New York State Department of Health
Bureau of Occupational Health and Injury Prevention

Injury Prevention

An Injury Action Plan for New York State 2012-2021

Injuries are Predictable and Preventable Events!

Table of Contents

List of Tables

List of Figures

Executive Summary

Injuries are a leading cause of morbidity and mortality, and a significant public health problem in New York State (NYS). They are not accidents; rather, they are predictable and preventable events. The purpose of this document is to assist in the guidance of injury prevention efforts in NYS.

The NYS Department of Health (NYSDOH) Bureau of Occupational Health and Injury Prevention (BOHIP) regularly convenes a workgroup of injury prevention stakeholders from across the State. This group, the Injury Community Planning Group (ICPG), has provided valuable insight in the development of this document. This document is a blueprint for state and local action to reduce injuries occurring among New Yorkers.

The Injury Action Plan is divided into sections for each of the following topic areas:

- traumatic brain injuries
- unintentional childhood injuries
- fall prevention among children
- drowning and submersion-related injuries
- child maltreatment
- fire and flame-related injuries
- motor vehicle injuries
- fall prevention among older adults
- unintentional poisonings
- homicide and assault-related injuries
- suicide and self-inflicted injuries

Each section contains: a problem description, the relevant Healthy People 2020 goals, prevention priorities as defined by the ICPG, operational plans for prevention activities (not all being implemented by BOHIP), and additional resources.

Glossary of Acronyms

Acronymn	Full Name
AAA	Automobile Association of America
AAAs	Area Agencies for Aging
AIS	Accident Information System.
BBHS	New York State Department of Health, Bureau of Biometrics and Health Statistics
BEMS & Trauma Services	New York State Department of Health, Bureau of EMS and Trauma Systems
BOHIP	New York State Department of Health, Bureau of Occupational Health and Injury Prevention
BRFSS	Behavior Risk Factor Surveillance System
CBO	Community Based Organizations
CDC	Centers for Disease Control and Prevention
CPSAB	Child Passenger Safety Advisory Board
CPST	Child Passenger Safety Technician
DEC	New York State Department of Environmental Conservation
DMV	New York State Department of Motor Vehicles
DOT	New York State Department of Transportation
ED	Emergency Department
EfC	Essentials for Childhood
EMSC	New York State Emergency Medical Services for Children
FHWA	Federal Highway Administration
GTSC	Governors Traffic Safety Committee
HDDS	Hospital Discharge Data Set
HP2020	Healthy People 2020 (HP2020)
ICRC-S	Injury Control Research Center for Suicide Prevention – housed at the University of Rochester
ITSMR	Institute for Traffic Safety Management and Research
LGBTQ	Lesbian, Gay, Bisexual, Transgender and Questioning
LHD	Local Health Department
MPO	Metropolitan Planning Organization
NCOA	National Council on Aging
NHTSA	National Highway Traffic Safety Administration
NYBC	New York Bike Coalition
NYCDOHMH	New York City Department of Health and Mental Hygeine
NYPTDS	New York Partnership for Teen Driver Safety
NYS	New York State
NYSATSB	New York State Association of Traffic Safety Boards
NYSDOH	New York State Department of Health
NYSOFA	New York State Office for the Aging
OASAS	New York State Office of Alcohol and Substance Abuse Services
OCFS	New York State Office of Children and Family Services
PAG	New York State Department of Health, Public Affairs Group
PCANY	Prevenmt Child Abuse New York
PCR	Prehospital Care Reports The prehospital care reports contain ambulance run information. These are obtained from the New York State Department of Health, Bureau of Emergency Medical Services.
PTA	Parent-Teacher Organization/Association
PWSA	New York State Public Website Administration
NYSED	New York State Education Department
STEADI	Stopping Elderly Accidents, Deaths and Injuries
TBI	Traumatic Brain Injury
USPSTF	United States Preventive Services Task Force
VS	Vital Statistics
WIC	The Special Supplemental Nutrition Program for Women, Infants, and Children
YRBS	Youth Risk Behavioral Survey

An Injury-Free New York

Vision

Through the integration of injury and violence prevention in public health practice throughout NYS, we will decrease the mortality, morbidity, disability and risk of injury. We envision an injury-free New York!

Imagine a New York where:

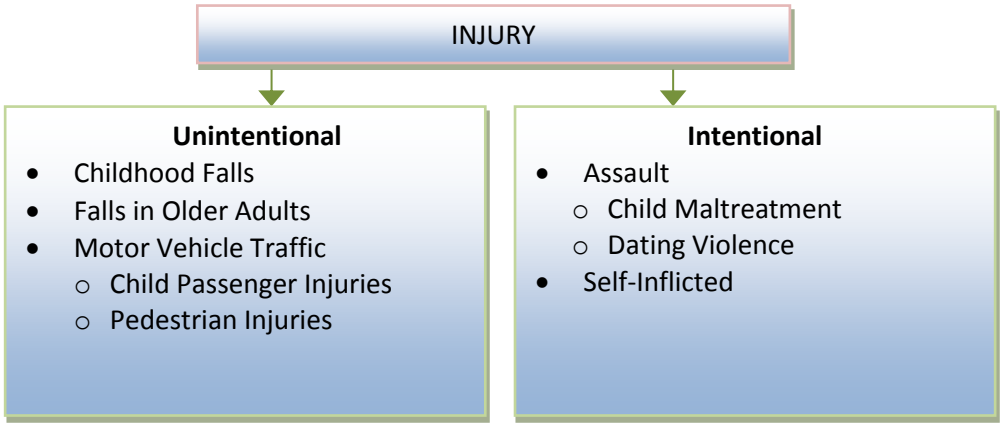
- Every year, more than 7,000 New Yorkers will enjoy productive lives, because they will not die from injuries.
- Children live happy, healthy lives free from injury.
- Every year, more than 18,000 of New York's children will continue to enjoy productive lives because they will not be hospitalized from injuries.
- All children will be able to grow into healthy, happy, and productive adults free of abuse or neglect.
- Every year, more than 39 of New York's children ages 0-14 will still be with their families who love them, because they will not die from motor vehicle crash injuries.
- Every year, more than 33 NYS teen drivers will graduate from high school because they did not die in a motor vehicle crash.
- Thousands of older adults in NYS will be able to maintain their independence and live free from fall-related injuries.
- Families no longer suffer the impact of poisoning.
- Every year, 28 children ages birth to 19 years, who otherwise would have, will not die from drowning in NYS.
- All New Yorkers live to their fullest potential.
- An additional $5 billion is contributing to the economy because New Yorkers will not be paying the costs associated with fatal injuries.

Background

What is an injury?

An injury is any damage to the cells and organs resulting from energy exposure[i]. Injuries may be intentional or unintentional, but these are predictable and preventable events.

Figure 1.1. Examples of Injury

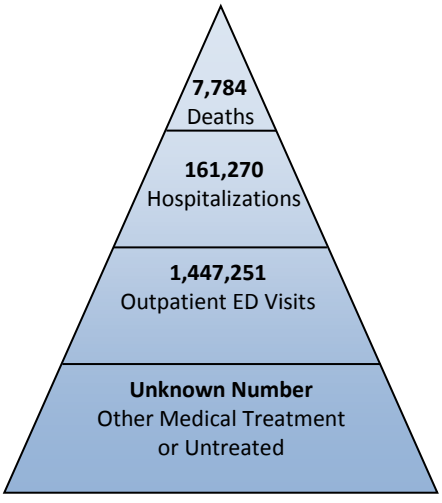


Who do injuries impact?

An injury affects more than just the person who was injured and may impact family members who are often called upon to care for the injured person. This can result in stress, time away from work, and sometimes, lost income. The economic impact of injuries includes the costs associated with medical treatment and lost productivity, such as wages and accompanying fringe benefits, or the ability to perform one's normal household responsibilities. The combined medical and work loss costs for New Yorkers who died due to an injury in 2010 were over $8 billion dollars; whereas the combined costs for those who were hospitalized for an injury in the nation in 2010 were over $230 billion dollars[ii].

What is the magnitude of the injury problem in New York State?

Figure 1.2. Average Yearly Incidence of Injuries, NYS Residents, 2010-2012[iv]



Injuries are a leading cause of death and disability among all age groups in NYS and are the top killer of New Yorkers aged 1-44 years[ii]. Almost 7,800 New Yorkers die every year as a result of an unintentional injury – 21 every day. But injury deaths are only part of the picture. The consequences of non-fatal injuries range from temporary pain and inconvenience, to long-term disability, chronic pain, and a diminished quality of life. Hospitalization and rehabilitation services are often needed. Injuries are consistently among the leading causes of hospitalization for New Yorkers of all age groups. More than 161,000 individuals annually (441 daily) are injured severely enough to require hospitalization. Another 1.4 million unintentionally injured New Yorkers each year (almost 4,000 daily) are treated and released from an emergency department (ED).

INJURIES ARE A PUBLIC HEALTH PROBLEM FOR ALL NEW YORKERS!

How does injury prevention relate to the Healthy People 2020 goals?

Healthy People 2020 (HP2020) is a national initiative that provides science-based objectives for improving the health of all Americans.

National goals: One of the HP2020 national goals is to prevent unintentional injuries and violence, and reduce their consequences. The objectives to accomplish this are many and varied. The overall goals for injury prevention for the United States (US) and NYS are defined in Table 1.1. A complete table of HP2020 injury and violence prevention goals is available online at www.healthypeople.gov.

2010 – 2012 NYS Injury Data

- Deaths
  - Mean annual frequency of 7,784
  - **Rate of 39.8 per 100,000 New Yorkers**
  - 29% sustained a traumatic brain injury
- Hospitalizations
  - Mean annual frequency of 161,270
  - **Rate of 825.4 per 100,000 New Yorkers**
  - 12% sustained a traumatic brain injury
  - Mean charge of $37,142
  - Mean length of stay was 6 days
- Outpatient ED Visits
  - Mean annual frequency of 1,447,251
  - **Rate of 7,407.5 per 100,000 New Yorkers**
  - 8% sustained a traumatic brain injury
  - Mean charge of $1,587

Table 1.1. Overall Healthy People 2020 Goals for Injury Prevention[iii]

Healthy People 2020 Objectives			**National**		**NYS**	
Objective Grouping	**Objective Number**	**Objective Description**	**US 2020 Goal** Rate / 100,000 population	**US Baseline (2007)** Rate / 100,000 population	**NYS 2020 Goal** Rate / 100,000 population	**NYS Baseline (2007-2009)** Rate / 100,000 population
1. Reduce fatal and nonfatal injuries	1.1	Reduce fatal injuries	53.3	59.2	34.2	38.0
	1.2	Reduce hospitalization for nonfatal injuries	555.8	617.6	742.9	825.4
	1.3	Reduce ED visits for nonfatal injuries	7,453.4	8,370.4	6,937.2	7,708.0
11 – 12. Reduce unintentional injury deaths and nonfatal unintentional injuries	11	Reduce unintentional injury deaths	36.0	40.0	22.4	24.9
	12	Reduce nonfatal unintentional injuries	8,297.4	9,219.3 ED visits	6,426.2	7,140.2

Demographic variation in New York State

Injuries impact all New Yorkers, but different populations have higher risk for different injuries. Tables 1.2 through 1.6 illustrate some of the differences among the ages, and Figure 1.4 highlights how the rate of injury varies throughout NYS.

Injuries are a leading cause of death for all New Yorkers, and the leading cause in the first four decades of life.[ii].

Table 1.2. Leading Causes of Death, NYS Residents, 2010-2012[ii]

Rank	Age Groups μ = Mean Annual Frequency									
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+
1	Short Gestation μ=766	Unintentional Injury μ=117	Malignant Neoplasms μ=86	Unintentional Injury μ=117	Unintentional Injury μ=1515	Unintentional Injury μ=1901	Malignant Neoplasms μ=2087	Malignant Neoplasms μ=8627	Malignant Neoplasms μ=19509	Heart Disease μ=113016
2	Congenital Anomalies μ=653	Congenital Anomalies μ=74	Unintentional Injury μ=69	Malignant Neoplasms μ=94	Homicide μ=789	Suicide μ=714	Unintentional Injury μ=1846	Heart Disease μ=5719	Heart Disease μ=12205	Malignant Neoplasms μ=75347
3	Maternal Pregnancy Comp. μ=140	Malignant Neoplasms μ=71	Congenital Anomalies μ=36	Suicide μ=30	Suicide μ=608	Homicide μ=687	Heart Disease μ=1578	Unintentional Injury μ=2655	Unintentional Injury μ=2004	Chronic Low. Respiratory Disease μ=18119
4	SIDS μ=134	Homicide μ=49	Homicide μ=22	Chronic Low. Respiratory Disease μ=24	Malignant Neoplasms μ=302	Malignant Neoplasms μ=647	Suicide μ=816	Suicide μ=1160	Chronic Low. Respiratory Disease μ=1854	Cerebro-vascular μ15911
5	Placenta Cord Membranes μ=124	Heart Disease μ=25	Heart Disease μ=16	Congenital Anomalies μ=23	Heart Disease μ=164	Heart Disease μ=468	HIV μ=422	Liver Disease μ=1019	Diabetes Mellitus μ=1833	Influenza & Pneumonia μ=12230
6	Unintentional Injury μ=110	Cerebro-vascular μ=14	Chronic Low. Respiratory Disease μ=11	Homicide μ=22	Congenital Anomalies μ=93	HIV μ=135	Homicide μ=339	HIV μ=1011	Cerebro-vascular μ=1465	Diabetes Mellitus μ=8583
7	Respiratory Distress μ=99	Influenza & Pneumonia μ=13	Influenza & Pneumonia *	Heart Disease μ=15	Chronic Low. Respiratory Disease μ=46	Diabetes Mellitus μ=82	Liver Disease μ=311	Diabetes Mellitus μ=839	Liver Disease μ=1383	Alzheimer's Disease μ=7730
8	Bacterial Sepsis μ=86	Benign Neoplasms *	Cerebro-vascular *	Influenza & Pneumonia *	HIV μ=44	Cerebro-vascular μ=81	Diabetes Mellitus μ=274	Cerebro-vascular μ=832	Influenza & Pneumonia μ=966	Unintentional Injury μ=5984
9	Circulatory System Disease μ=74	Chronic Low. Respiratory Disease *	Septicemia *	Benign Neoplasms *	Influenza & Pneumonia μ=38	Complicated Pregnancy μ=81	Cerebro-vascular μ=250	Chronic Low. Respiratory Disease μ=595	Suicide μ=804	Nephritis μ=5953
10	Diarrhea μ=65	Perinatal Period *	Anemias *	Septicemia *	Complicated Pregnancy μ=31	Influenza & Pneumonia μ=79	Influenza & Pneumonia μ=143	Influenza & Pneumonia μ=446	HIV μ=755	Septicemia μ=5516

Unintentional Intentional

Source: CDC WISQARS data.
*means bassed on counts less than 10 are not reported

Males are twice as likely to die due to an injury compared to females**.** The highest rate of deaths and hospitalizations are for ages 65 and older, whereas the highest rate of ED visits are for ages 1-4. For children, the highest rate of death and hospitalizations are for those under age 1[iii,iv]. Over a quarter of those who die due to an injury sustain a Traumatic Brain Injury (TBI). Table 1.3 highlights some of the differences between males and females, young and old.

Table 1.3. Incidence of Deaths, Hospitalizations and ED† Visits due to Injury among NYS Residents, 2010-2012[iv]

Characteristics	Deaths		Hospitalizations		ED Visits	
	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	7,784	39.8	161,425	826.2	1,447,251	7,407.5
Age Group						
0<1	84	34.9	1,040	432.3	13,998	5,820.7
1-4	55	5.8	3,035	320.8	104,854	11,082.9
5-9	27	2.3	2,087	178.2	87,310	7,454.2
10-14	53	4.4	2,799	234.6	111,210	9,323.1
15-19	311	23.4	6,494	489.7	133,457	10,062.8
20-24	619	43.6	7,991	563.1	139,113	9,803.3
25-34	1,069	39.4	13,544	499.2	224,047	8,257.3
35-44	979	38.0	13,436	522.0	178,854	6,948.5
45-54	1,358	47.2	19,426	674.9	179,570	6,238.9
55-64	986	41.4	19,133	803.0	118,626	4,978.9
65+	2,236	83.0	72,441	2,689.3	156,213	5,799.4
Gender						
Male	5,372	56.6	80,099	844.4	764,718	8,061.6
Female	2,412	24.0	81,324	809.1	682,502	6,789.9
Unknown	*	*	2	n/a	31	n/a
Mean Charge per Hospitalization or ED Visit	n/a		$37,165		$1,587	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$6.0 Billion		$2.3 Billion	
Average Length of Hospital Stay (Days)	n/a		6		n/a	

†The incidence of ED visits does not include patients who were subsequently admitted into the hospital
Rate = Frequency/Population *100,000
*Data based on frequencies less than six are not reported
**Caution: Rates based on frequencies less than 20 are unstable

In addition to varying rates of injury, different injuries are more common for different age groups (Tables 1.4 - 1.6).

What are the leading causes of injury in New York State?

The leading causes of deaths, hospitalizations and ED visits are described in Tables 1.4 – 1.6. Overall, falls are the leading cause of injury-related hospitalizations (Figure 1.3) and ED visits for almost all age groups and the leading cause of injury related death for those 65 years and older[iii,iv]. Motor vehicle traffic injuries, including occupants, pedestrians, bicyclists, and motorcyclists, are a leading cause of deaths, hospitalizations, and ED visits for all ages[iii,iv].

