

## **New York City's Carbon Monoxide Surveillance**

### ***Background***

Recognizing that unintentional carbon monoxide (CO) poisoning is a serious but preventable environmental health threat, New York City (NYC) enacted a law in 2004 requiring CO alarms in residential and many public buildings, and updated the Health Code to make CO poisoning<sup>1</sup> immediately reportable by telephone to the Department of Health and Mental Hygiene/NYC Poison Control Center.

Concurrently, the Department expanded its surveillance of CO exposure and poisoning (Fig. 1), building capacity through Environmental Public Health Tracking and capitalizing on agency resources such as Syndromic Surveillance and the Newborn Home Visiting Program.

### ***Data Sources***

Annual counts and rates of emergency medical treatment, hospital admission, and death from CO poisoning are monitored and reported publicly on the [NYC Environmental Public Health Tracking and Sustainability Portal](#). The Portal also provides data on annual calls to the NYC Poison Control Center for suspected exposure to and/or poisoning by CO, and investigations made by the Fire Department, City of New York for CO incidents triggered by an alarm or an adverse health event.

Alongside the surveillance of poisoning outcomes, the Department also monitors prevention efforts. In 2009, the annual Community Health Survey included a question about the presence of smoke and CO alarms in the home and when the batteries were most recently checked or replaced. The Department's Newborn Home Visiting Program, conducted in communities with high rates of poor health outcomes, includes a visual inspection for smoke and CO alarms in the home.

The Environmental Division is developing and evaluating near-real-time surveillance of CO poisoning using 'syndromic' surveillance data collected by the Department's Bureau of Communicable Disease. Daily counts of possible CO poisonings from emergency department visit and ambulance dispatch data are available in near real-time (1 day lag). In contrast, confirmed diagnostic data may take several weeks to become available for surveillance in the case of deaths or several years in the case of hospital records. Poison Center data are also available in near real-time. Together, these data are being evaluated for their utility in timely tracking of CO poisonings, especially during an emergency such as a power outage.

### ***For More Information on New York City's Carbon Monoxide Surveillance***

Visit the NYC Tracking Portal, where you can create tables, charts and maps of CO poisoning outcomes in NYC using different sources of data. Examples include neighborhood level maps of Fire Department investigations, which show higher rates of CO incidents in low-income areas and scatter plots depicting the association between reported use of supplemental heat and the neighborhood rate of CO incidents.

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<sup>1</sup> Clinical diagnosis of carbon monoxide poisoning, and/or carboxyhemoglobin measure > 10%

Figure 1. Summary of New York City's Carbon Monoxide Surveillance Activities

1. Environmental Public Health Tracking
  - a. Deaths from CO poisoning
  - b. Hospital admissions for CO poisoning
  - c. Emergency department visits for CO poisoning
  - d. Poison Control Center calls for CO exposure
  - e. Fire Department investigations for CO
2. CO Alarm Surveillance
  - a. Home environment assessments (Newborn Home Visiting Program)
  - b. NYC Community Health Survey
3. Syndromic Surveillance (under development)
  - a. Emergency department records of chief complaints involving CO
  - b. Ambulance dispatch reports involving CO