

## Unintentional Poisoning in New York City Children

**P**oisons are substances that can be harmful or fatal when swallowed, inhaled or touched. Even beneficial substances can have toxic effects in extreme quantities; in other words, “the dose makes the poison.”

Poisoning is the third leading cause of hospitalization for injury among children ages one to four. Toddlers with emerging mobility have a natural curiosity to explore their environment, often by putting things in their mouths. In addition, infants and young children can be harmed by relatively low doses of toxic substances because of their small body size.

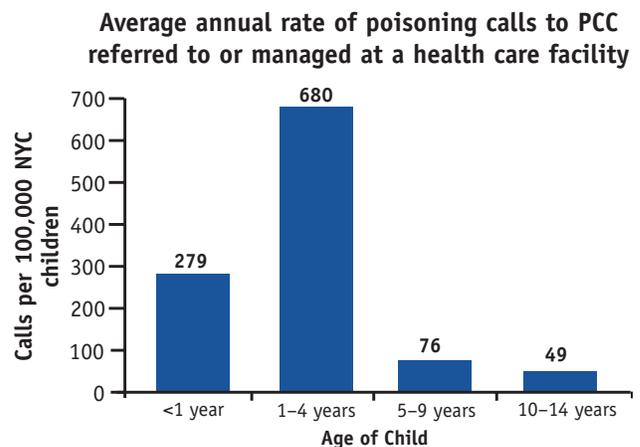
This report summarizes recent data from the NYC Poison Control Center (PCC) from the years 2000 through 2007. The PCC provides 24-hour emergency treatment recommendations and routine poisoning information to families and health care providers, responding to more than 70,000 calls every year.

Though many poisoning cases are managed at home, this report focuses on those calls to the PCC concerning someone who was exposed to a potentially toxic substance, resulting in referral to, treatment in, or admission to a health care facility.

Strategies to protect young children from poisoning can be found on page four.

### Most childhood poisonings occur before age five, in the home

- The PCC receives approximately 4,000 poisoning calls annually for NYC children younger than 15 years that are referred to or managed at a health care facility.
- Most of these calls (75%) concern children younger than five years, peaking among one-to four-year-olds (680 calls per 100,000 NYC children).
- Nearly all poisonings among young children (98%) occur in the child’s own home.



The data in this report are drawn from calls to the NYC Poison Control Center reporting known or suspected exposure of children to toxic substances. Food poisoning reports were excluded due to their generally infectious causes, and lead poisoning calls were also excluded because they frequently reflect cumulative, chronic (non-acute) exposure. Rates were calculated using US Census Bureau, Population Estimate Program, 2000–2006 and NYC DOHMH neighborhood population estimates (version 01/2009), modified from the US Census Bureau; 2006 estimates were used for 2007 rates. Ranked hospitalization data are from: *Top 10 Leading Causes of Injury Hospitalization 2002–2006* (NYC DOHMH, Injury Epidemiology Unit/Bureau of Epidemiology Services)

## Medications are the leading cause of poisoning in young children, followed by household chemicals

- Medications are implicated in more poisoning calls for one- to four-year-olds than any other type of substance (49%). Types of medications are examined in more detail below.
- Household chemicals for cleaning and pest control together account for one in five poisoning calls (21%).
- Certain beauty supplies, such as nail polish remover and hydrogen peroxide, lead to nearly as many poisoning calls every year as pesticides (220 calls).
- Even vitamins and dietary supplements, if dosed improperly, can be harmful to young children, resulting in 150 poisoning calls annually.