Table 1.4. Deaths Due to Injury, Leading Causes by Age Group, NYS Residents, 2010-2012[iii]

	Age Group μ = Mean Annual Frequency										
Rank	0<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-65	65+
1	Suffocation μ=27	Homicide μ=16	Homicide μ=6	Suicide μ=10	Homicide μ=96	Homicide μ=159	Poisoning μ=306	Poisoning μ=307	Poisoning μ=450	Suicide μ=259	Fall μ=1,013
2	Homicide μ=14	Suffocation μ=7	MVT^, Unspecified μ=5	MVT^, Pedestrian μ=8	Suicide μ=73	Poisoning μ=123	Suicide μ=229	Suicide μ=263	Suicide μ=374	Poisoning μ=234	Suicide μ=254
3	Unspecified *	MVT^, Pedestrian μ=5	Fire/Flame μ=4	Homicide μ=7	MVT^, Occupant μ=30	Suicide μ=118	Homicide μ=219	Homicide μ=107	Homicide μ=86	Fall μ=111	Unspecified μ=196
4	MVT^, Occupant *	Fire/Flame μ=4	MVT^, Pedestrian μ=4	MVT^Unspecified μ=4	MVT^, Unspecified μ=29	MVT^, Unspecified μ=52	MVT^, Unspecified μ=49	MVT^, Motorcyclist μ=36	Fall μ=69	MVT^, Pedestrian μ=48	Suffocation μ=136
5	Fall *	MVT^, Unspecified μ=3	Suffocation *	Fire/Flame μ=3	Poisoning μ=23	MVT^, Occupant μ=43	MVT^, Occupant μ=44	MVT^, Unspecified μ=33	MVT^, Unspecified μ=47	Homicide μ=40	MVT^, Pedestrian μ=102

Unintentional Intentional

MVT^ = Motor Vehicle Traffic
* Means less than 2 are not reported

Table 1.5. Hospitalizations Due to Injury, Leading Causes by Age Group, NYS Residents, 2010-2012[iv]

	Age Group μ = Mean Annual Frequency										
Rank	0<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-65	65+
1	Fall μ=407	Fall μ=938	Fall μ=880	Fall μ=763	Self-Inflicted μ=1,399	Assault μ=1,634	Self-Inflicted μ=2,171	Fall μ=2,944	Fall μ=5,841	Fall μ=8,636	Fall μ=52,536
2	Hot Object/Scald μ=117	Poisoning μ=435	Natural/ Environmental μ=153	Self-Inflicted μ=290	Assault μ=1,204	Self-Inflicted μ=1,437	Fall μ=2,148	Self-Inflicted μ=1,995	Poisoning μ=2,308	Poisoning μ=1,669	Unspecified μ=4,661
3	Assault μ=87	Hot Object/Scald μ=426	MVT^, Pedestrian μ=137	Struck By, Against μ=270	Fall μ=782	Fall μ=902	Assault μ=2,108	Poisoning μ=1,420	Self-Inflicted μ=1,967	Unspecified μ=1,386	Poisoning μ=2,078
4	Unspecified μ=77	Natural/ Environmental μ=259	Struck By, Against μ=133	MVT^, Pedestrian μ=201	MVT^, Occupant μ=633	MVT^, Occupant μ=880	Poisoning μ=1,111	Assault μ=1,310	Unspecified μ=1,194	Self-Inflicted μ=919	MVT^, Occupant μ=1,563
5	Suffocation μ=56	Struck By, Against μ=126	Hot Object/Scald μ=87	Assault μ=176	Struck By, Against μ=363	Poisoning μ=541	MVT^, Occupant μ=1,083	MVT^, Occupant μ=773	Assault μ=1,159	MVT^, Occupant μ=824	Natural/ Environmental μ=1,133

Unintentional Intentional

MVT^ = Motor Vehicle Traffic
* Means less than 2 are not reported

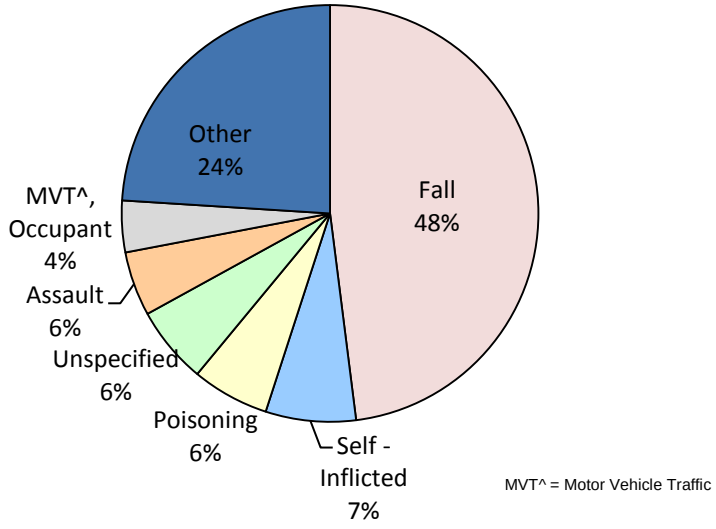
Table 1.6. ED Visits Due to Injury, Leading Causes by Age Group, NYS Residents, 2010-2012

	Age Group μ = Mean Annual Frequency										
Rank	0<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+
1	Fall μ = 7,283	Fall μ = 43,695	Fall μ = 30,735	Fall μ = 29,891	Struck By, Against μ = 26,336	Fall μ = 21,135	Fall μ = 37,715	Fall μ = 35,299	Fall μ = 45,228	Fall μ = 41,255	Fall μ = 88,930
2	Struck By, Against μ = 1,265	Struck By, Against μ = 15,555	Struck By, Against μ = 17,734	Struck By, Against μ = 27,152	Fall μ = 22,481	Struck By, Against μ = 16,882	Struck By, Against μ = 25,137	Overexertion μ = 20,674	Overexertion μ = 18,563	Cut / Pierce μ = 10,596	Unspecified μ = 11,674
3	Unspecified μ = 864	Natural / Environmental μ = 8,784	Natural / Environmental μ = 6,500	Overexertion μ = 10,826	Overexertion μ = 14,196	Assault μ = 15,436	Overexertion μ = 24,330	Struck By, Against μ = 18,972	Struck By, Against μ = 17,136	Struck By, Against μ = 9,739	Struck By, Against μ = 8,864
4	Natural / Environmental μ = 691	Unspecified μ = 5,376	Cut / Pierce μ = 5,287	Cut / Pierce μ = 6,296	Assault μ = 12,829	MVT^, Occupant μ = 15,270	Cut / Pierce μ = 23,562	Cut / Pierce μ = 18,149	Cut / Pierce μ = 16,849	Unspecified μ = 9,515	Cut / Pierce μ = 7,773
5	MVT^, Occupant μ = 484	Cut / Pierce μ = 4,276	Unspecified μ = 4,110	Unspecified μ = 5,756	MVT^, Occupant μ = 10,491	Cut / Pierce μ = 14,042	MVT^, Occupant μ = 22,186	MVT^, Occupant μ = 16,529	MVT^, Occupant μ = 15,534	Overexertion μ = 9,410	MVT^, Occupant μ = 7,405

MVT^ = Motor Vehicle Traffic
* Means less than 2 are not reported

Unintentional Intentional

Figure 1.3. Leading Causes of Injury Hospitalizations Among New Yorkers of All Ages, 2010-2012[iv]

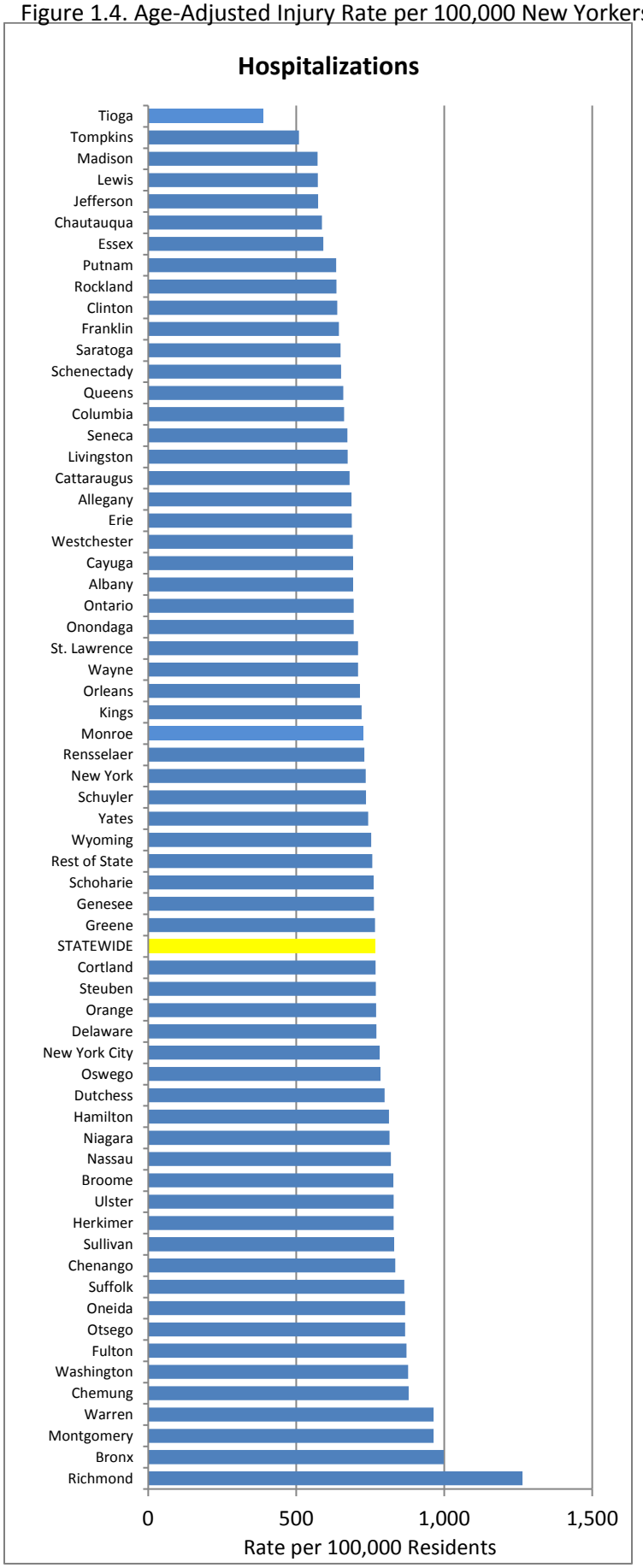


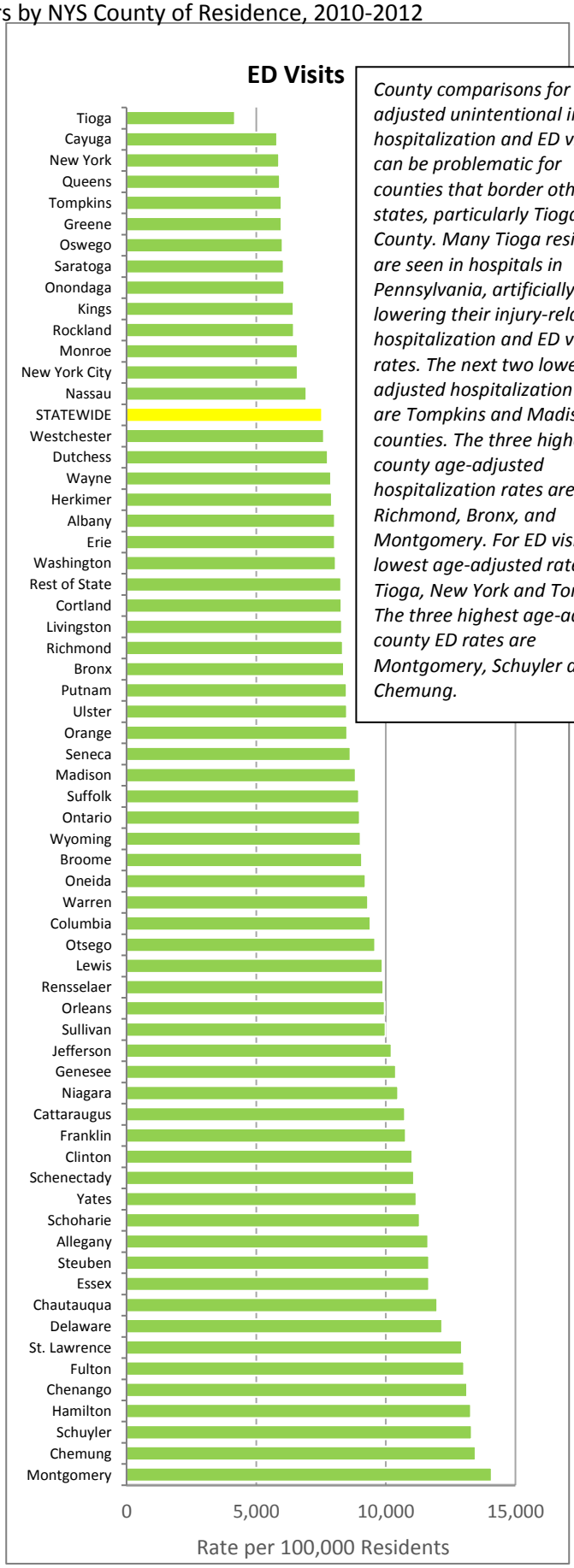
NYSDOH Injury Prevention Philosophy

The NYSDOH follows the public health model for injury prevention[iv]. The model consists of the following steps:

1. Define the problem through surveillance;
2. Conduct in-depth research to identify risk factors associated with high risk populations and intervention strategies;
3. Identify existing or develop new injury prevention products;
4. Disseminate the injury prevention products to high risk populations;
5. Promote widespread implementation of the injury prevention products; and
6. Evaluate and monitor the impact of injury prevention products.

Figure 1.4. Age-Adjusted Injury Rate per 100,000 New Yorkers by NYS County of Residence, 2010-2012





County comparisons for age-adjusted unintentional injury hospitalization and ED visits can be problematic for counties that border other states, particularly Tioga County. Many Tioga residents are seen in hospitals in Pennsylvania, artificially lowering their injury-related hospitalization and ED visit rates. The next two lowest age-adjusted hospitalization rates are Tompkins and Madison counties. The three highest county age-adjusted hospitalization rates are Richmond, Bronx, and Montgomery. For ED visits, the lowest age-adjusted rates are Tioga, New York and Tompkins. The three highest age-adjusted county ED rates are Montgomery, Schuyler and Chemung.

*Rest of State Includes all of NYS, excluding NYC

The adoption of injury prevention products, whether they are behavioral recommendations or new technologies, is central to the success of any injury prevention program. These products are most likely to be adopted when they have a relative advantage, are compatible with the adopters' beliefs, are simple, can be undertaken on a trial basis, and are easily observed.

Working partnerships, integrating epidemiology, social and behavioral sciences, are formed to address newly emerging safety concerns. Target populations are directly involved in planning, communication, and evaluation to make the process both knowledge- and client-driven and to effectively address needs.

Social marketing strategies are helping to get injury prevention information to the decision makers who need to be convinced of the need for change. Health communication and dissemination efforts have direct involvement from multidisciplinary partners that have been engaged through NYSDOH's injury prevention efforts. The NYSDOH has close connections with partners and has placed an emphasis on the needs of high-risk populations. Social marketing strategies enhance overall collaboration between partners and augment existing prevention efforts, allowing for the efficienct communication of health messages across multiple settings and audiences.

Intervention strategies are coordinated by multiple programs to reduce the morbidity and mortality associated with injuries. The NYSDOH provides technical assistance to community-based organizations to facilitate the integration of injury prevention strategies into their ongoing activities. Collaborations with partners increase opportunities to: implement injury prevention interventions through a variety of channels, educate the general public, and target populations about their injury risks. NYSDOH also conducts surveillance of injuries, and their causes and consequences.

State efforts to prevent unintentional injuries focus on improving child passenger safety and occupant restraint, driver safety, bicycle and pedestrian safety, preventing falls among children and older adults, and reducing the risk of poisoning, choking, fires and burns. Raising awareness about the causes of these injuries is important to prevent them and reduce the adverse consequences. A public health approach to the prevention of injuries involves collaboration between state and local authorities, community-based organizations, and private sector partners to support services and policies proven to reduce the risk of injury. This depends on identifying community needs and assets, building and sustaining partnerships to implement prevention programs, and measuring their success.

Maintaining and Improving Injury Surveillance in New York State

Goals

Using death, Hospital Discharge Data Set (HDDS), and ED data, the Bureau of Occupational Health and Injury Prevention (BOHIP) routinely analyzes and disseminates information on injuries. Internally, the data is used to guide program decisions and to evaluate program activities. BOHIP also uses injury data to respond to data requests from county health departments and other stakeholders.

Priorities

1. To continually update and improve injury surveillance in NYS.
2. To use injury surveillance to guide public health prevention efforts.

