NYC Health

NYC Vital Signs

New York City Department of Health and Mental Hygiene April 2015 Volume 14, No. 1

Understanding Child Injury Deaths: 2003-2012 Child Fatality Review Advisory Team Report

Injuries are the leading cause of death among children aged 1 to 12 years in New York City (NYC) and the United States (US). Between 2003 and 2012, 438 NYC children died from injuries. During this 10-year period, the NYC child injury death rate was relatively stable, with small fluctuations from year to year, and was one-half the national rate (3.7 vs 7.7 deaths per 100,000).

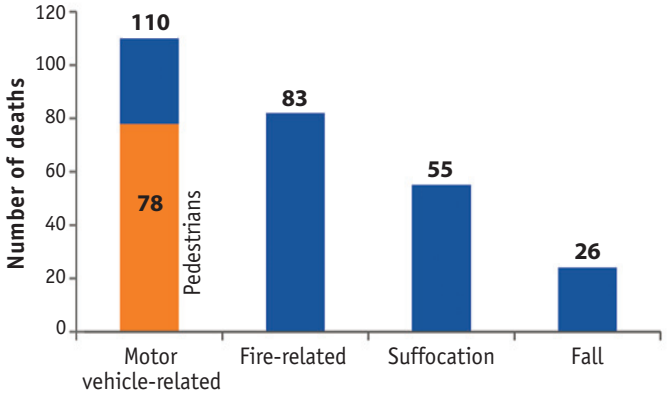
Injuries are often inaccurately seen as a result of "accidents" that cannot be anticipated or avoided. However, most injuries follow patterns that can be predicted and potentially prevented. Raising awareness of the patterns, educating communities about the risks, and enacting policies designed to protect children can help prevent child injuries.

This report describes patterns of child injury deaths in NYC for the 10-year period between 2003 and 2012. A special feature is also provided on motor vehicle (MV)-related injuries, which are a leading cause of injury death among children aged 1 to 12 years and youth aged 13 to 17. Each year in NYC, about 11 children and nine youth die from MV-related incidents, and approximately 450 children and 380 youth are hospitalized.

Recommendations to reduce MV-related injuries are provided on page four.

Motor vehicle-related injuries are the leading cause of injury death among NYC children aged 1 to 12 years

Leading causes of injury death among children aged 1-12 years, New York City, 2003-2012



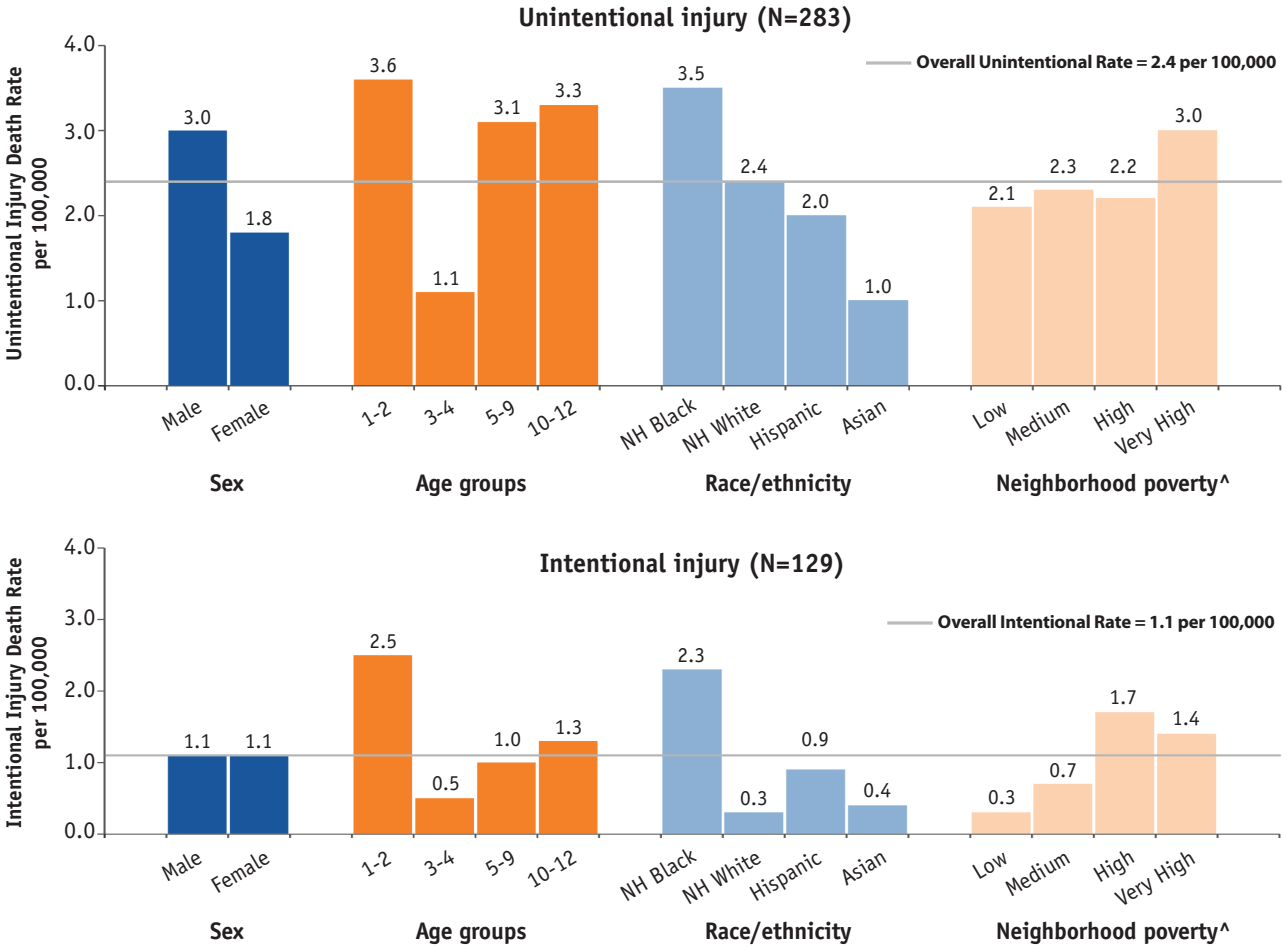
Source: NYC DOHMH Bureau of Vital Statistics, 2003-2012