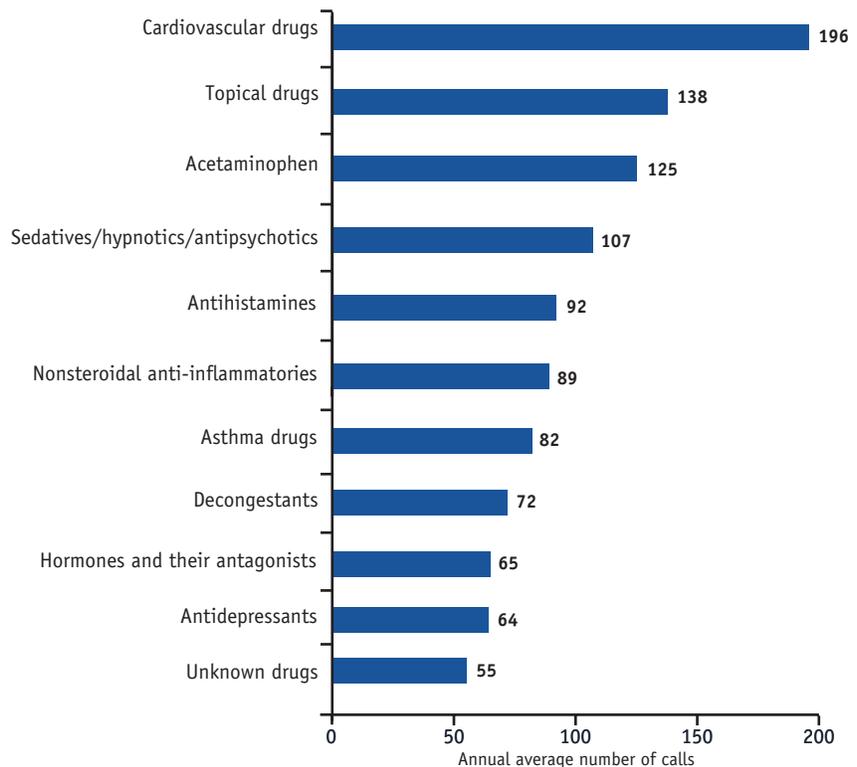
**Top five substances implicated in poisoning calls referred to or managed at a health care facility**

Type of Substance	Average Annual Calls	Percent of Annual Calls
Medications	1489	49%
Household cleaning products	386	13%
Pesticides	260	8%
Cosmetics and toiletries	220	7%
Vitamins and dietary supplements	150	5%
<i>Annual sub-total, top five types</i>	<i>2505</i>	<i>82%</i>
<i>All other substances</i>	<i>564</i>	<i>18%</i>
<i>Annual total</i>	<i>3069</i>	<i>100%</i>

## Both prescription and non-prescription medications can cause poisoning

- The medications most commonly associated with poisonings in children ages one to four years are those used to treat cardiovascular conditions (usually in adults), which are the number one cause of illness and death in NYC and the US.
- Though rarely considered a poisoning hazard, topical medications rank second among medication-related poisonings in this age group.
- Various non-prescription medications are also a major source of poisoning calls, including acetaminophen (a pain and fever reducer), antihistamines (allergy medications), non-steroidal anti-inflammatories (another type of pain and fever reducer), and decongestants (cold medicines).

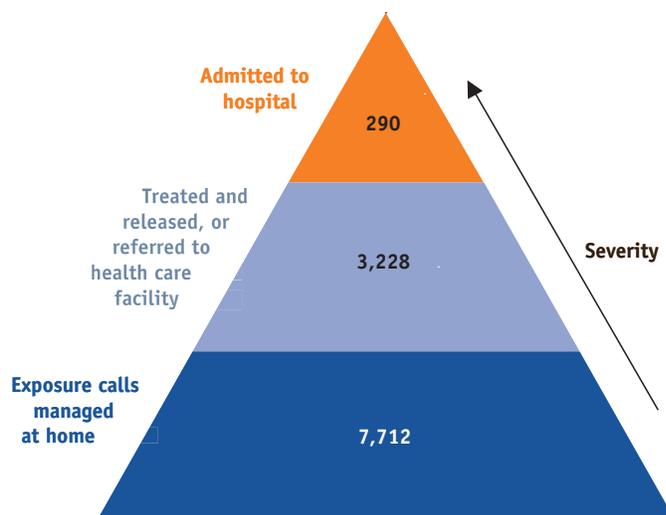
**Top 75% of medication-related poisoning calls referred to or managed at a health care facility**



## For every poisoning, there are many “close calls”

- Nearly 300 poisoning calls result in the hospitalization of young children in NYC every year. Fortunately, fatalities are extremely rare in this age group.
- For every call that results in hospitalization, 11 others involve children who are treated and released, or are advised to seek medical care but cannot be reached for follow-up.
- The PCC receives nearly 8,000 additional “close calls” every year — reports of young children exposed to potentially toxic substances who do not require medical treatment. These close calls likely represent many other similar, low-severity cases that are not reported to the PCC.