Table 2.1. BOHIP Data Sources

Data Source	Description	Key Partners
Multiple Causes of Death File (MCD)	Source of mortality data that describes etiology and pathology due to injury: coded from death certificates according to ICD-9 codes (prior to 1999) and ICD-10 codes (1999 and later).	BBHS
Vital Statistics Death File	Information from death certificates that contains data on the underlying cause of death, classified according to ICD-9 codes (prior to 1999) and ICD-10 codes (1999 and later.	BBHS
Hospital Discharge Data Set (HDDS)	Collects information on every inpatient hospitalization in NYS, contains reasons for hospitalization, demographics, and etiology recorded as the external-cause-of-injury codes (E-codes).	BBHS
ED Data Set	Collects information on every patient treated at an ED in NYS, and contains the reason for ED visit, demographics, and E-codes.	BBHS
Prehospital Care Reports (PCR)	Database of reports detailing medical emergencies. Reports are submitted by all NYS certified EMS responding agencies. Database contains medical, transport, and incidence information.	BEMS and Trauma Systems
Accident Information System (AIS)	Database of motor vehicle crashes in NYS. Contains police accident reports, accident reports submitted by motorists, and ticketing information. The AIS includes crash factors, conditions, and the police injury assessment.	ITSMR, NYS DMV
Crash Outcome Data Evaluation System (CODES)	Linked Dataset containing: HDDS, ED, PCR, and AIS. Provides medical and financial outcome information about injuries that occurred as a result of motor vehicle crashes, creating a more complete picture of the crash.	NHTSA, ITSMR, NYS DMV, GTSC, BBHS, BEMS and Trauma Systems
Behavioral Risk Factor Surveillance System (BRFSS)	State-based health survey; collects information on health risk behaviors, including those related to injury.	Division of Chronic Disease Prevention
Youth Risk Behavior Survey (YRBS)	State-based health survey; collects information on health risk behaviors, including those related to injury among youth and young adults.	NYSED
Poison Control Center Data	Poison control call data captured by the two NYS Poison Control Centers.	NYS Office of Health Emergency Preparedness

Traumatic Brain Injuries

Problem description

A traumatic brain injury (TBI) is an injury to the brain or skull caused by an external force, such as a strike or impact. ***Brain injuries are often permanent and disabling***, unlike other injuries, such as broken legs or cuts that can heal. The leading causes of TBIs are falls, motor vehicle crashes, and assault [iii,iv] (Tables 3.1 – 3.3).

Table 3.1. The leading causes of TBI-related deaths by age group, NYS residents, 2010-2012[iii]

Age Groups μ = Mean Annual Frequency									
Rank	<1	1-4	5-9	10-14	15-19	20-24	25-44	45-64	65+
1	Homicide μ = 4	Homicide μ = 5	MVT^, Unspecified μ = 3	MVT^, Pedestrian μ = 5	Homicide μ = 24	Homicide μ = 46	Suicide μ = 135	Suicide μ = 192	Fall μ = 558
2	*	MVT^, Pedestrian μ = 3	MVT^, Pedestrian μ = 2	Homicide μ = 3	Suicide μ = 23	Suicide μ = 36	Homicide μ = 116	Fall μ = 124	Suicide μ = 115
3	*	*	*	Suicide μ = 2	MVT^, Unspecified μ = 16	MVT^, Unspecified μ = 30	MVT^, Pedestrian μ = 44	Homicide μ = 56	MVT^, Pedestrian μ = 52
4	*	*	*	MVT^, Unspecified μ = 2	MVT^, Occupant 13	MVT^, Occupant μ = 20	MVT^, Occupant μ = 36	MVT^, Pedestrian μ = 49	Unspecified μ = 32
5	*	*	*	*	MVT^, Pedestrian μ = 9	MVT^, Pedestrian μ = 14	MVT^, Unspecified μ = 35	MVT^, Unspecified μ = 30	MVT^, Unspecified μ = 29

Unintentional Intentional

MVT^ = Motor Vehicle Traffic
* Means less than 2 are not reported

Table 3.2. The leading causes of TBI-related hospitalizations by age group, NYS residents, 2010-2012[iv]

Age Groups μ = Mean Annual Frequency									
Rank	0<1	1-4	5-9	10-14	15-19	20-24	25-44	45-64	65+
1	Fall μ = 328	Fall μ = 268	Fall μ = 143	Fall μ = 129	MVT^, Occupant μ = 291	MVT^, Occupant μ = 352	Fall μ = 832	Fall μ = 2,213	Fall μ = 6,814
2	Assault μ = 38	Struck By, Against μ = 42	MVT^, Pedestrian μ = 57	MVT^, Pedestrian μ = 83	Assault μ = 226	Assault μ = 313	Assault μ = 769	MVT^, Occupant μ = 534	MVT^, Occupant μ = 359
3	Unspecified μ = 19	MVT^, Pedestrian μ = 25	Struck By, Against μ = 39	Struck By, Against μ = 69	Fall μ = 174	Fall μ = 172	MVT^, Occupant μ = 647	Assault μ = 457	MVT^, Pedestrian μ = 227
4	Struck By, Against μ = 16	MVT^, Occupant μ = 19	MVT^, Occupant μ = 25	Pedal Cyclist, Non-Traffic μ = 45	MVT^, Pedestrian μ = 96	MVT^, Pedestrian μ = 86	MVT^, Pedestrian μ = 253	MVT^, Pedestrian μ = 323	Struck By, Against μ = 132
5	MVT^, Occupant μ = 6	Assault μ = 9	Pedal Cyclist, Non-Traffic μ = 13	Assault μ = 41	Struck By, Against μ = 78	MVT^, Motorcyclist μ = 77	MVT^, Motorcyclist μ = 163	MVT^, Motorcyclis t μ = 126	Unspecified μ = 79

MVT^ = Motor Vehicle Traffic
* Means less than 2 are not reported

Unintentional Intentional

Table 3.3. The leading causes of TBI-related ED visits by age group, NYS residents, 2010-2012[iv]

Age Groups μ = Mean Annual Frequency									
Rank	<1	1-4	5-9	10-14	15-19	20-24	25-44	45-64	65+
1	Fall μ = 4,047	Fall μ = 9,545	Fall μ = 3,991	Struck By, Against μ = 3,948	Struck By, Against μ = 3,933	Assault μ = 2,444	Fall μ = 6,183	Fall μ = 9,385	Fall μ = 17,820
2	Struck By, Against μ = 485	Struck By, Against μ = 2,519	Struck By, Against μ = 2,452	Fall μ = 3,237	Fall μ = 2,853	Fall μ = 2,192	Assault μ = 4,818	Struck By, Against μ = 3,059	Struck By, Against μ = 1,220
3	Unspecified μ = 74	Unspecified μ = 211	MVT^, Occupant μ = 287	Assault μ = 826	Assault μ = 2,223	Struck By, Against μ = 1,838	Struck By, Against μ = 4,550	MVT^, Occupant μ = 2,132	MVT^, Occupant μ = 731
4	MVT^, Occupant μ = 28	MVT^, Occupant μ = 152	Pedal Cyclist, Non-Traffic μ = 252	Pedal Cyclist, Non-Traffic μ = 354	MVT^, Occupant μ = 1,427	MVT^, Occupant μ = 1,745	MVT^, Occupant μ = 3,409	Assault μ = 1,950	Unspecified μ = 381
5	Assault μ = 20	Pedal Cyclist, Non-Traffic μ = 99	Unspecified μ = 153	MVT^, Occupant μ = 335	Unspecified μ = 279	Unspecified μ = 254	Unspecified μ = 673	Unspecified μ = 563	Assault μ = 222

Unintentional Intentional

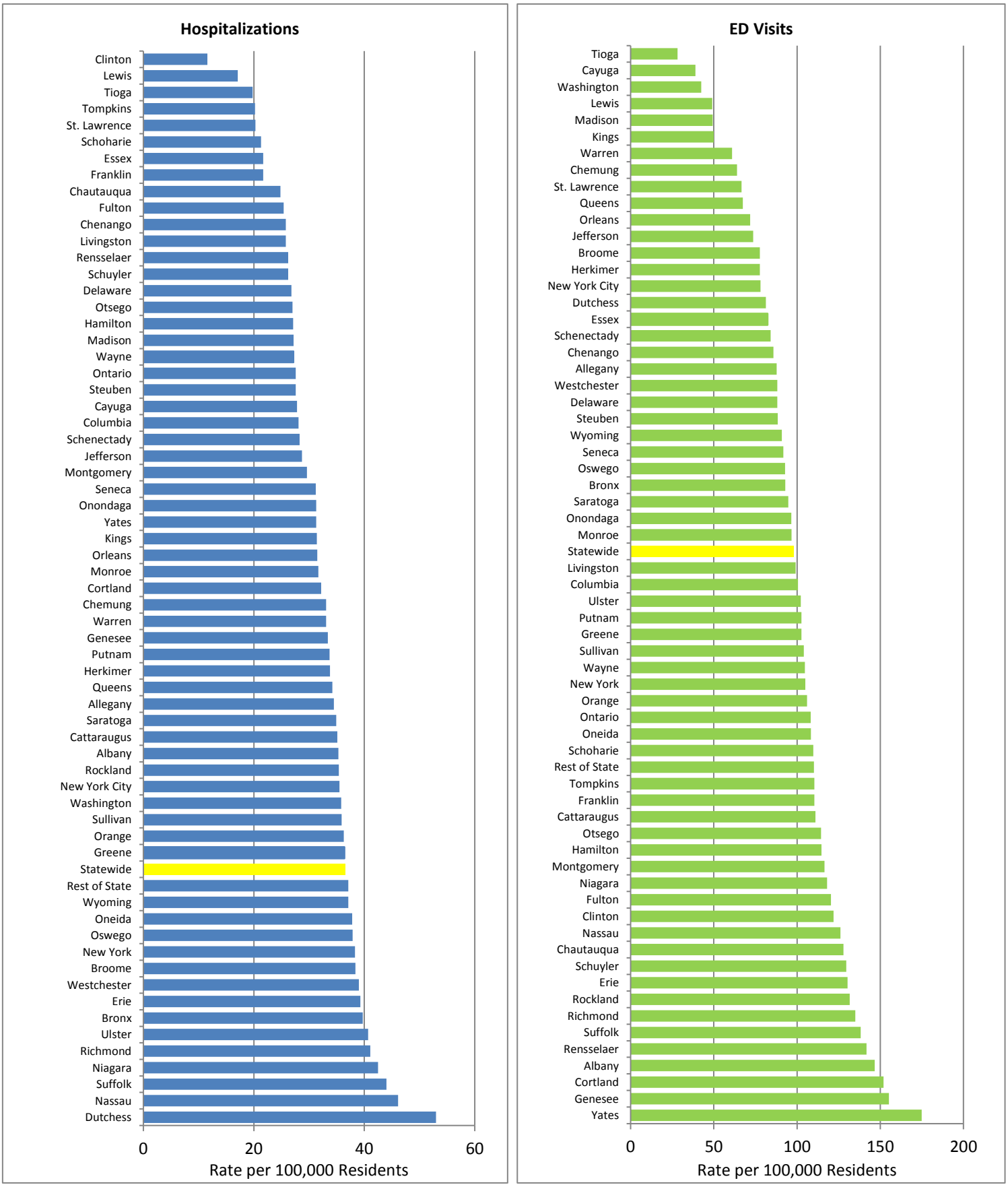
MVT^ = Motor Vehicle Traffic
* Means less than 2 are not reported

Traumatic brain injuries impact New Yorkers in every county of the state. However, the burden of injury is not evenly distributed throughout the 62 counties. Figure 3.1 highlights the distribution of traumatic brain injuries in NYS from 2010-2012.

For TBI-related hospitalizations, the three counties with the lowest age-adjusted rates of hospitalization were Clinton, Lewis, and Tioga. Conversely, the counties with the highest rates of traffic-related hospitalizations were Suffolk, Nassau, and Dutchess[iv].

For ED visits, the counties with the lowest age-adjusted rates were Tioga, Cayuga, and Washington. The three highest age-adjusted county ED rates were Cortland, Genesee, and Yates[iv].

Figure 3.1. Age-Adjusted TBI Rate per 100,000 New Yorkers by NYS County of Residence, 2010-2012



*Rest of State Includes all of NYS, excluding NYC

From 2010-2012, TBIs contributed to an average of 2,279 deaths each year among New Yorkers[iii]. There were also 120,409 discharged people who were treated at hospitals for TBIs. Of those, 19,368 were injured severely enough to require inpatient treatment[iv] (Table 3.4).

Table 3.4. Incidence of Deaths, Hospitalizations and ED Visits related to TBIs among NYS Residents, 2010-2012[iii,iv]

	Deaths		Hospitalizations		ED Visits	
Charateristics	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	2,279	11.7	19,368	99.1	120,409	616.3
Age Group						
0<1	8	3.2	434	180.3	4,779	1,987.4
1-4	16	1.7	388	41.0	13,074	1,381.9
5-9	9	0.7	314	26.8	7,740	660.8
10-14	18	1.5	487	40.8	9,675	811.1
15-19	104	7.8	1,055	79.5	12,221	921.5
20-24	181	12.8	1,186	83.6	9,737	686.1
25-44	492	9.3	3,200	60.5	22,409	423.8
45-64	585	11.1	4,247	80.7	19,206	365.1
65+	866	32.1	8,056	299.1	21,569	800.7
Gender						
Male	1,659	17.5	11,701	123.3	62,750	661.5
Female	619	6.2	7,667	76.3	57,656	573.6
Unknown	0	n/a	0	n/a	*	n/a
Mean Charge per Hospitalization or ED Visit	n/a		$46,274		$2,551	
Three Year Total Hospitalization or ED Visit Charges	n/a		$2.7 Billion		$921.5 Million	
Average Length of Hospital Stay (Days)	n/a		6		n/a	

[†]The incidence of ED visits does not include patients who were subsequently admitted into the hospital

Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

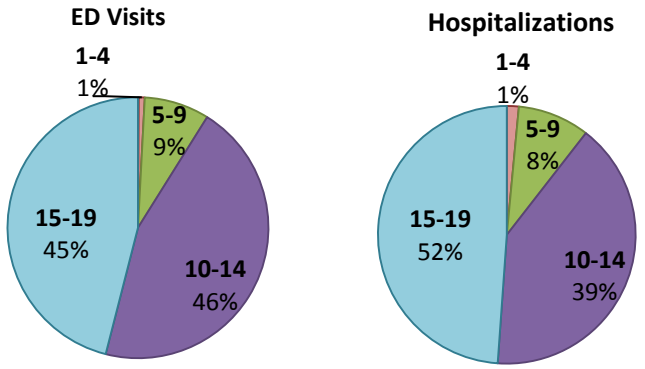
Not only are TBIs a significant source of morbidity and mortality in NYS, ***TBIs are an economic burden to the people of NYS***.

- $ The CDC estimates that the medical costs for TBI-related fatalities among New Yorkers in 2010 were more than $28 million. The work loss costs, however, were almost $1.4 billion[ii].
- $ Each year, NYS hospitals combined inpatient and outpatient charges related to TBIs are close to $1 billion[iv].
- $ The average hospitalization charge for a New Yorker with a TBI is over $40,000[iv]. This does not include rehabilitation services, if required.

Sports

Sports injuries are most common among children aged 10 to 19 years. Every year, over 5,000 children 19 years old and younger in NYS are treated at hospitals for a brain injury that occurred as a result of a fall at a place for sports and recreation[iv]. However, concussions, a mild form of brain injury, are often treated elsewhere, such as by a school nurse or primary care physician. Figure 5.3 provides an age breakdown of the children diagnosed with a brain injury following a fall at a place for sports and recreation.

Figure 5.3. Age groups of children diagnosed with a TBI at a hospital following a fall in a place for sports and recreation, NYS residents, Ages 0-19, 2010- 2012



***Sports injuries are defined using external cause of injury codes: E886.0, E917.0, E917.5

The Healthy People 2020 goals for the US and NYS are shown in Table 3.5. The objectives for NYS include reducing the morbidity and mortality associated TBI. NYSDOH is working with its partners to:

1. ***Protect New Yorkers from fall-related injuries.*** Falls account for more than one-third of the TBI-related deaths, and almost half of the TBI-related hospitalizations and ED visits among New Yorkers. Each year, falls result in an average of 726 deaths[iii], 10,389 hospitalizations, and 47,573 ED visits where TBIs are diagnosed[iv].
2. ***Protect New Yorkers on the road.*** Motor vehicle crashes account for almost a quarter of TBI-related deaths and hospitalizations among New Yorkers[iii,iv]. Each year, motor vehicle crashes result in 485 deaths[iii], 4,652 hospitalizations, and 11,358 ED visits[iv] where TBIs are diagnosed. These injuries can occur to vehicle occupants, motorcyclists, bicyclists, and pedestrians.
3. ***Protect New Yorkers while active in sports.*** TBIs can happen in any sport and should always be taken seriously.
    - TBIs most often occur in **contact sports**, such as football, rugby, or ice hockey. Each year, an average of 5,473 New Yorkers are treated at hospitals for sports-related injuries; 228 of them are injured severely enough to require inpatient treatment[iv].
    - In addition, **wheeled recreation** such as bicycling, roller-skating, skateboarding, and riding non-motorized scooters can also lead to TBIs. An annual average of 3,119 New Yorkers are diagnosed with TBIs at hospitals following wheeled recreational incidents, 637 of these New Yorkers are injured severely enough to require inpatient treatment[iv].
    - **Winter sports**, such as skiing and snowboarding can also lead to TBIs. Each year, falls from skis and snowboards result in the diagnosis of 531 TBIs at the hospital[iv].

Table 3.5. HP2020 Objectives: Reducing fatal and nonfatal TBIs[v].

