Classification	Non-Smoker Or Unknown and <14 yrs of age	Smoker Or Unknown and ≥14 yrs of age
Confirmed	Blood COHb ≥ 5.0%	Blood COHb > 12.0%
Probable	N/A	Blood COHb ≥ 9.0% and ≤ 12.0%
Suspect	Blood COHb ≥ 2.5% and < 5.0%	Blood COHb ≥ 7.0% and < 9.0%



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Note: COHb values < 5% will not go to WEDSS.



Tracking

Case Definition: Symptoms & Exposure

Clinical Criteria

Presumptive

Loss of consciousness or death

Supportive

CO poisoning symptoms
Elevated pulse CO-oximetry $\geq 5\%$



Tracking

Case Definition: Symptoms & Exposure

Environmental Criteria

Confirmatory

Exposure to measured, elevated CO level for known duration consistent with CO poisoning

Possible

Alarm of CO detector, or CO-related symptoms associated with a CO-emitting source



Tracking

Case Definition: Symptoms & Exposure

Case Classification

Criteria

Confirmed

Presumptive **OR** supportive clinical evidence
AND
Confirmatory environmental exposure

Probable

Presumptive clinical evidence **AND** possible environmental exposure
OR
Presumptive or supportive clinical evidence **AND**
Epidemiological linkage to confirmed case



Tracking

Case Definition: Symptoms & Exposure

**Case
Classification**

Criteria

Suspect

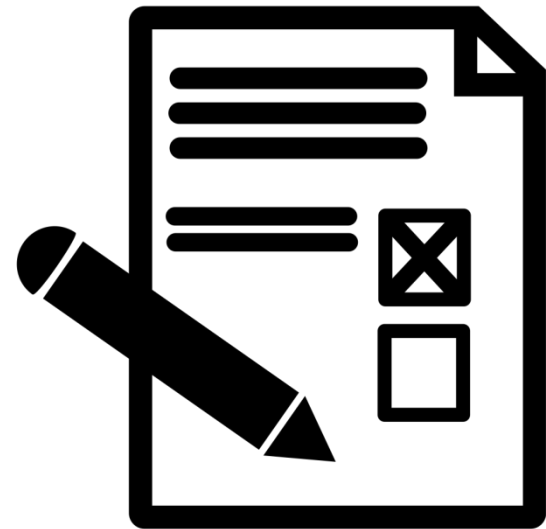
Supportive clinical criteria
AND
Possible exposure evidence



Tracking

Category II

- Reported within 72 hours
- Electronically reported through WEDSS, mail, or fax

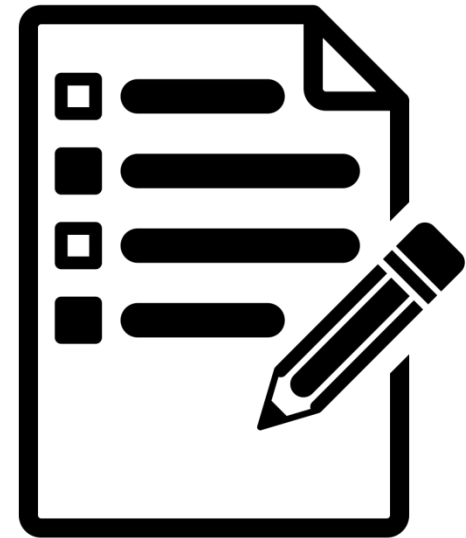


Tracking

Case Investigation

Local health department investigates:

- Phone, in person, in writing, medical record review
- Document follow-up



Tracking

Pop

Quiz

Let's Take a Stroll Through WEDSS



PUBLIC HEALTH INFORMATION NETWORK



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Key Messages



Questions & Discussion

Take Action to Stop CO Poisoning



Install CO alarms.

Use grills and generators outdoors.

Don't leave cars running inside garages.

Routinely do maintenance.