- Between 2003 and 2012, 438 NYC children aged 1 to 12 years died from an injury-related cause, an average of about 44 deaths per year.
- MV-related injury, which includes pedestrians or bicycle riders that are hit by a motor vehicle, and occupants of motor vehicles, was the leading cause of child injury death in NYC, followed by fire-related, suffocation, and deaths from falls.
- The rate of child MV-related deaths in NYC was lower than the national rate (0.9 vs. 2.4 per 100,000).
- Among children aged 1 to 12 killed by MV-related injuries, pedestrians made up a greater proportion in NYC than nationally (71% vs. 24%).

Data Source: NYC DOHMH Bureau of Vital Statistics death certificates. Intent and mechanism of injury deaths were classified following the National Center for Health Statistics ICD-10 external cause of injury matrix. The NYC Office of Chief Medical Examiner files and the NYC Department of Transportation's (NYCDOT's) Traffic Fatality Database provided data on motor vehicle-related deaths between 2009 and 2011. NYCDOT's Traffic Fatality Database was current as of May 23, 2012. National data were obtained from CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) and CDC's Web-based Injury Statistics Query and Reporting System (WISQARS). Data were accessed December 2014 at: http://wonder.cdc.gov/ and http://www.cdc.gov/injury/wisqars/index.html. Hospitalization data 2003-2012: New York State Statewide Planning and Research Cooperative System (SPARCS) live discharges from NYC hospitals external cause codes: E810-819. More information on data sources and complete tables of data presented in this report are available: nyc.gov/html/doh/downloads/pdf/epi/VS1401tables.pdf

Risk of injury death varies by demographics and neighborhood poverty

Injury death rates among children aged 1-12 years by intent and demographic factor, New York City, 2003-2012



NH=non-Hispanic; ^Neighborhood poverty defined as proportion of residents in a zip code with incomes below 100% of the Federal Poverty Level (FPL) per Census 2000 (for 2003 and 2004 estimates) and American Community Survey (2007-2011) (for 2005-2012 estimates), in four categories: Low (<10% FPL), Medium (10%-<20% FPL), High (20%-<30% FPL), and Very High Poverty (≥30% FPL).

There were an additional 26 deaths of undetermined intent.

Source: NYC DOHMH Bureau of Vital Statistics, 2003-2012

- Nearly two-thirds of child injury deaths were unintentional (65%).
- The highest rates of both unintentional and intentional injury death were among non-Hispanic Black children and children aged 1 to 2 years.
- The unintentional injury death rate was higher for boys than for girls (3.0 vs. 1.8), but equal for intentional injury deaths (1.1 vs. 1.1) (rates per 100,000 children).
- The intentional injury death rate among children from high and very high poverty neighborhoods was more than four times the rate among children from low-poverty neighborhoods.
- Overall, nearly nine out of ten intentional child deaths were homicides.
- MV-related injuries were the leading cause of unintentional child injury death across both genders, all race/ethnicities, and all levels of neighborhood poverty.