Healthy People 2020 Objectives		National		NYS	
Objective Number	**Objective Description**	**US 2020 Goal** Per/100,000 population	**US Baseline (2007)** Per/100,000 population	**NYS 2020 Goal** Per/100,000 population	**NYS Baseline (2007-2009)** Per/100,000 population
2.1	Reduce fatal TBI	15.6	17.3	9.8	10.9
2.2	Reduce hospitalization for nonfatal TBI	77.0	85.6	87.8	97.6
2.3	Reduce emergency department visits for nonfatal TBI	366.5	407.2	453.7	504.1

Traumatic Brain Injury Data and Resources

National Data and Resources

- Centers for Disease Control and Prevention (www.cdc.gov)
    - Traumatic Brain Injury (www.cdc.gov/TraumaticBrainInjury/)
- National Highway Traffic Safety Administration (NHTSA) (www.nhtsa.gov)

NYS Data and Resources

- NYSDOH, TBI-specific resources and data (www.health.ny.gov/prevention/injury_prevention/traumatic_brain_injury)
- Brain Injury Association of NYS
    - The Brain Injury Association of NYS (www.bianys.org/)

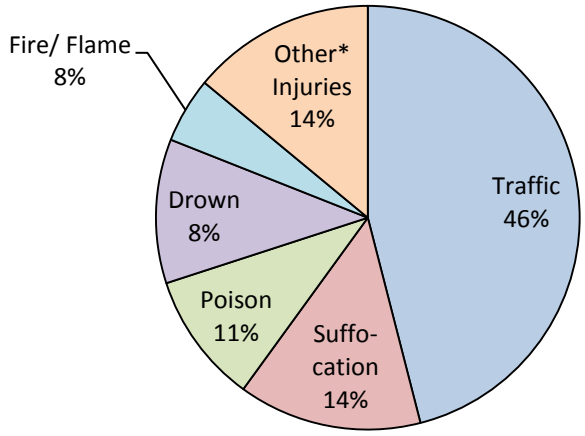
Unintentional Childhood Injury in New York State

Problem Description

Injuries are the leading cause of death for children (ages 1-19) in NYS. Every year, more of New York's children die from unintentional injuries than die from malignant neoplasms, congenital anomalies, heart disease, influenza, pneumonia, chronic lower respiratory disease, benign neoplasms, and septicemia *combined*[ii].

Different age groups are at higher risk for certain types of unintentional injuries. Figures 4.1 - 4.3 show the leading causes of unintentional injury among children (ages 0-19). Traffic-related injuries, suffocation, poisoning, drowning, and fire/flame-related injuries are the leading causes of unintentional injury deaths for children in NYS[iii]. Falls are the leading cause of nonfatal unintentional injuries for NYS children[iv]. Tables 1.4 - 1.6 show the incidence of the leading injury etiologies across the age groups.

Figure 4.1. Leading Causes of Deaths Due to Unintentional Injuries among NYS Children, Ages 0-19, 2010-2012[iii]



*"Other injuries" indicates the sum of all injury etiologies other than the leading etiologies shown in the pie charts. The presence of an etiology in a figure means that it is one of the top five leading causes of injury for that level of care. For example, suffocation is one of the top five leading causes for injury-related deaths among children. While this is an important cause of ED visits, suffocations are not one of the top five injury etiologies for hospitalizations.

Figure 4.2. Leading Causes of Hospitalizations Due to Unintentional Injuries among NYS Children, Ages 0-19, 2010-2012[iv]

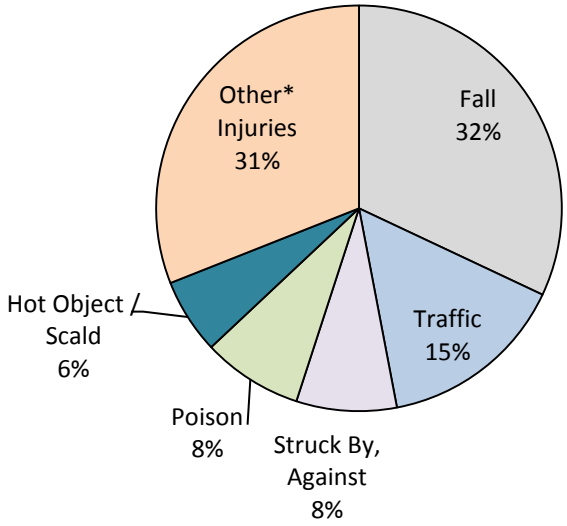
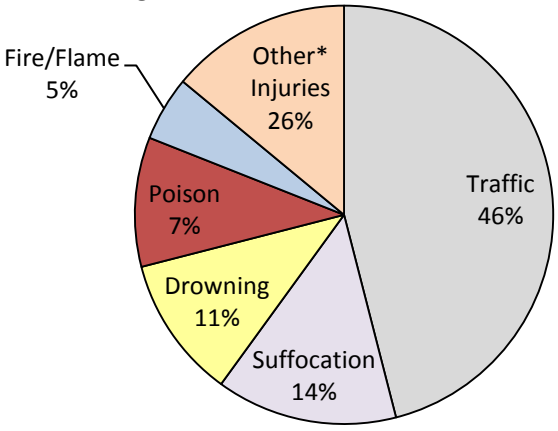


Figure 4.3. Leading Causes of Emergency Department (ED) Visits Due to Unintentional Injuries among NYS Children, Ages 0-19, 2010-2012[iv]



The burden of injury is not evenly distributed throughout the 62 counties. Figure 4.4 highlights the distribution of unintentional injuries among New York's children from 2010-2012.

The three counties with the lowest age-adjusted rates of unintentional injury-related hospitalizations were Tompkins, Clinton, and Franklin. Conversely, the counties with the highest rates of unintentional injury-related hospitalizations were Fulton, Greene and Richmond [iv].

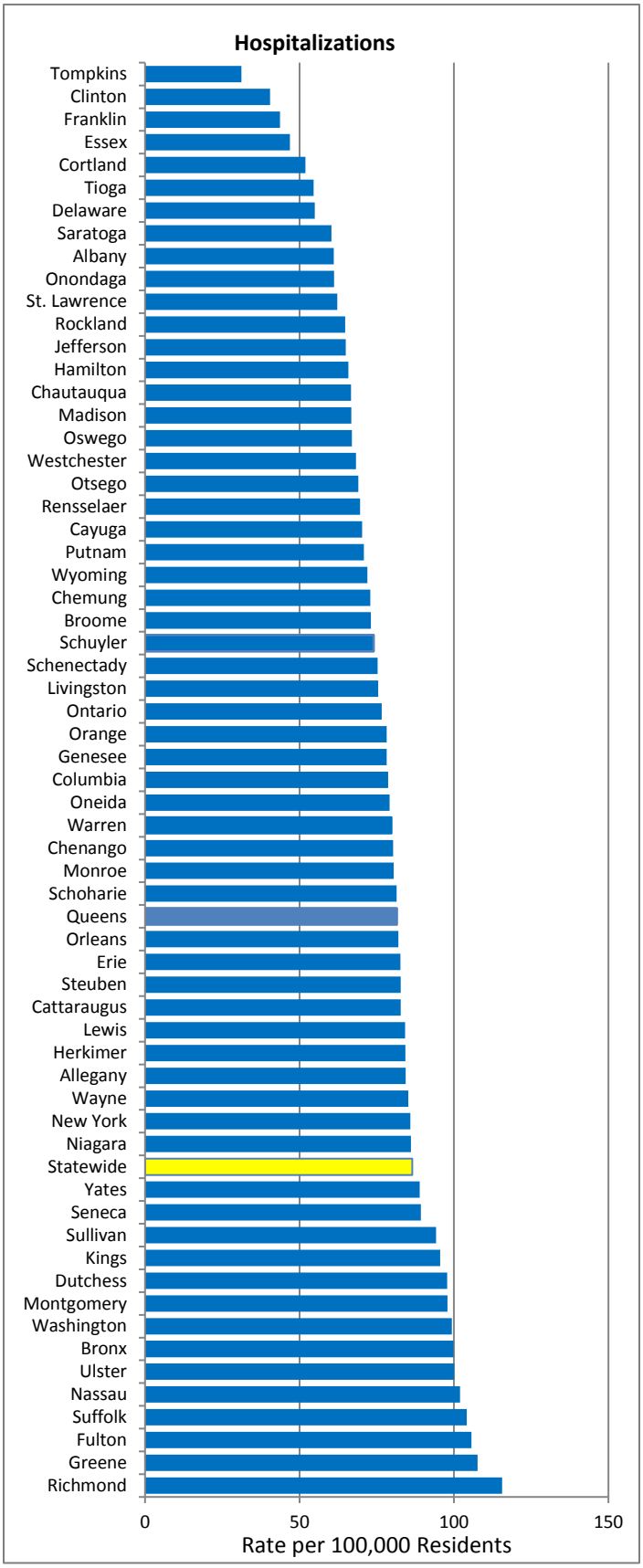
For ED visits, the counties with the lowest age-adjusted rates were Cortland, Tioga, and Onondaga residents. The three highest age-adjusted county ED rates were Chenango, Schuyler, and Hamilton [iv].

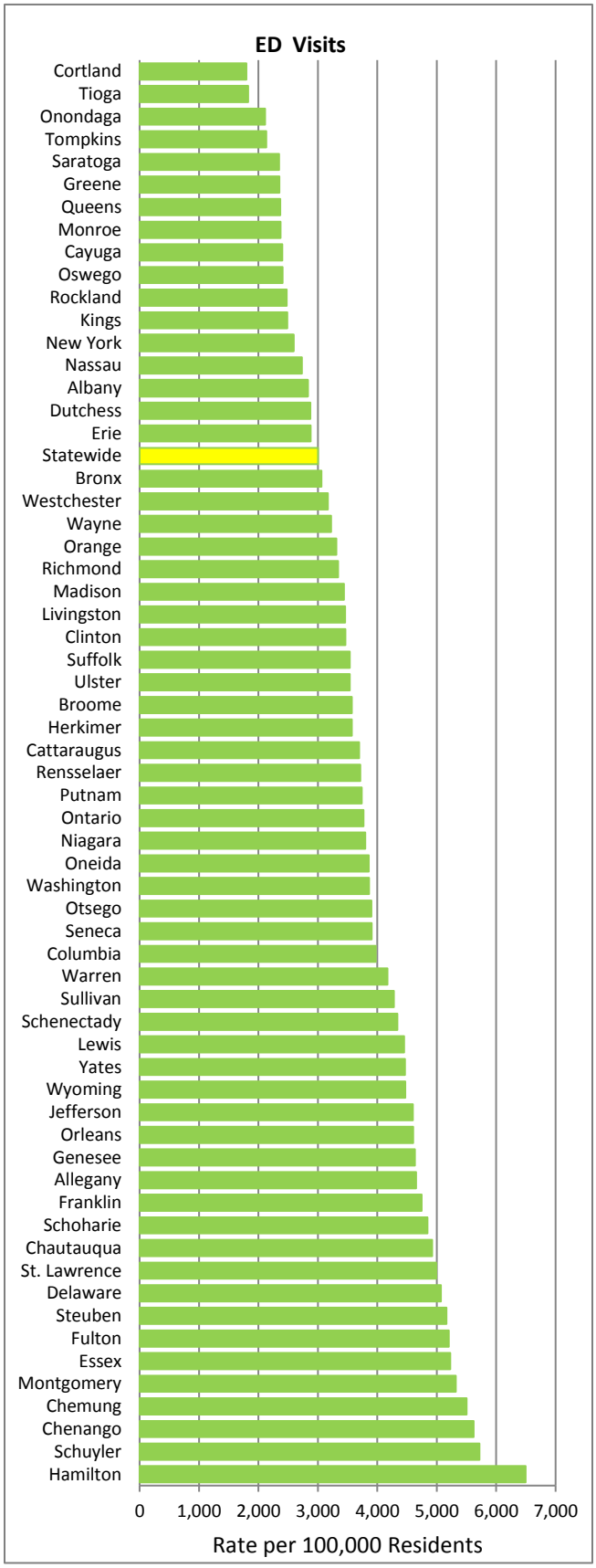
From 2010-2012, ***an average of 266 of New York's children (ages 0-19) died each year from unintentional injuries***[iii] (Table 4.1). There were also 426,801 children who were treated at hospitals for unintentional injuries – 11,736 of them were injured severely enough to require inpatient treatment[iv].

Not only did unintentional injury among New York's children result in morbidity and mortality, ***unintentional injuries are an economic burden to the people of NYS***. The CDC estimates that the 309 unintentional injury deaths of children ages 0-19 in NYS in 2010 resulted in $488 million in medical and work loss costs[ii]. From 2010-2012, unintentional injuries accounted for $293.9 million dollars in annual hospitalization charges and $511.7 million in annual outpatient ED charges[iv].

For additional information on specific childhood injuries and injury prevention strategies, refer to the individual injury sections: drowning prevention, fall prevention (including sports safety), fire prevention, motor vehicle traffic safety, and unintentional poisoning.

Figure 4.4. Age-Adjusted Unintentional Injury Rate per 100,000 New York Residents, 19 and Younger, by NYS County of Residence, 2010-2012[iv]





*Rest of State Includes all of NYS, excluding NYC

Table 4.1. Incidence of Deaths, Hospitalizations and ED Visits due to Unintentional Injury among Younger New Yorkers (aged 0-19) 2010-2012[iii,iv]

Characteristics	Deaths		Hospitalizations		ED Visits	
	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	266	5.5	11,736	240.6	415,065	8,510.8
Age Group						
0<1	34	14	915	380.5	13,628	5,667.1
1-4	37	3.9	2,919	308.6	102,416	10,825.2
5-9	20	1.7	2,015	172	84,175	7,186.5
10-14	35	2.9	2,251	188.7	101,911	8,543.5
15-19	138	10.4	3,636	274.2	112,935	8,515.4
Gender						
Male	186	7.5	7,434	294.7	242,129	9,708.7
Female	80	3.4	4,302	178.7	172,925	7,256.6
Unknown	0	n/a	0	n/a	11	n/a
Percent Traumatic Brain Injury	33%		20%		10%	
Mean Charge per Hospitalization or ED Visit	n/a		$25,042		$1,233	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$293.9 Million		$511.8 Million	
Three Year Total Hospitalization or ED Visit Charges	n/a		$881.7 Million		$1.5 Billion	
Average Length of Hospital Stay (Days)	n/a		3		n/a	

[†]The incidence of ED visits does not include patients who were subsequently admitted into the hospital
Rate = Frequency/Population *100,000
*Data based on frequencies less than six are not reported
**Caution: Rates based on frequencies less than 20 are unstable

Resources for Unintentional Childhood Injury

National Data and Resources

- AAA Foundation for Traffic Safety (www.aaafoundation.org)
- American Academy of Pediatrics (www.aap.org/)
- American Trauma Society (www.amtrauma.org/)
- Bicycle Helmet Safety Institute (www.bhsi.org/)
- Centers for Disease Control and Prevention
    - Behavioral Risk Factor Surveillance System (BRFSS) information and data (www.cdc.gov/brfss/)
    - National Center for Injury Prevention and Control (www.cdc.gov/ncipc)
    - Pregnancy Risk Assessment Monitoring System (PRAMS) (www.cdc.gov/prams/)
    - CDC's PRAMS Online Data for Epidemiologic Research (CPONDER) (www.cdc.gov/prams/CPONDER.htm)
- Children's Hospital of Philadelphia (www.chop.edu)
    - Data and resources for teen drivers safety, targeting teens: parents, policy makers, and researchers (www.teendriversource.org/)

- National Safety Council (www.nsc.org/)
- National Safe Kids Campaign (www.safekids.org/)
- U.S Consumer Product Safety Commission (www.cpsc.gov/)

New York State Data and Resources

- NYSDOH (http://www.health.ny.gov/prevention/injury_prevention/children/)

Fall Prevention Among Children

Problem Description

Falls are the leading cause of injury-related hospitalizations and hospital emergency department visits for children ages 14 and younger in New York and a significant issue with older children[iv] (Tables 1.4-1.6).

From 2010-2012, ***hospitals treated an average of almost 138,000 fall-related injuries*** among children ages 19 and younger each year. This means that each day in NYS, an average of 378 children are treated for an injury at hospitals because of an unintentional fall; and 12 of these children are injured severely enough to require hospitalization[iv].

These injuries account for $526 million in charges for hospital emergency department visits and $209 million in hospitalization charges[iv]. Falls at home, on playgrounds, and while playing sports are common among children.