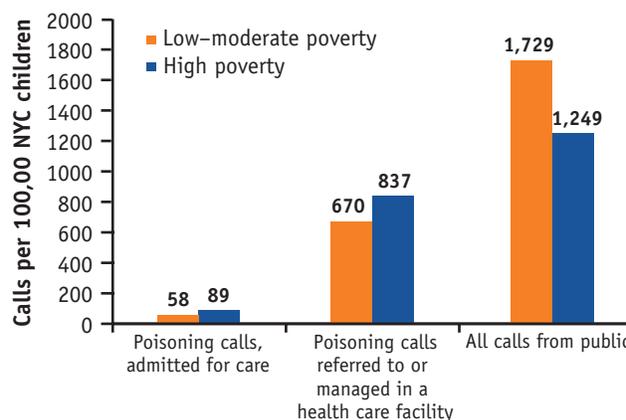
Average annual calls to PCC by outcome:  
One- to four-year-olds, 2000–2007



## Poisoning occurs more often in poorer neighborhoods

- The rates of childhood poisoning calls are 25% higher in NYC’s poorest (high-poverty) neighborhoods.\* Those resulting in hospital admission occur even more frequently in these neighborhoods (62% higher than in other areas).
- Residents in high-poverty neighborhoods, however, call the PCC 40% less frequently than those in wealthier neighborhoods, when considering all types of calls and outcomes, including general information-seeking.
- These facts may demonstrate a need in high-poverty communities for improved awareness of the Poison Control Center, and for greater vigilance against poisoning risks in the home.

Average annual PCC call rate by type and neighborhood poverty\*:  
One- to four-year-olds, 2000–2007



\* Neighborhood poverty calculated based on the percent of households with incomes less than 200% of the federal poverty level. Neighborhoods were ranked in three equal groups (tertiles), categorized as low, moderate and high poverty, and the low- and moderate-poverty neighborhoods were combined for this analysis.

# Recommendations

## Pediatric Health Care Providers: Help Stop Childhood Poisoning.

### Remind parents to store medications and household chemicals safely.

- Inform new parents about the Poison Control Center.
- Call 212-POISONS to order free poison prevention brochures for your office, in multiple languages.
- Make sure parents know how to dose medications properly.

### Report all suspected poisonings by calling 212-POISONS. It's the law.

- Health care providers must report all poisonings, regardless of severity. Surveillance of poisoning reports can shed light on new hazards in the community. When you call, poison specialists are also available for medical consultation.

## Parents and Caregivers: Take Action to Poison-Proof Your Home.

### Secure medications and household chemicals out of children's reach.

- Keep all medications, even non-prescription drugs and vitamins, in child-resistant containers. Never store them in purses, bags, drawers or on countertops. Treat topical products (those applied to the skin) with the same caution.
- Always follow medication labels carefully, using only the recommended dose.
- Never call medications "candy."
- Use child locks on cabinets where cleaning products, pesticides and other chemicals are stored. Keep products in their original containers, never near food. Read all directions and warnings, and dilute concentrated cleaners before using.
- To learn about controlling pests safely, visit [nyc.gov/health](http://nyc.gov/health) and click on "Pesticides in the Home, Safer Pest Control" under Health Topics A-Z.

### Call the Poison Control Center. It's free and confidential.

- Call 212-POISONS or 1-800-222-1222 any time you suspect a poisoning or have a question about toxic substances. Specialists are available 24 hours a day. If the patient is unconscious, call 911 first.
- Translation services are available in more than 150 languages.

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