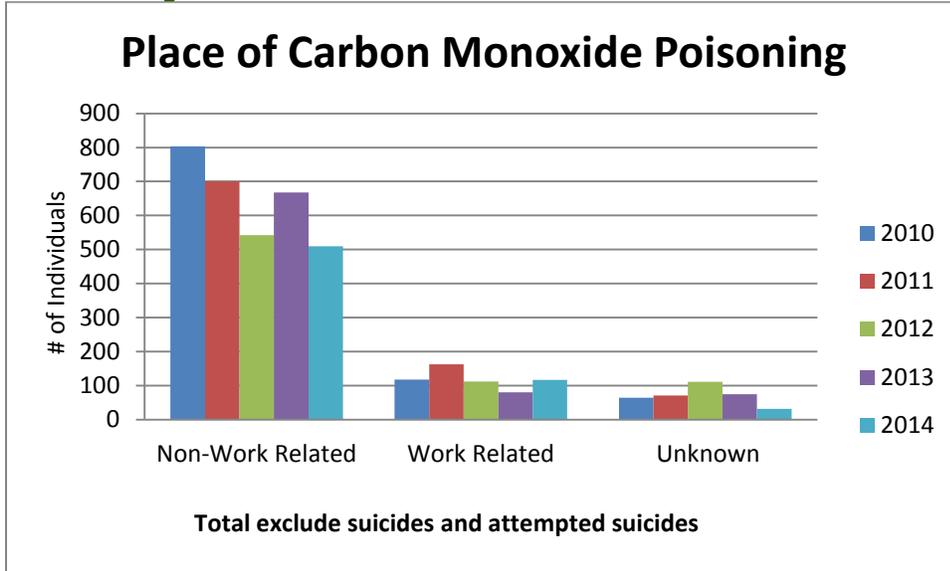


# Tracking Carbon Monoxide Poisoning in Michigan

Additional Information Available at: [www.oem.msu.edu](http://www.oem.msu.edu)

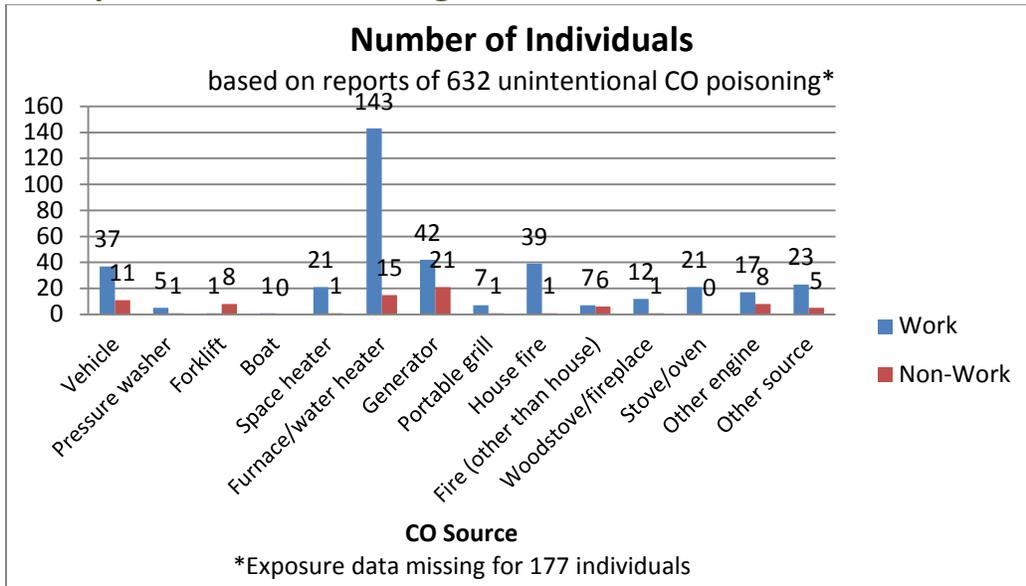
## Summary Statistics



## Background

Carbon monoxide (CO) poisoning is a reportable condition under Michigan’s Public Health Code. The main sources of reports for CO poisoning are the Michigan Poison Control Center, hospitals and emergency departments.

## CO Exposure Sources, Michigan 2014





Faulty furnaces and water heaters are the most common source of carbon monoxide exposure (25% of all poisonings). Generators are the most common source for work related carbon monoxide (18% of all work related poisoning)

## MIOSHA Follow Up of Elevated Carbon Monoxide Exposure

- ✓ Following two employees seeking medical treatment for CO poisoning, a prepared meat manufacturer was cited for CO air contaminants in excess of both the exposure limit ceiling value of 200 ppm for a five-minute average and the 8 hour time weighted average (TWA) permissible exposure limit of 35 ppm during the indoor operation of a gasoline-fueled power washer to clean meat cutting equipment and facilities.
- ✓ Following the report of a propane powered forklift driver with a carboxyhemoglobin<sup>1</sup> (COHb) of 11.5% who did not smoke cigarettes, a machinery manufacturer was cited for CO levels in excess of the exposure limit ceiling value of 200 ppm for a five-minute average, insufficient general ventilation, an inadequate hazard communication program, an inadequate hearing conservation program and inadequate guarding of grinding machinery.
- ✓ Following the report of 12 workers with elevated COHb levels from 13.1-24.5%, a malfunctioning forklift was identified at a food processing facility.

## Elevated Work-Related Carbon Monoxide Poisoning Narratives

Since 2001, 13 workers have died in Michigan from carbon monoxide exposure. Common sources of CO in the work place include generators, pressure washers, propane-powered forklifts, propane space heaters and compressors.

### Examples of fatalities due to CO exposure:

- ✓ 70 year old church security guard died from CO poisoning from an indoor generator.
- ✓ 45 year old farmer died from CO poisoning in a barn from repairing a tractor while the engine was running.
- ✓ 47 year old painter spraying water-based latex paint died from CO poisoning in a manufacturing plant from a propane powered forklift.
- ✓ 30 year old painter died from CO poisoning while using a portable generator.

### Examples of non-fatal work-related CO exposures:

- ✓ A non-smoking male in his 20's presented to an Emergency Department(ED) complained of lightheadedness and nausea, and loss of consciousness. He was exposed to CO at work from a generator. His COHb level was 26.6%. The normal COHb level in non-smokers is <1.5%.
- ✓ A non-smoking female in her 20's had acute onset of headache and nausea after a CO detector went off at work. Her COHb level was 5.9%.
- ✓ A smoking female in her 20's developed dizziness, nausea, and vomiting after working with a gas motorized concrete smoother. Her COHb level was 18.8%. The average COHb level in smokers is around 4%.

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<sup>1</sup> Hemoglobin in blood that has carbon monoxide instead of the normal oxygen bound to it.