Table 5.1. Incidence of Deaths, Hospitalizations and ED Visits due to Fall Injuries among NYS Children, Ages 0-19, 2010-2012[iii,iv]

	Deaths		Hospitalizations		ED† Visits	
Characteristics	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	14	0.1	3,798	19.4	134,170	686.7
Age Group						
0<1	*	*	407	169.2	7,283	3,028.4
1-4	2	0.2	939	99.3	43,706	4,619.7
5-9	*	*	882	75.3	30,752	2,625.5
10-14	*	*	771	64.6	29,914	2,507.8
15-19	10	0.8	799	60.2	22,516	1,697.7
Gender						
Male	11	0.1	2,401	25.3	77,324	815.1
Female	3	0.0	1,397	13.9	56,843	565.5
Unknown	0	n/a	0	n/a	3	n/a
Percent Traumatic Brain Injury	62%		28%		18%	
Mean Charge per Hospitalization or ED Visit	n/a		$18,337		$1,307	
Three Year Total Hospitalization or ED Visit Charges	n/a		$208.9 Million		$526.0 Million	
Average Length of Hospital Stay (Days)	n/a		2		n/a	

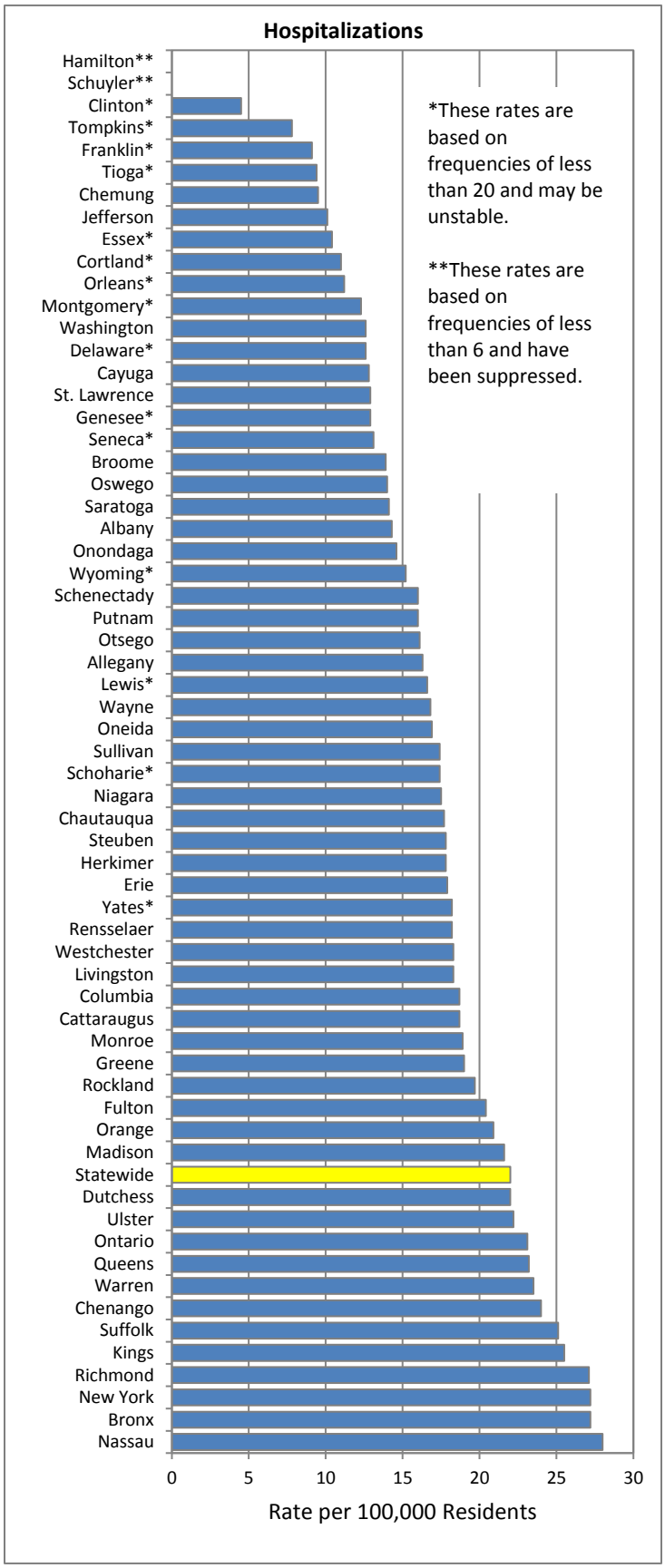
†The incidence of ED visits does not include patients who were subsequently admitted into the hospital

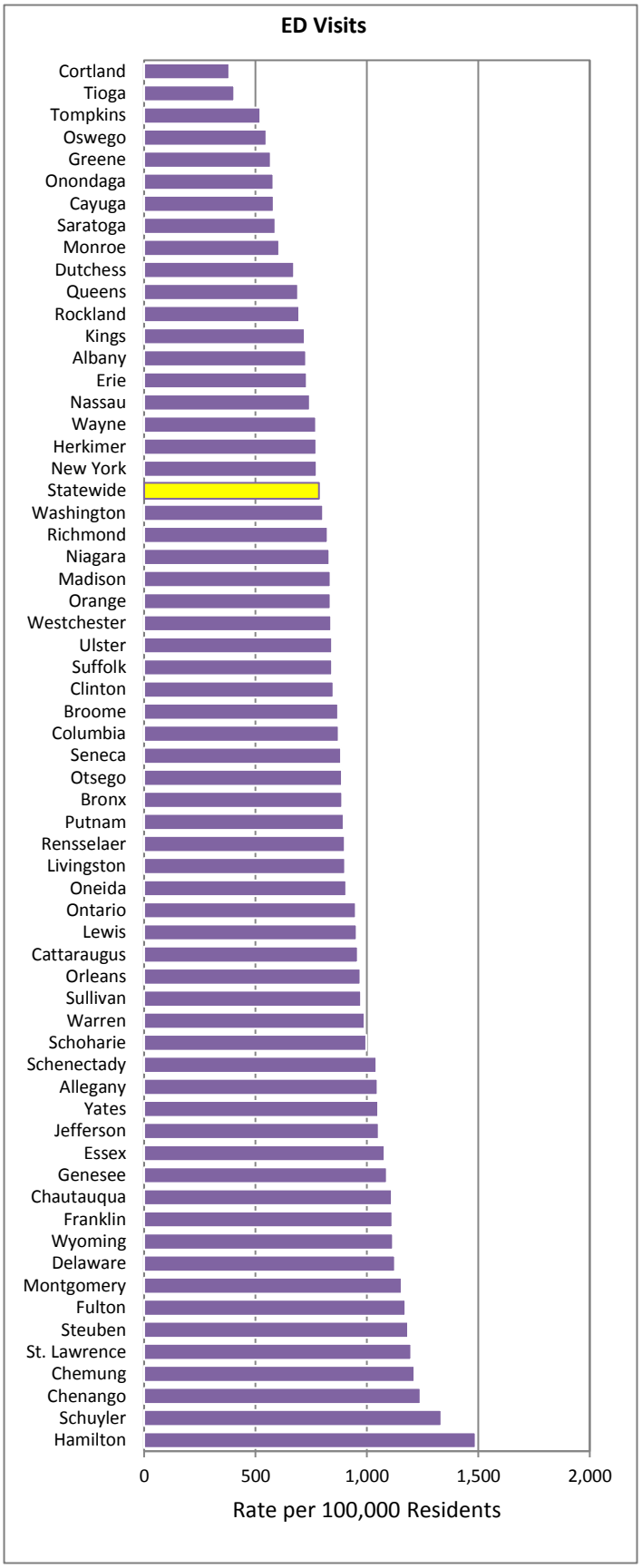
Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

Figure 5.1. Age-Adjusted Fall-Related Injury Rate per 100,000 Children (Ages 19 and younger) by NYS County of Residence, 2010-2012





During the period from 2010-2012, there were no childhood fall hospitalizations in Hamilton and Schuyler County[iv]. This is an indicator of the small population of these counties. The three counties with the next lowest age-adjusted rates of hospitalization were Clinton, Tompkins and Franklin. It is important to note that each of these rates is based on a frequency of less than 20 and may, therefore, be unstable. The counties with the highest rates of fall-related hospitalizations were New York, Bronx and Nassau [iv]. For ED visits, the counties with the lowest age-adjusted rates were Cortland, Tioga and Tompkins. The three highest age-adjusted county ED rates were Chenango, Schuyler and Hamilton [iv].

Tables 5.2 - 5.3 show the top five locations for fall injuries that lead to hospitalizations and ED visits. "Home" and "Places for Recreation and Sport" lead the injury locations in many of the age groups for fall-related hospitalizations and ED visits. As such, these are priority target areas for the NYSDOH's prevention efforts.

Table 5.2. Top Location of Falls Leading To Hospitalizations Among Children (ages 0-19) in NYS, 2010-2012[iv]

Age Groups μ=Mean Annual Frequency					
Rank	<1	1-4	5-9	10-14	15-19
1	Home μ=327	Home μ=593	Home μ=302	Recreation and Sport μ=252	Recreation and Sport μ=235
2	Unspecified Place μ=32	Recreation and Sport μ=115	Recreation and Sport μ=294	Home μ=163	Home μ=183
3	Other Specified Place μ=30	Other Specified Place μ=94	Unspecified Place μ=137	Unspecified Place μ=141	Other Specified Place μ=170
4	Public Building μ=14	Unspecified Place μ=32	Other Specified Place μ=122	Other Specified Place μ=133	Unspecified Place μ=154
5	Residential Institution μ=11	Public Building μ=39	Public Building μ=72	Public Building μ=89	Public Building μ=73

μ = Mean Annual Frequency

Table 5.3. Top Location of Falls Leading To Outpatient ED Visits Among Children (ages 0-19) in NYS, 2010-2012[iv].

Age Groups μ=Mean Annual Frequency					
Rank	<1	1-4	5-9	10-14	15-19
1	Home μ=4307	Home μ=20,338	Home μ=8322	Unspecified Place μ=7429	Unspecified Place μ=6511
2	Unspecified Place μ=1742	Unspecified Place μ=10,979	Unspecified Place μ=7399	Recreation and Sport μ=6362	Other Specified Place μ=4570
3	Other Specified Place μ=933	Other Specified Place μ=6,801	Other Specified Place μ=5301	Other Specified Place μ=5585	Recreation and Sport μ=4384
4	Public Building μ=165	Public Building μ=2,425	Recreation and Sport μ=4809	Public Building μ=4703	Home μ=3375
5	Street and Highway μ=84	Recreation and Sport μ=2,381	Public Building μ=4110	Home μ=4667	Public Building μ=2199

μ = Mean Annual Frequency

Priority Area

Home

At home, children are at risk for falling off elevated surfaces (like beds and changing tables), down stairs, and out of windows. Table 5.4 shows the leading cause of fall-related injuries at home for each of the age groups. Falling off of beds and slipping or tripping are the most common sources of fall injuries among children at home.

Table 5.4. Leading Etiology for Home Fall Injuries by Age Group, NYS Children, 2010--2012[iv].

Age Group	Hospitalizations		ED Visits	
	Leading Etiology	Percent	Leading Etiology	Percent
Less than 1 Year	Fall from bed	37.8%	Fall from bed	55.6%
1-4 Years	Fall from bed	30.2%	Slip or trip	28.5%
5-9 Years	Slip or trip	21.8%	Slip or trip	35.5%
10-14 Years	Slip or trip	28.8%	Slip or trip	42.5%
15-19 Years	Stairs or steps	33.8%	Slip or trip	41.7%
Total (0-19 Years)	**Fall from bed**	**25.6%**	**Slip or Trip**	**29.6%**

Playgrounds

More than 200,000 children are injured on playgrounds each year in the US[v]. Nationally, 44% of playground injuries were fall-related[vii].

Every year in NYS, more than 6,000 children are treated at hospitals due to playground-related fall injuries. Children ages 5-9 are disproportionately impacted, accounting for 57% of these injuries[iv]. Figure 5.2 shows the age distribution of playground injuries among New York's children.

Figure 5.2. Age Groups of Children Treated At a Hospital Following a Playground Fall, NYS Residents, Ages 0-19, 2010-2012[iv].

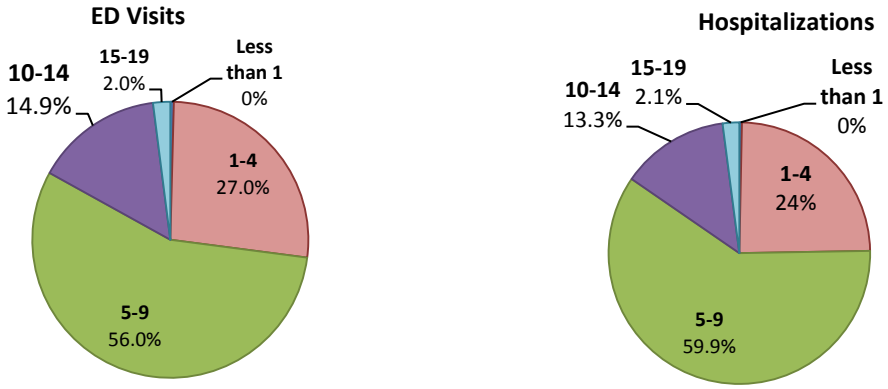


Table 5.5. HP2020 Objectives: Prevent an Increase in the Rate of Fall-Related Deaths[v]

Healthy People 2020 Objectives		National		NYS	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline (2007)**	**NYS 2020 Goal**	**NYS Baseline (2007-2009)**
23.1	Prevent an increase in the rate of fall-related deaths among all persons	7.2 / 100,000 population	7.2 / 100,000 population	6.0 / 100,000 population	6.0 / 100,000 population

Program Goal: Prevent an Increase in the Rate of Fall-Related Injuries among Children

Childhood falls can be an everyday occurrence. Just because they're common doesn't mean they can't be prevented. It's critical to recognize the risks of falls to children and prevent injuries caused from falling.

State and local fall prevention best-practices need to be expanded through collaboration with state and local partners. Programmatic goals include:

- Collaborating with the NYS Education Department (NYSED) to implement the Concussion Management and Awareness Act. The act requires that school coaches, trainers, physical education teachers, and nurses be trained in recognizing concussions and concussion management, and further mandates that students who have sustained, or may have sustained, a concussion during athletic activities be removed from those activities.
- Outreach and education to promote evidence-based prevention strategies for home and playground fall prevention.

Fall Prevention among Children: Operational Plan

Table 5.6. Action Plan for Fall Prevention among Children

Objective	**Evidence Based / Best Practice Strategy**	**Environment Affected**	**Partners**
Decrease the number of sports-related concussions among young athletes by 5% by 2020.	Collaboration between NYSDOH and NYSED to implement the Concussion Management and Awareness Act.	School, recreational sports organizations	NYSED, BIANYS
		School	NYSED, NYS PHSAA, coaches, school administrators
Decrease the number of home falls among children by 5% by 2020.	Outreach and education of the problem of home falls among children and evidence-based prevention strategies.	Home	PWSA
		Home	BBHS
Decrease the number of playground falls among children by 5% by 2020.	Outreach and education of the problem of playground falls among children and evidence-based prevention strategies.	Playground	PWSA
		Playground	BBHS

Data and Resources for Fall Prevention among Children

National Data and Resources

- American Academy of Pediatrics (www.aap.org/)
- American Trauma Society (www.amtrauma.org/)
- Centers for Disease Control and Prevention
    - Injury Prevention and Control Web-based Injury Statistics Query and Reporting System (WISQARS): (www.cdc.gov/injury/wisqars/index.html)
    - National Center for Injury Prevention and Control (www.cdc.gov/ncipc)
- National Safety Council (www.nsc.org/)
- National Safe Kids Campaign (www.safekids.org/)
- U.S Consumer Product Safety Commission (www.cpsc.gov/)

New York State Data and Resources

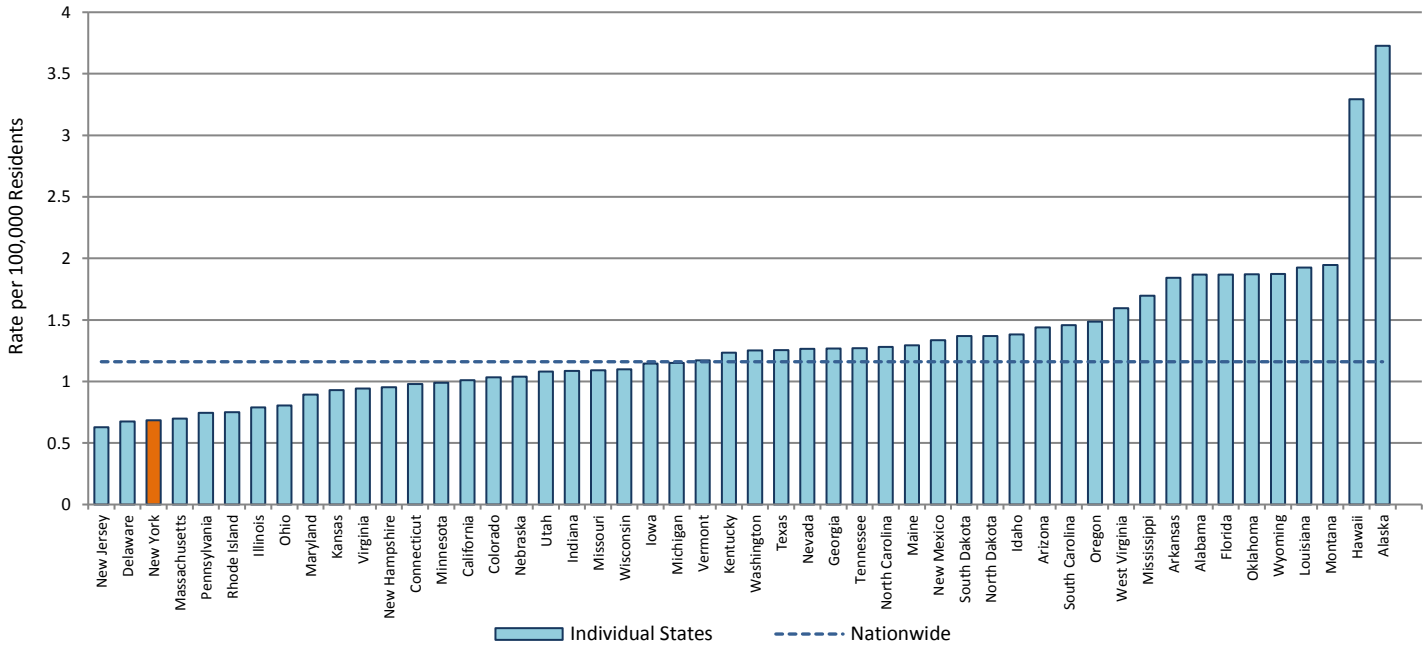
- Brain Injury Association of NYS (www.bianys.org/)
    - NYS Department of Health, toolkit for prevention childhood falls (www.health.ny.gov/prevention/injury_prevention/children/toolkits/childhood_fall/)

Drowning and Submersion-Related Injuries

Problem Description

In the US, each day approximately 10 people die from unintentional drowning, and it is the fifth leading cause of unintentional injury death[vi]. While NYS has one of the lowest age-adjusted rates of drowning deaths of any state in the Country (Figure 6.1)[vii], drowning continues to impact New Yorkers.