This report uses the following terms to describe the intent of actions that lead to injury deaths:

Intentional – injury death that occured with the intent to cause death. Intentional deaths are further classified as:

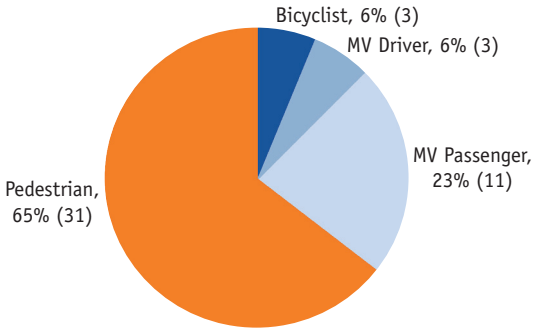
Homicide – intentional injury death resulting from injuries sustained through an act of violence committed by another person with the intent to cause fear, harm or death.

Suicide – intentional injury death resulting from self-directed behavior with an intent to die as a result of that behavior.

Unintentional – injury death that occurred without intent to harm or cause death, also called "accident."

SPECIAL FEATURE: Motor vehicle-related deaths among children aged 1 to 17 years in NYC

Children and youth aged 1-17 years killed by motor vehicle (MV)-related injuries in NYC, 2009-2011, N=48



Source: NYC Office of Chief Medical Examiner, 2009-2011

- Between 2009 and 2011, 23 children aged 1 to 12 years and 25 youth aged 13 to 17 years died from MV-related injuries. Of the 48 child and youth deaths, 65% (N=31) were killed as pedestrians.
- The majority (61%, N=19) of the 31 pedestrians were crossing against the traffic light at an intersection or crossing midblock, such as emerging from between parked cars.
- Crash reports of pedestrian fatalities also cited driver behaviors that contributed to the incidents, such as driver inattention and failure to yield.

Methods note: Information on MV-related deaths included in this special feature was obtained from review of Office of Chief Medical Examiner files of MV-related deaths from 2009-2011 and from the NYC Department of Transportation's (DOT's) Traffic Fatality Database.

Time of day, vehicle type, and distance from home vary among child pedestrian deaths

Factors related to pedestrian fatalities among children and youth aged 1-17 years, 2009-2011

	N	%
Time of day		
Morning (6AM to 10AM)	8	26%
Midday (10AM to 3PM)	5	16%
Afternoon/Evening (3PM to 8PM)	10	32%
Night/Early morning (8PM to 6AM)	7	23%
Vehicle type		
Car	15	48%
SUV/Truck/Van	10	32%
Bus	3	10%
Distance from home		
Less than 2 blocks (0.0 to 0.1 miles)	11	35%
2 to less than 10 blocks (0.1 to 0.5 miles)	8	26%
10 to less than 20 blocks (0.5 to 1.0 miles)	4	13%
20 blocks or more (1.0 or more miles)	8	26%

Sources: NYC Office of Chief Medical Examiner, 2009-2011, Department of Transportation Traffic Fatality Database, 2009-2011.
Due to missing data, numbers will not sum to the total number of pedestrian deaths.

- Nearly one-third (32%, N=10) of the pedestrians killed were hit by motor vehicles during the late afternoon/evening hours between 3PM and 8PM.
- Almost one-half (48%, N=15) of pedestrians killed were hit by cars and nearly one-third (32%, N=10) were hit by a sport utility vehicle (SUV), truck or van.
- Nineteen (61%) pedestrians killed were hit by a motor vehicle within 10 city blocks of their homes. Of these, 11 (58%) were hit within two city blocks.

Recommendations

Parents, caregivers, teachers, and health care providers should:

- Be role models for safe walking. Teach children to:
  - Cross the street at crosswalks or at the corner instead of midblock.
  - Follow pedestrian and traffic signals.
  - Step back from the curb while waiting for the light.
  - Look both ways and listen for cars and bicycles before crossing the street.
- Be role models for safe bike riding. Teach children to:
  - Follow traffic signals and yield to pedestrians.
  - Ride on the sidewalk. Children 12 and younger are allowed to ride on the sidewalk.
  - Wear a helmet. Children 13 and younger have to wear one by law – everyone else should.

Drivers should:

- Drive safely. Obey New York City's 25 MPH default speed limit; yield to pedestrians; never text or talk on the cell phone while driving.
- Keep an eye out for children who may walk out from between parked cars or run into the street.
- Pause and wait before turning. Always expect there to be people in the crosswalks and slow down.

Policy-makers, community leaders, and health care providers should:

- Promote policy and program initiatives for safer streets, especially in neighborhoods where New York City's most vulnerable children live.
- Support street designs that promote traffic safety such as pedestrian islands, bicycle lanes, and signal timing modifications.
- Support focused enforcement to deter the most hazardous violations such as speeding and failure to yield.
- Advocate for state legislation to expand the use of speed and red-light enforcement cameras.
- Educate stakeholders, constituents, and patients on traffic safety.

The New York City Child Fatality Review Advisory Team (CFRAT) – a multidisciplinary committee of representatives from city agencies as well as child welfare and medical experts appointed by the Mayor, the City Council Speaker, and the Public Advocate – was formed in 2006 by Local Law 115 to review and report on injuries as preventable causes of death among NYC children under the age of 13.

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