KNOW THE SIGNS AND SYMPTOMS OF CARBON MONOXIDE POISONING

IF YOU SEE SKATERS OR SPECTATORS EXPERIENCING THESE SYMPTOMS, MOVE THEM TO FRESH AIR AND CALL 911



SHORTNESS OF BREATH



HEADACHE



IMPAIRED COORDINATION



NAUSEA/VOMITING



DIZZINESS



LOSS OF CONSCIOUSNESS

Find more CO resources:
www.dhs.wisconsin.gov/air/co.htm

Wisconsin Department of Health Services | Division of Public Health
Bureau of Environmental and Occupational Health
dhs.wisconsin.gov
P-01029 (06/2015)



Photo Poster adapted from Gas Safe Register - UK



Dataset: Carbon Monoxide (Statewide) - Emergency Department Visits - Counts Combined ~ Counts **Current selection:** 2014

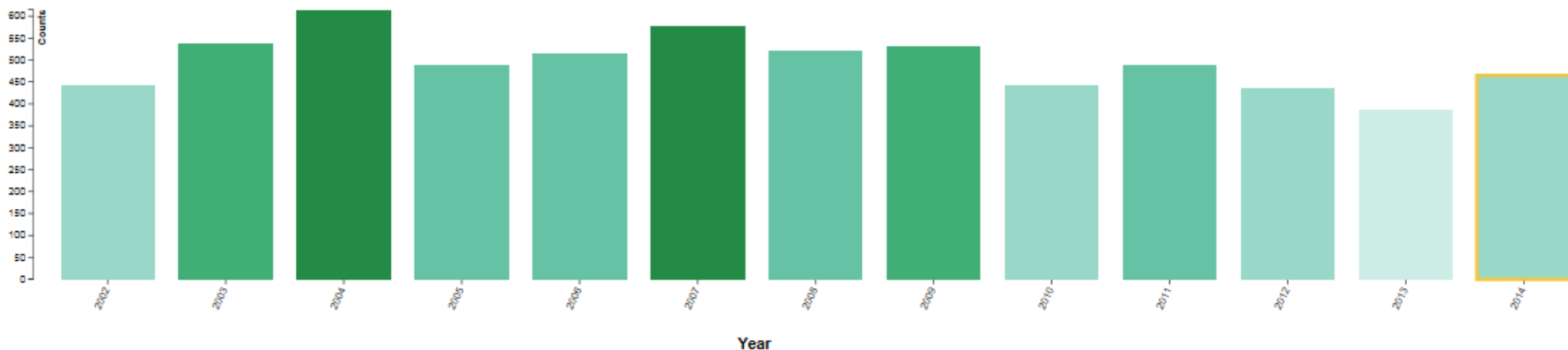
+ ADD TO COMPARE

Legend - Counts

- 569.4 to 615
- 523.8 to < 569.4
- 478.2 to < 523.8
- 432.6 to < 478.2
- 387 to < 432.6

- Current selection
- Data not available
- Data suppressed
- Confidence intervals

[Find out more information on the dataset.](#)



Environmental Public Health Tracking:
www.dhs.wisconsin.gov/epht

Prevention Guidelines: You Can Prevent Carbon Monoxide Exposure

- **DO** have your heating system, water heater and any other gas, oil, or coal burning appliances serviced by a qualified technician every year.
- **DO** install a battery-operated CO detector in your home and check or replace the battery when you change the time on your clocks each spring and fall. If the detector sounds leave your home immediately and call 911.
- **DO** seek prompt medical attention if you suspect CO poisoning and are feeling dizzy, light-headed, or nauseous.
- **DON'T** use a generator, charcoal grill, camp stove, or other gasoline or charcoal-burning device inside your home, basement, or garage or near a window.
- **DON'T** run a car or truck inside a garage attached to your house, even if you leave the door open.
- **DON'T** burn anything in a stove or fireplace that isn't vented.
- **DON'T** heat your house with a gas oven.
- **DON'T** use a generator, pressure washer, or any gasoline-powered engine less than 20 feet from any window, door, or vent.

CDC Resources

Public service
announcements

Web course for
physicians and clinicians

Fact sheets



Contact for Consultation

- Medical management of CO poisoning

Wisconsin Poison Center:
1-800-222-1222

- Questions about reporting

Wisconsin BEOH:
608-266-1120
DHSTracking@wi.gov



Three Key Takeaways

**COHb
levels \geq 5%
will go to
WEDSS**

**Expectation:
local health
department
interview
affected
patient**

**Contact us
for further
questions**

Questions?

DHSTracking@wi.gov

Wisconsin Department of Health Services
Wisconsin Division of Health
Bureau of Environmental and Occupational Health
www.dhs.wisconsin.gov/air/co.htm