Figure 6.1. Age-Adjusted Rates of Unintentional Drowning by State, 2010-2012



Drowning is the seventh leading cause of unintentional injury-related deaths in NYS. From 2010-2012, an average of 112 New Yorkers died and 484 received treatment at hospitals from drowning and submersion injuries each year. Of those treated at hospitals, 128 were injured severely enough to require inpatient treatment.

Children one to four years of age had the highest rate of death due to drowning at 1.0 death per every 100,000 residents (Table 6.1). Children, 19 and younger, accounted for a quarter (25%) of the deaths due to drowning among NYS residents (Figure 6.2).

Young children had the highest rates of hospitalization and outpatient ED treatment because of submersion-related injuries. Children between the ages of one and four years old had the highest rate of hospitalizations (3.0 hospitalizations per 100,000 New Yorkers), and the highest rate of outpatient ED treatment (5.8 ED visits per 100,000 residents).

Figure 6.2. Age Groups of Drowning Deaths, NYS Residents, 2010-2012

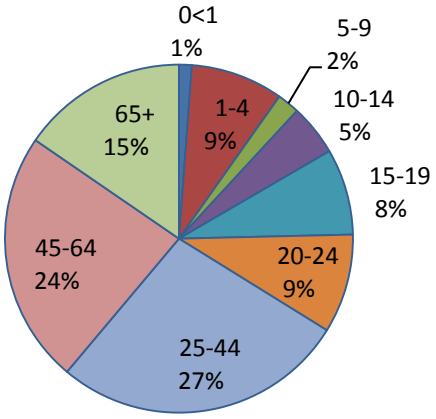


Table 6.1. Incidence of Injury Deaths, Hospitalizations, and ED† Visits Related to Unintentional Drowning and Submersion among NYS Residents, 2010-2012

	Deaths		Hospitalizations		ED Visits	
	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	113	0.6	128	0.7	356	1.8
Age Group						
0<1	*	*	7	2.9	6	2.6**
1-4	10	1.0	28	3.0	55	5.8
5-9	2	0.2**	14	1.2	30	2.5
10-14	5	0.4**	12	1.0	33	2.7
15-19	9	0.7	10	0.8	42	3.2
20-24	10	0.7	6	0.4**	33	2.3
25-44	31	0.6	16	0.3	81	1.5
45-64	26	0.5	21	0.4	54	1.0
65+	17	0.6	15	0.6	22	0.8
Gender						
Male	85	0.9	84	0.9	225	2.4
Female	28	0.3	45	0.4	131	1.3
Unknown	*	*	*	*	*	*
Percent Traumatic Brain Injury	3%		2%		8%	
Mean Charge per Hospitalization or ED Visit	n/a		$38,566		$2,192	
Three Year Total Hospitalization or ED Visit Charges	n/a		$14.8 Million		$2.3 Million	
Average Length of Hospital Stay (Days)	n/a		5		n/a	

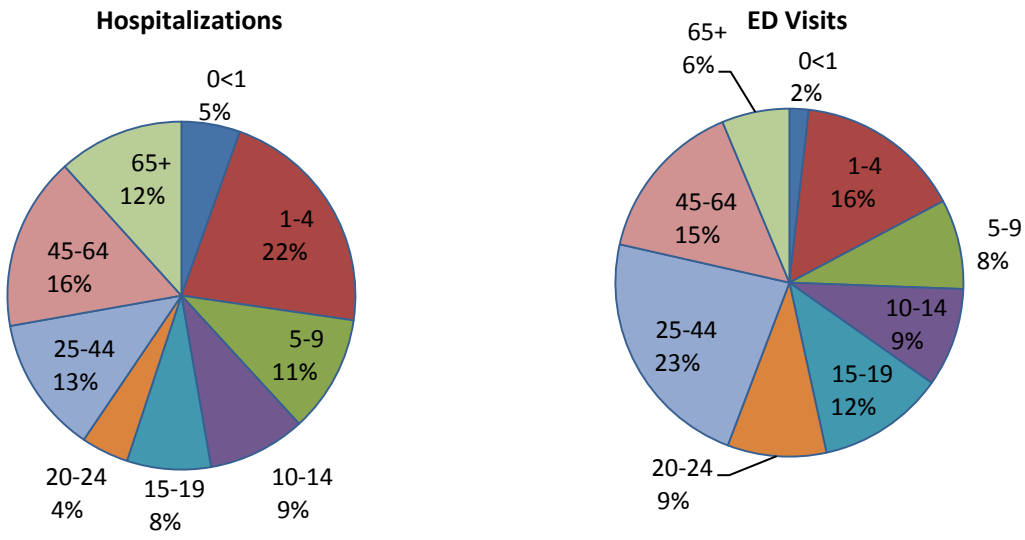
†The incidence of ED visits does not include patients who were subsequently admitted into the hospital

Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

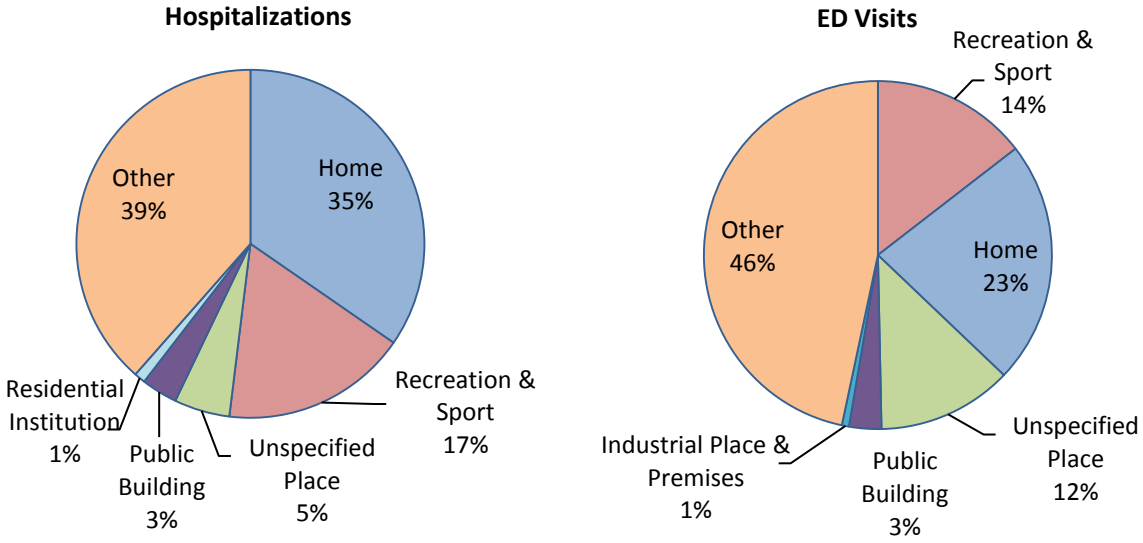
**Caution: Rates based on frequencies less than 20 are unstable

Figure 6.3. Age Groups of Submersion-Related Hospital Treatment, NYS Residents, 2010-2012



Submersion injuries can occur in both residential and public settings. The majority of submersion-related injuries that resulted in hospitalizations occurred at home, while the majority of those that resulted in an outpatient ED visit, occurred in a place of recreation and sport, such as a resort or public park (Figure 6.4). While the injuries and the potential for lasting harm are the same, the strategies for prevention vary between residential and public settings.

Figure 6.4. Place of Occurrence for Submersion Injuries that Resulted in Hospital Treatment, NYS, 2010-2012



Drowning and Submersion Injury Prevention for Children

Drowning is a leading cause of injury-related deaths in children of all age groups, with, on average, 26 children from birth to 19 years dying each year in NYS. Children aged one through four years are especially at risk, with nearly ten deaths per year coming from this age group alone. Near drowning incidents can result in lifelong medical conditions.

The leading causes of drowning are:

- Lack of adult supervision around water, pools, bathtubs, and buckets/pails of water.
- Pools that do not have four-sided fencing that isolate a home swimming pool from the house.
- Children swimming alone or children wandering into water.
- Swimming in public areas where there are no lifeguards.
- Not using approved life jackets while swimming and boating.

By law, NYS requires all public and residential swimming pools to be enclosed within a fence or other barrier which is at least four feet high and can be entered by bathers only through self-closing and positive self-latching doors or gates. In addition, an approved pool alarm is required for every public and residential swimming pool that is installed, constructed or substantially modified after December 14, 2006. Hot tubs and spas may be exempt from barrier and alarm requirements if they have an approved safety cover.

Drowning and Submersion Injury Prevention in Public Bathing Facilities

There are more than 7,400 public swimming pools and 1,300 public bathing beaches in NYS regulated by the NYSDOH. It is estimated that millions of patrons visit NYS bathing facilities each year. From 1987-2011, 179 drowning deaths occurred at bathing facilities in NYS that were regulated in accordance with Part 6 of the State Sanitary Code. These deaths occurred primarily among children (4-11 years), adolescents (12-19 years) and adults up to 25 years of age.

It is believed that drownings and near-drownings can be prevented by addressing the contributing factors – both individual and environmental – with interventions. Since 1987, NYSDOH has conducted epidemiological investigations of all drowning deaths and near-drownings at regulated bathing facilities to understand the contributing factors. Although NYS has the lowest age-adjusted rate of drowning deaths of any state in the country[ii], drowning investigations have identified problems in lifeguard surveillance; determined that males are four times more likely to be drowning victims than females; and determined the rate of drowning among blacks is three times that of whites. Problems related to lifeguard surveillance include lifeguard positioning, scanning techniques, intrusion of other duties, distraction and inadequate rescue skills. These may influence the outcome of a submersion due to lack of victim recognition or inability to conduct an appropriate rescue.

The Healthy People 2020 goals around drowning and submersion aim for a 10% reduction in mortality. Table 6.2. shows these goals for the US and NYS.

Table 6.2. HP2020 Objectives: Reducing drowning deaths

Healthy People 2020 Objectives		**National**		**NYS**	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline**	**NYS 2020 Goal**	**NYS Baseline**
25	Reduce drowning deaths	1.1 / 100,000 population	1.2 / 100,000 population	0.45/100,000 population	0.49/100,000 population

Drowning Prevention: Operational Plan

Table 6.3. Action Plan for Drowning and Submersion Prevention

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Potential Partners
Collaborate with partners to reduce the rate of residential drowning deaths 10% by 2020.	Collaborate with partners to identify individuals at risk and discover the root problems that cause drowning.	Home	BBHS
			BBHS
			BBHS
	Collaborate with partners for outreach and educational purposes.		BBHS, BEMS and Trauma Systems
			NYS Safe Kids
			PWSA
Collaborate with partners to reduce the rate of drowning deaths at regulated bathing facilities 10% by 2020.	Case investigation: Investigate all drowning deaths and near-drownings at regulated children's camps and bathing facilities.	Public bathing facilities	BCEHFP, Local Health Departments, NYSDOH Regional Offices, NYS Office of Parks, Recreation, and Historic Preservation, and NYS Dept. of Environmental Conservation
			BCEHFP
			BCEHFP
	Bathing facility inspections.		BCEHFP, NYSDOH Regional Offices
	Education and Training.		BCEHFP, Local Health Departments and NYSDOH Regional Offices
			BCEHFP
			External partners including the American Red Cross, Boy Scouts of America, YMCA of the USA, and the NYS Office of Children and Family Services
Encourage learning to swim as a drowning prevention strategy.	For children 1-4 years old, exposure to formal swimming lessons is associated with a reduction in the risk of drowning[viii].	Home and community	Community groups, schools
		Home and community	State and community leaders
	Learn to swim. A caregiver's swimming ability and fear of water affect the likelihood that children will learn to swim.	Home and community	Community groups, schools
		Home and community	State and community leaders
Increase utilization of barriers to prevent unintentional submersion.	Pool fencing significantly reduces the risk of drowning[ix].	Home	Community centers, schools, YMCA, pool centers, contractors, neighborhood associations, LHDs
	Increase the usage of pool alarms	Home	Code enforcement, contractors, neighborhood associations, LHDs
	Outreach and education	Home and community	Community groups, schools
			Community groups, schools
			Health care providers

Data and Resources for Drowning and Submersion-Related Injuries

National Data and Resources

- American Red Cross (www.redcross.org)
    - Beach Safety (www.redcross.org/prepare/disaster/water-safety/beach-safety)
    - Swim Safety (www.redcross.org/prepare/disaster/water-safety/swim-safety)
    - Water Safety (www.redcross.org/prepare/disaster/water-safety)
    - Water Safety Quiz (www.redcross.org/prepare/disaster/water-safety/quiz)
- Centers for Disease Control and Prevention (www.cdc.gov/)
    - Help Your Kids Swim Safely This Summer: Drowning Prevention Tips (www.cdc.gov/media/subtopic/matte/pdf/summmer_swim.pdf)
    - Healthy Swimming/Recreational Water – Other Recreational Water-related Issues (http://www.cdc.gov/healthywater/swimming/injury/index.html)
    - Lifeguard Effectiveness: A Report of the Working Group (www.cdc.gov/HomeandRecreationalSafety/Water-Safety/lifeguard.html)
    - Protect the Ones You Love: Drownings (www.cdc.gov/SafeChild/Drowning/index.html)
    - Unintentional Drowning: CDC Research & Activities (www.cdc.gov/HomeandRecreationalSafety/Water-Safety/drown-activities.html)
    - Unintentional Drowning: Get the Facts (www.cdc.gov/homeandrecreationalsafety/water-safety/waterinjuries-factsheet.html)
- Children's Hospital of Philadelphia (www.chop.edu)
    - Water Safety (www.chop.edu/service/injury-prevention-program/child-safety-information/water-safety.html)
- Consumer Product Safety Commission (www.cpsc.gov)
    - Drowning Prevention Toolkit (www.cpsc.gov/Safety-Education/Neighborhood-Safety-Network/Toolkits/Drowning-Prevention/)
    - Pool Safely Campaign (http://www.poolsafely.gov/)
    - Research and Statistics (www.cpsc.gov/en/Research--Statistics/)
        - Pool and Spa Injury Statistics (www.cpsc.gov/en/Research--Statistics/Sports--Recreation/Pools-and-Spas/Pool-and-Spas-Injury-Statistics/)
        - Pool and Spa Technical Reports (www.cpsc.gov/en/Research--Statistics/Sports--Recreation/Pools-and-Spas/#ctl00_MainContent_CenterModule_CenterModules_ctl01_ctl00_Feed)
- Drowning Prevention Foundation (www.drowningpreventionfoundation.org/)
    - Harborview Injury Prevention & Research Center (www.depts.washington.edu/hiprc/index.html)
    - Peer Reviewed Drowning Publications (www.depts.washington.edu/hiprc/Publication/Topics/drown.html
- KidsHealth (www.kidshealth.org)
    - Preventing Drowning (www.kidshealth.org/parent/firstaid_safe/home/safety_drowning.html)
- National Drowning Prevention Alliance (www.ndpa.org)
- Safe Kids Worldwide (www.safekids.org)
    - Boating (www.safekids.org/safetytips/field_risks/boating)
    - Swimming (www.safekids.org/safetytips/field_risks/swimming-and-water)
    - Water Safety at Home (www.safekids.org/tip/watersafety)
- US Coast Guard Boating Safety Resource Center (www.uscgboating.org/)
    - Boating Safety (www.uscgboating.org/safety/default.aspx)
    - Laws and Regulations (www.uscgboating.org/regulations/default.aspx)

- Recreational Boating Incident Statistics (www.uscgboating.org/statistics/default.aspx)

New York State Data and Resources

- NYS Department of Health (www.health.ny.gov)
  - Behavioral Risk Factor Surveillance System (BRFSS) (www.health.ny.gov/statistics/brfss/)
  - Health Commerce System (https://commerce.health.state.ny.us/)
  - Occupational Health and Injury Prevention (www.health.ny.gov/prevention/injury_prevention/)
  - Swimming Pools / Bathing Beaches / Recreational Aquatic Spray Grounds (www.health.ny.gov/environmental/outdoors/swimming/)
  - Prevention Agenda: Priority Area: Healthy Environment – Drowning Prevention (http://www.health.ny.gov/prevention/prevention_agenda/healthy_environment/drowning.htm)
- NYS Department of State (NYS DOS) (www.dos.ny.gov)
  - Swimming Pool Rules and Regulations found in the Uniform Fire Prevention and Building Code (Uniform Code) (http://www.dos.ny.gov/DCEA/pools.htm)
- Long Island Drowning Prevention Task Force (www.lidptf.org)
  - Boating Safety (www.lidptf.org/boating-safety.aspx)
  - Facts (www.lidptf.org/pool_facts.aspx)
  - Statistics (www.lidptf.org/stats.aspx)
  - Ocean Safety (www.lidptf.org/ocean-safety.aspx)
  - Open Water Safety (www.lidptf.org/open-water.aspx)
  - Water Safety at Home (www.lidptf.org/pool_safety_what-to-do.aspx)
- NYS Office of Parks, Recreation & Historic Preservation (www.nysparks.com)
  - Swim Safe at NYS Parks (www.nysparks.com/recreation/swimming/)

Child Maltreatment

Problem Description

Children's experiences are defined through their relationships with parents, teachers, and other caregivers. Healthy relationships act as a buffer against adverse childhood experiences, and are necessary to ensure the long-term physical and emotional well-being of children.

"Child maltreatment is the abuse and neglect that occurs to children under 18 years of age. It includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation, which results in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power."[x]

There are two types of child maltreatment: child abuse and child neglect. Child abuse describes words or actions that intentionally cause harm, possible harm, or threat of harm to a child, and may include physical abuse, sexual abuse, and emotional abuse. Child neglect is the failure to provide for a child's basic physical, emotional, or educational needs or to protect a child from harm or possible harm. These needs may include food, shelter, clothing, hygiene, medical care, education, and/or supervision. Factors and characteristics that place a child at risk for child maltreatment are highlighted in Table 7.1, these include child, parent, and environmental factors. Protective factors include attributes of the child, their family, and support outside of the family, this are shown in Table 7.2.

Table 7.1. Risk Factors and Characteristics[xi]

Child	Parent	Environment (Community and Society)
Emotional / behavioral difficulties	Low self-esteem	Social isolation
Chronic illness	Poor impulse control	Poverty
Physical disabilities	Substance abuse/ alcohol abuse	Unemployment
Developmental disabilities	Young maternal or paternal age	Low education achievement
Preterm Birth	Abused as a child	Single-parent home
Unwanted	Depression or other mental illness	Non-biologically related male living in the home
Unplanned	Poor knowledge of child development or unrealistic expectations for child; Negative perception of normal child behavior	Family or intimate partner violence

Table 7.2. Protective Factors

Dispositional / Temperamental Attributes of Child	Warm and Secure Family Relationships	Availability of Extrafamilial Support
Above average cognitive ability	Presence of a caring and supportive adult	Structured school environment
High ego control (high degree of impulse control and modulation)	Positive family changes (e.g., Interventions)	Involvement with a religious community

Internal locus of control (belief in one's ability to control own destiny)	Involvement in extracurricular activities or hobbies
External attribution of blame (attribute cause to something outside oneself, such as external pressure)	Access to good health, educational, and social welfare services.
Presence of spirituality	
Ego control and ego resilience (able to modify impulses and insulate themselves from environmental distractors)	
High self-esteem or sense of self-worth	

Shaken Baby Syndrome / Abusive Head Trauma

Children of all ages can be victims of abuse and neglect; however, those younger than four are at a higher risk for serious injury or death. Shaken Baby Syndrome (SBS), also referred to as Abusive Head Trauma (AHT), is a serious form of child abuse in which an adult violently shakes an infant or young child. One-quarter of children who are violently shaken die, and approximately 80% of survivors suffer from lifelong conditions such as blindness, seizures, and cerebral palsy. In NYS, an average of 33 children under age four are hospitalized each year because of SBS, with an average per-hospitalization charge of $65,000[iv]. Evidence-based research suggests that programs that teach parents and caregivers about the dangers of shaking and ways to cope with the stresses of caring for a child are effective in reducing the incidence of SBS[xii].

Child Sexual Abuse

In the US, it is estimated that one in four girls and one in seven boys will be sexually victimized before the age of 18[xiii]. The greatest risk to these children comes from friends and family[xiv]. Approximately 60 percent of boys and 80 percent of girls are victimized by someone that they know[xv]: 34 percent are abused by family members and 59 percent are abused by someone the family knows and trusts[iv]. Family members constitute a quarter to a third of all offenders[xvi]. Sexual abuse has been associated with significant short- and long-term health consequences for the victims[xvii]. Such consequences are damaging and can spill over into adult life as children suffer from adverse physical, emotional, and cognitive developmental effects. Consequences of child abuse are diverse and include: injuries; health problems; mental and emotional problems; learning problems; runaways; juvenile delinquency and adult crime; alcohol and substance abuse; and public assistance.

The economic costs associated with these begin with intervention strategies and continue as we expend considerable resources for treatment[xviii]. The reported cases of child sexual abuse represent the second most expensive victim crime behind murder[xix]. In NYS in 2007, the immediate cost of child sexual abuse – alone – was more than $995 million and the total cost of all types of abuse in children (sexual, physical and mental abuse, serious neglect, and fatalities) was more than $7 billion[xx].

The Healthy People 2020 goals around reducing child maltreatment aim for a 10% reduction in the associated morbidity and mortality[v]. Table 7.3. shows these goals for the US and NYS. The objectives for NYS include reducing the deaths and injuries related to child maltreatment.

Table 7.3. HP2020 Objectives: Reducing Child Maltreatment[v]

Healthy People 2020 Objectives		National		NYS	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline**	**NYS 2020 Goal**	**NYS Baseline**
37	Reduce child maltreatment deaths	2.2 / 100,000 population	2.4 / 100,000 population	2.0 / 100,000 population	2.2 / 100,000 population[xxi]
38	Reduce nonfatal child maltreatment	8.5 / 1,000 population	9.4 / 1,000 population	5.7 Hospitalizations / 100,000 population	6.3 Hospitalizations / 100,000 population
				37.3 ED Visits / 100,000 population	41.4 ED Visits / 100,000 population

Program Goal: Reducing Shaken Baby Syndrome/Abusive Head Trauma

Increase education of parents and caregivers as well as the general public about the risk for SBS/AHT and appropriate prevention strategies.

Program Goal: Preventing Child Abuse and Neglect

Increase knowledge of parents, childcare and healthcare professionals about the risk for child abuse and neglect, appropriate prevention strategies, recognizing signs of maltreatment, and the availability of resources.

Home Visiting

Parenting is a difficult task for everyone, but it can be particularly challenging for low-income families. Close to a quarter of a million babies are born every year in NYS, and nearly half are born to low-income families[xxii]. Parenting can be made easier through voluntary home visiting programs.

These programs can: reduce child abuse and neglect; reduce the need for child welfare services; improve the health and development of children; promote school readiness and learning; improve economic stability and self-sufficiency; and improve public safety[xxiii]. Through these programs, families can become connected to different community resources during pregnancy and throughout their child's infancy. Investments in home visiting have also been shown to reduce certain costs associated with unintended pregnancies, ED visits and hospitalizations, and foster care placement[xxiv]. Home visiting is particularly effective because it occurs in the home, allowing staff to observe families in their own environments where they are comfortable[xxv]. This gives them a better view of what factors may be influencing a child. This feature also enables families to easily participate, as the home visitor comes to them. NYS is a leader for home visiting in the US, characterized by a number of programs that provide quality services to those who need them. These programs demonstrate documented outcomes, such as increasing a child's safety, health and learning, and promoting the economic stability of families, and millions of dollars in cost savings[xii]. National data estimates the cost of home visiting programs at $5,000-$9,000 per child[xxvi], and an average return of $2.24 for each dollar invested[xxvii]. Smart investments in home visiting programs for expectant or new families are proven to produce positive outcomes that deliver measurable savings[xi].

Shaken Baby Syndrome / Abusive Head Trauma Prevention: Operational Plan

Table 7.4. Action Plan for Shaken Baby Syndrome Prevention

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
Distribute SBS prevention videos and other materials to all hospital maternity wards in NYS.	Research suggests that educating new parents regarding the danger of SBS and prevention strategies is effective in reducing the incidence of SBS.	Medical environment	NYSDOH Bureau of Health Marketing and Creative Communications, NYS Office for Children and Family Services, NYSDOH Division of Family Health
Distribute SBS prevention videos targeted at specific populations (young men, nurses, childcare providers) to at least 200 community partners.	Educating the general public and specific target groups about SBS and prevention strategies may help reduce the incidence of SBS.	General public, schools, work, medical environment, childcare environment.	NYS DOH Bureau of Health Marketing and Creative Communications, NYS Office for Children and Family Services, NYSDOH Division of Family Health, the Cynthia Gibbs Foundation

Child Abuse and Neglect: Operational Plan

Table 7.5. Action Plan for Preventing Child Abuse and Neglect

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
Improve the ability of the public health infrastructure to respond to the issue of child maltreatment.	Improve the availability and consistency of child maltreatment surveillance data.	General public, schools, work, medical environment, childcare environment.	BBHS, PWSA, CDC, NYSDOH Division of Family Health, PCANY, OCFS, NYCDOHMH, Council on Children and Families, Business Council of NYS, NYSED
	Work with partners to adopt the vision of "assuring safe, stable and nurturing relationships for every child and preventing child maltreatment.		BBHS, PWSA, NYS DOH Division of Family Health, PCANY, OCFS, NYCDOHMH, Council on Children and Families, Business Council of NYS, NYSED, Office of Persons with Developmental Disabilities, Faith Organizations, Health and Social Organizations, Youth Organizations, Law Enforcement
Create a context for healthy children and families through norm changes	Promote the community norms that we all share responsibility for the well-being of children and parenting programs and acceptable parenting behaviors.	Home and Community	NYSDOH Division of Family Health, PCANY, OCFS, NYCDOHMH, Council on Children and Families, Business Council of NYS, NYSED, Office of Persons with Developmental Disabilities, Faith Organizations, Health and Social Organizations, Youth Organizations, Law Enforcement

Educate professionals in the early childhood field to recognize the signs of maltreatment.	Educating professionals about child maltreatment signs and prevention resources may help reduce the incidence of child maltreatment.	Community, childcare environment, medical environment, schools	EMSC, Schulyer Center for Advocacy, OCFS, Child Abuse Medical Provider Program, LHDs, Nursing Associations, Medical Associations, BEMS and Trauma Systems, PCANY, School Boards, NYSED, School Nurses, Teachers Unions, PTAs
Increase the proportion of families who benefit from primary prevention of child maltreatment	Studies have shown that there is a relationship between the increasing number of risk factors and the proportion of children maltreated.[xxviii]	Home and Community	EMSC, Schulyer Center for Advocacy, OCFS, Child Abuse Medical Provider Program, LHDs, Nursing, Associations, Medical Associations, BEMS and Trauma Systems, Healthy Families New York, PCANY
Promote the use of home visiting programs	Evaluating and limiting risk factors may reduce a child's risk for maltreatment	Home	
Child Sexual Abuse	A critical first step is to establish a state partnership committed to working together to prevent child sexual abuse.	Community, childcare environment, medical environment, schools, home environment, general public	

Data and Resources for Child Maltreatment Prevention

National Data and Resources

- Agency for Healthcare Research and Quality (www.ahrq.gov)
    - Screening for Family and Intimate Partner Violence (www.ahrq.gov/downloads/pub/prevent/pdfser/famviolser.pdf)
- Centers for Disease Control and Prevention (www.cdc.gov)
    - Child Maltreatment and Prevention (www.cdc.gov/ViolencePrevention/childmaltreatment/index.html)
    - Child Maltreatment is a Public Health Issue (vetoviolence.cdc.gov/childmaltreatment/phl/)
    - Essentials for Childhood: Steps to Create Safe, Stable and Nurturing Relationships (www.cdc.gov/violenceprevention/pdf/efc-01-03-2013-a.pdf)
    - Injury Prevention and Control Web-based Injury Statistics Query and Reporting System (WISQARS) (www.cdc.gov/injury/wisqars/index.html)
    - Saving Lives and Protecting People: Preventing Violence Against Children and Youth (www.cdc.gov/injury/about/focus-cm.html)
    - Adverse Childhood Experiences (ACE) Study (www.cdc.gov/ace/)
- Center for the Study of Social Policy (www.cssp.org)
    - Strengthening Families (www.cssp.org/reform/strengthening-families)
- Darkness to Light
    - The Economic Impact of Child Sexual Abuse (www.d2l.org/site/c.4dICIJOkGcISE/b.6069261/k.E915/The_Economic_Impact_of_Child_Sexual_Abuse.htm)
- Department of Health and Human Services, Children's Bureau (www.acf.hhs.gov/programs/cb)
    - Research, Data and Technology (www.acf.hhs.gov/programs/cb/research-data-technology)
    - The report – Child Maltreatment, 2011 (www.acf.hhs.gov/programs/cb/resource/child-maltreatment-2011)
- Enough Abuse Campaign (www.enoughabuse.org)
    - World Health Organization, Preventing Child Maltreatment: A Guide to Taking Action and Generating Evidence (whqlibdoc.who.int/publications/2006/9241594365_eng.pdf)
- Zero to Three (www.zerotothree.org/)
    - Care and education (www.zerotothree.org/early-care-education/)
    - Child maltreatment (www.zerotothree.org/maltreatment/)
    - Public Policy (www.zerotothree.org/public-policy/)
    - Training and Professional Development (www.zerotothree.org/about-us/areas-of-expertise/training-and-professional-development/training-and-professional.html)

New York State Data and Resources

- Child Abuse Medical Provider Program (www.champprogram.com)
- Council on Children and Families (www.ccf.ny.gov/)
    - Early Childhood Advisory Council (www.ccf.ny.gov/ECAC/)
- NYS Department of Health (www.health.ny.gov/)
    - Child Health Plus (www.health.ny.gov/health_care/child_health_plus/index.htm)
- Healthy Families New York (www.healthyfamiliesnewyork.org)
- NYS Family Resources (www.nysfamilyresources.org/)
    - Parents (www.nysfamilyresources.org/domain.cfm?domain=3)
    - Children and Youth (www.nysfamilyresources.org/domain.cfm?domain=1)
    - Professionals (www.nysfamilyresources.org/domain.cfm?domain=2)

- NYS Parenting Education Partnership (www.nyspep.org/)
    - Parenting Resources (nyspep.org/index.php/get-help-now/)
    - Provider Resources (nyspep.org/professionalresources/providers/)
- NYS Office of Children and Family Services. (www.ocfs.ny.gov)
    - Child Abuse Prevention (ocfs.ny.gov/main/prevention/Default.asp)
    - Child Protective Services (ocfs.ny.gov/main/cps)
    - Child Welfare Performance Data (ocfs.ny.gov/main/cfsr/counties.asp)
- Prevent Child Abuse New York (www.preventchildabuseny.org)
    - Facts and Statistics (www.preventchildabuseny.org/resources/about-child-abuse/facts-and-statistics/)
    - The Costs of Child Abuse and The Urgent Need for Prevention (www.preventchildabuseny.org/files/6213/0392/2130/costs.pdf)
    - Position Statements (www.preventchildabuseny.org/about-us/)
- Schuyler Center for Analysis and Advocacy (www.scaany.org)
    - Prenatal and Postpartum Home Visiting (www.scaany.org/policy/HomeVisiting.php)

Fire and Flame-Related Injuries

Problem Description

Fire and flame-related injuries are a leading cause of injury-related deaths for New Yorkers (Table 1.4). From 2010-2012, fire and flame-related injuries among New Yorkers resulted in an average of 124 deaths each year[iii]. In addition, there was an average of 4,264 people treated at a hospital for fire and flame related injuries – 815 of these people were injured severely enough to require inpatient stay. These injuries resulted in over $71 million in medical charges[iv].

Older New Yorkers (65 and older) had the highest rates of death and hospitalization due to fire and flame related injury[iii,iv] (Table 8.1). However, these injuries are the leading cause of injury-related death for children ages 5-9 in NYS[iii] (Table 1.4).

Table 8.1. Deaths, Hospitalizations, and ED† Visits due to Fire and Flame Injuries among NYS Residents, 2010-2012[iii,iv].

	Deaths		Hospitalizations		ED Visits	
Characteristics	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	124	0.6	815	4.2	3,449	17.7
Age Group						
0<1	*	0.3	7	2.8	61	25.2
1-4	4	0.4**	30	3.2	205	21.6
5-9	4	0.3**	18	1.5	130	11.1
10-14	3	0.3**	23	1.9	118	9.9
15-19	2	0.2**	35	2.6	244	18.4
20-24	2	0.1**	43	3.1	354	24.9
25-44	15	0.3	199	3.8	1,264	23.9
45-64	38	0.7	261	5.0	815	15.5
65+	55	2.1	199	7.4	260	9.7
Gender						
Male	71	0.7	501	5.3	2,186	23
Female	53	0.5	315	3.1	1,264	12.6
Unknown	0	n/a	0	n/a	0	n/a
Percent Traumatic Brain Injury	1%		1%		0%	
Mean Charge per Hospitalization or ED Visit	n/a		$87,159		$811	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$71.1 Million		$2.8 Million	
Three Year Total Hospitalization or ED Visit Charges	n/a		$213.1 Million		$8.4 Million	
Average Length of Hospital Stay (Days)	n/a		11		n/a	

†The incidence of ED visits does not include patients who were subsequently admitted into the hospital

Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

The Healthy People 2020 goals around residential fire prevention aim for a 10% reduction in the morbidity and mortality associated with fires[v]. Table 8.2. shows these goals for the US and NYS. To meet this goal, NYS is:

Table 8.2. HP2020 Objectives: Reduce residential fire-related deaths[v]

Healthy People 2020 Objectives		National		NYS	
Objective Number	Objective Description	US 2020 Goal	US Baseline (2007)	NYS 2020 Goal	NYS Baseline (2007-2009)
28	Reduce residential fire deaths	0.86 / 100,000 population	0.95 / 100,000 population	0.83/100,000 population	0.92/100,000 population

Program Goal: Reduce Fire and Flame

The best fire is one that never starts, and the person least likely to be injured or killed in a fire is the one who was never exposed to fire danger in the first place. Education about fire risk and prevention is a proven strategy for preventing residential fires and deaths.

Through collaborations with our partners, BOHIP is working to decrease the incidence of residential fire-related injuries and deaths, increase fire safety knowledge, and the practice of fire injury prevention behaviors across each of NYS's counties. One such endeavor is working to increase the presence of working smoke alarms in residences. According to the National Fire Protection Association, 62% of all home fire deaths reported in 2010 resulted from fires in homes without working smoke alarms. A properly functioning smoke alarm reduces the number of deaths by half.

Another endeavor from BOHIP, is a campaign to educate parents and caregivers about the dangers of novelty lighters. Novelty lighters, also called toy-like lighters, are fully functioning cigarette lighters shaped like toys, including animals, robots, camera, cellphones, and famous cartoon characters. Some novelty lighters ring like a cellphone or flash lights. They pose a significant risk to children, as it is nearly impossible for a child, and oftentimes an adult, to distinguish between a toy and a lighter.

Programmatic goals to protect children include:

- Educating parents and caregivers about the dangers of novelty lighters
- Developing a model policy for NYS

Residential Fire Safety: Operational Plan

Table 8.3. Action Plan for Residential Fire Safety

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
Reduce the number of fire incidents involved novelty lighters and children by 5% by 2020.	Educate parents/caregivers about the dangers of novelty lighters	Home	OFPC, Child Injury Policy Subgroup, NYS Safe Kids, PTA
		Home	OFPC, Child Injury Policy Subgroup, NYS Safe Kids
Decrease residential fire deaths	Increase the number of long-life working smoke alarms	Home	OFPC, local fire departments, local health departments

Data and Resources for Fire-Related Injuries

National Data and Resources

- American Burn Association (www.ameriburn.org/)
- Centers for Disease Control and Prevention (www.cdc.gov/)
    - Fire Safety information (www.cdc.gov/homeandrecreationalsafety/fire-prevention/)
- Home Fire Sprinkler Coalition (www.homefiresprinkler.org/)
- National Fire Prevention Association (www.nfpa.org/)
- Nationwide Children's Hospital (www.nationwidechildrens.org/cirp-fires-and-burns)
- US Fire Administration (www.usfa.fema.gov/)

New York State Data and Resources

- NYS Department of Health (www.health.ny.gov/prevention/injury_prevention/children/toolkits/fire/)
- NYS Office of Fire Prevention and Control (www.dhses.ny.gov/ofpc/)

Motor Vehicle-Related Injuries

Problem Description

Motor vehicle-related injuries are a leading cause of injury in NYS [iii,iv] (Tables 1.3 - 1.6). Motor Vehicle crashes impact pedestrians, motorists, motorcycle riders, bicyclists, and others. All New Yorkers, regardless of age, are at risk of traffic-related injury and death.

Figure 9.1. Position of New Yorkers who Died in Motor Vehicle Crashes, 2010-2012[iii]

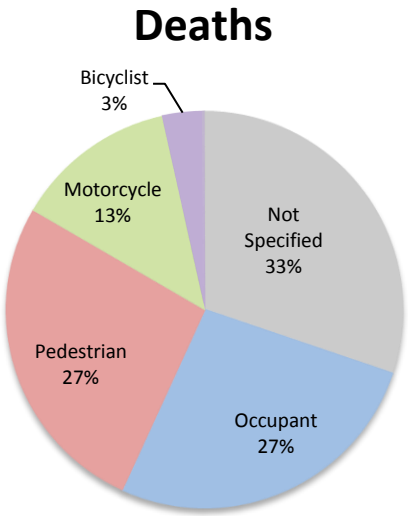
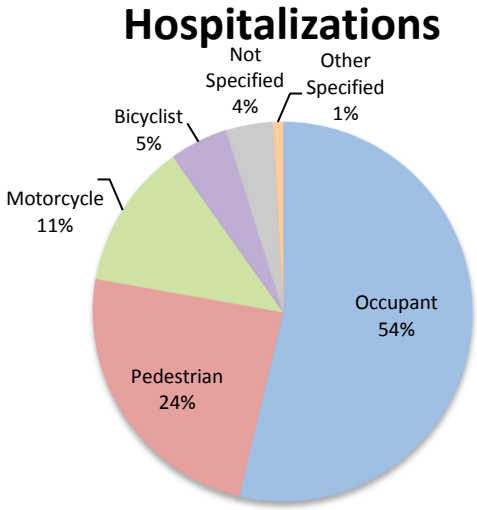


Figure 9.2. Position of New Yorkers Hospitalized from Motor Vehicle Crash Related Injuries, 2010-2012[iv]



Traffic-related injuries occur in every county of NYS. However, the burden of injury is not evenly distributed throughout the 62 counties. Figure 9.4 highlights the distribution of traffic-related injuries in NYS from 2010-2012.

For traffic-related hospitalizations, the three counties with the lowest age-adjusted rates of hospitalization were New York, Essex, and Clinton. Conversely, the counties with the highest rates of traffic-related hospitalizations were Greene, Nassau, and Sullivan.[iv].

For ED visits, the counties with the lowest age-adjusted rates were Clinton, Tioga, and New York. The three highest age-adjusted county ED rates were Nassau, Hamilton, and Suffolk.[iv]

Figure 9.3. Position of New Yorkers Treated at an ED from Motor Vehicle Crash Related Injuries, 2010-2012[iv]

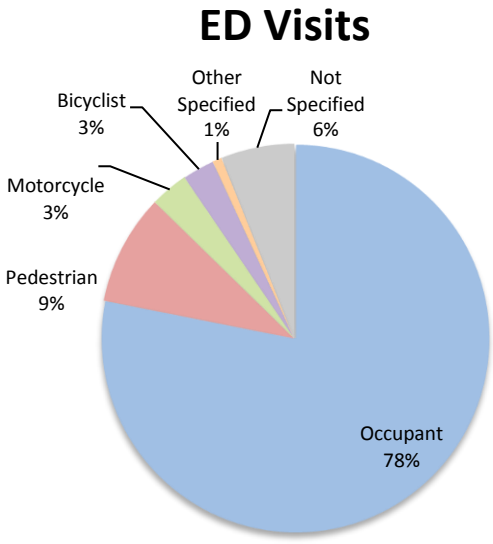
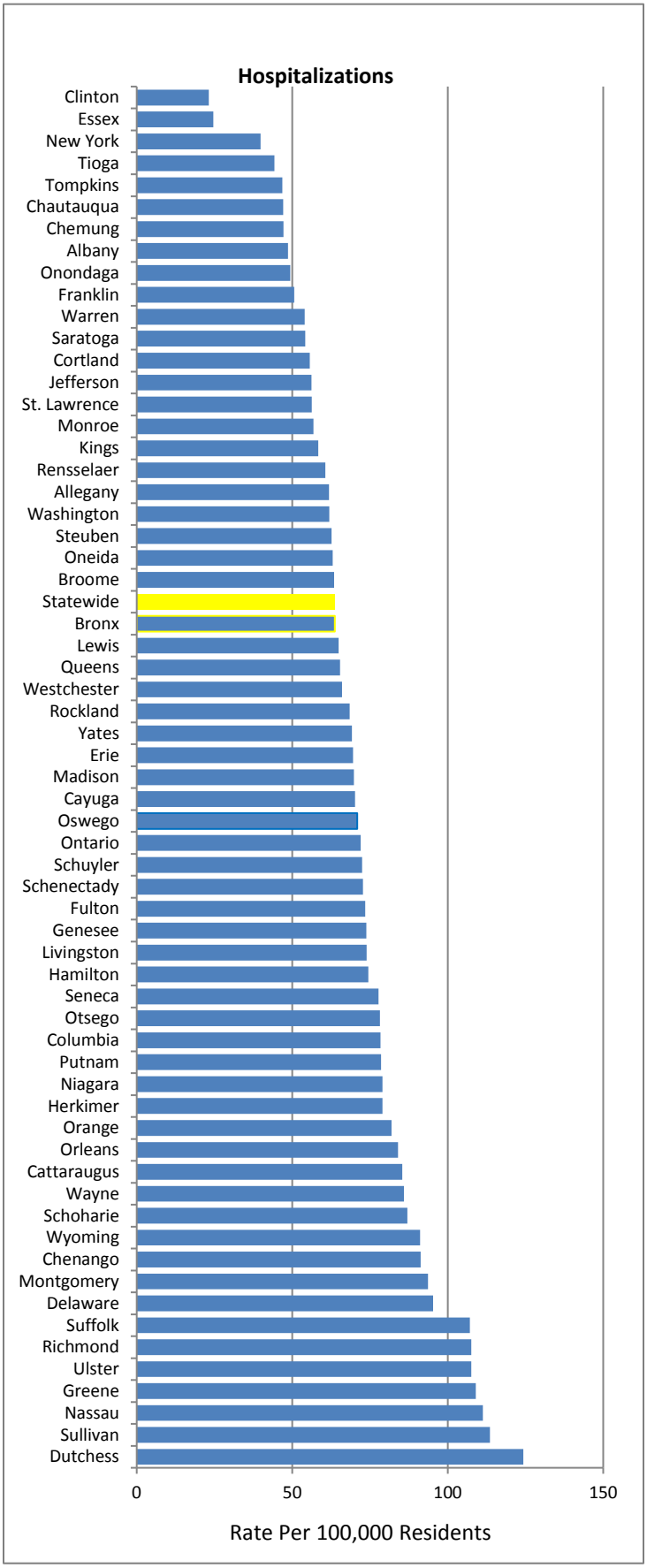
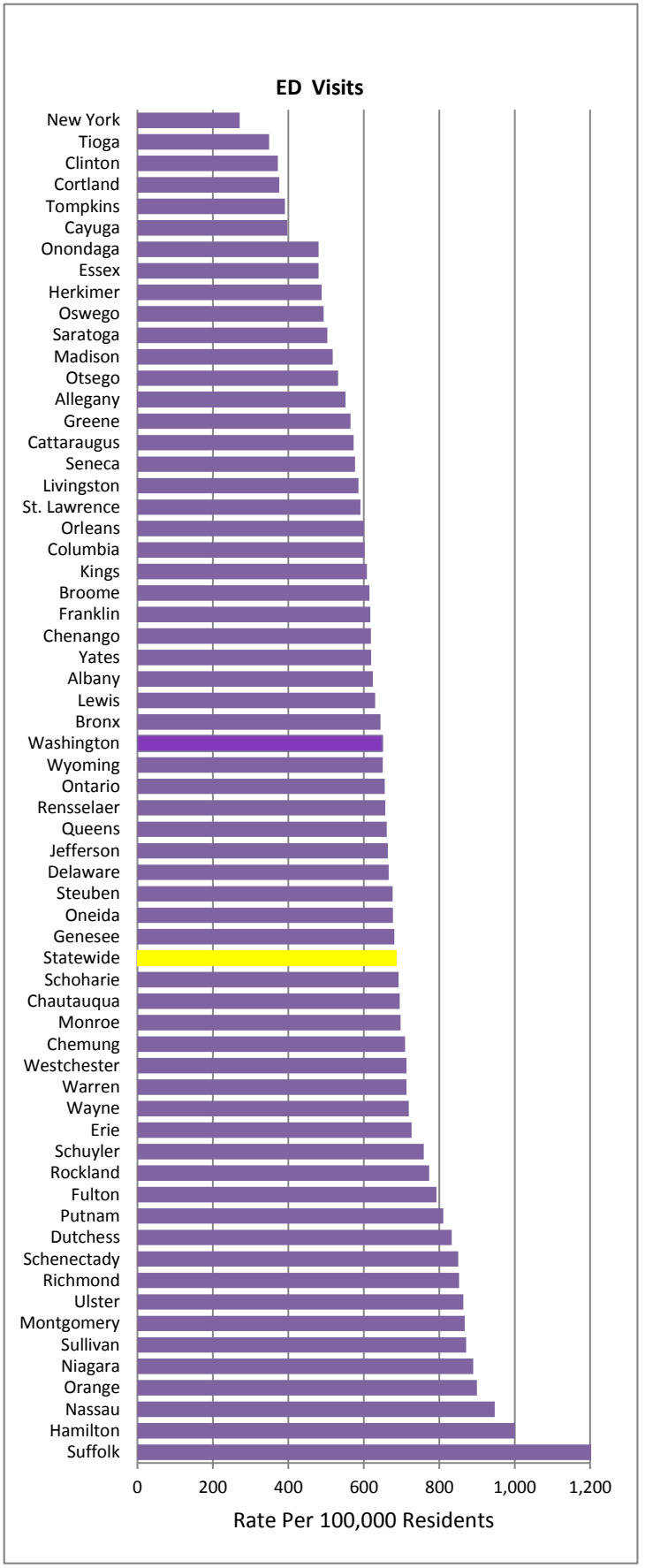


Figure 9.4. Age-Adjusted Traffic-Related Injury Rate per 100,000 New Yorkers by NYS County of Residence, 2010-2012[iv]





From 2010-2012, ***an average of 1,173 New Yorkers died from crash-related injuries***[iii]. There were also 146,987 people who were treated at hospitals from crash-related injuries – 12,848 were injured severely enough to require inpatient treatment[iv].

Table 9.1. Incidence of Deaths, Hospitalizations and ED Visits due to Traffic-Related Injury among NYS Residents, 2010-2012[iii,iv]

	Deaths		Hospitalizations		ED Visits	
Characteristics	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	1,173	6.0	12,848	65.8	134,139	686.6
Age Group						
0<1	2**	1.0	12	5.1	518	215.4
1-4	9	1.0	114	12.0	2,379	251.4
5-9	11	0.9	224	19.1	3,576	305.3
10-14	16	1.4	360	30.2	4,586	384.4
15-19	84	6.3	1,024	77.2	13,322	1,004.5
20-24	141	9.9	1,461	103.0	19,306	1,360.5
25-44	310	5.9	3,590	67.9	49,274	931.9
45-64	303	5.8	3,604	68.5	31,771	603.9
65+	297	11.0	2,459	91.3	9,408	349.3
Gender						
Male	825	8.7	7,781	81.9	64,069	675.4
Female	348	3.5	5,067	50.5	70,067	697.1
Unknown	0	n/a	0	n/a	3**	n/a
Percent Traumatic Brain Injury	45%		32%		10%	
Mean Charge per Hospitalization or ED Visit	n/a		$49,891		$2,246	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$641.0 Million		$301.2 Million	
Three Year Total Hospitalization or ED Visit Charges	n/a		$1.9 Billion		$903.7 Million	
Average Length of Hospital Stay (Days)	n/a		6		n/a	

[†]The incidence of ED visits does not include patients who were subsequently admitted into the hospital

Rate = Frequency/Population *100,000

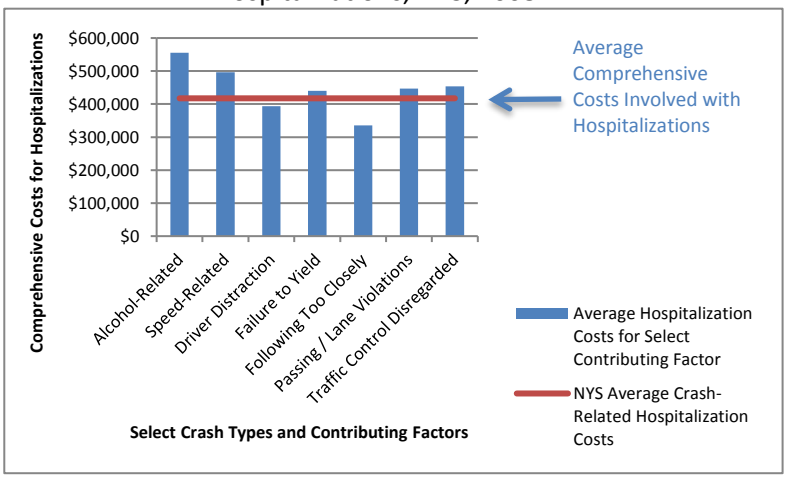
*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

Not only did crashes exact a toll on New Yorkers' morbidity and mortality, ***motor vehicle crashes are an economic burden to the people of NYS.***

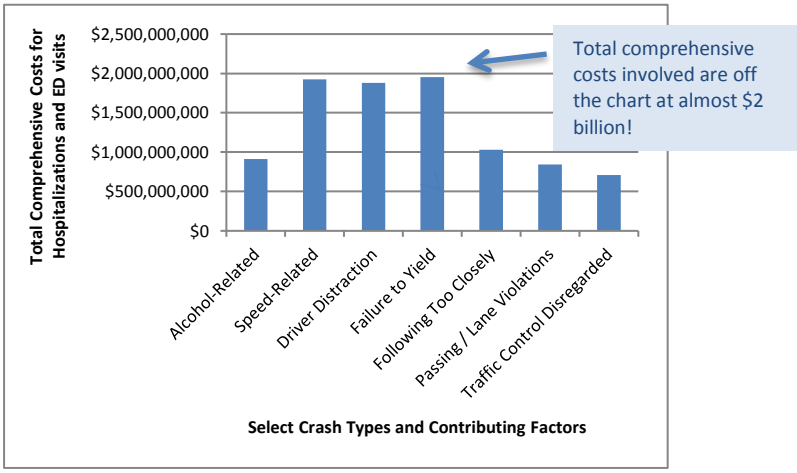
- $ Annually, crashes on New York's roadways result in an average of close to $800 million in hospitalization and ED charges[iv].
- $ These crashes resulted in almost $12 billion in overall comprehensive costs (includes State Medical Costs, Emergency Services Costs, Market Productivity Costs, Household Productivity Costs, Insurance Administration Costs, Workplace Costs, Legal Costs, Travel Delay Costs, Property Damage Costs and Quality-adjusted life years).

Figure 9.5. Average Comprehensive Costs for Traffic-Related Hospitalizations, NYS, 2008[xxxiii]



- $ For crash victims who were hospitalized following a crash, the comprehensive costs were over $417 per person[xxxiii].
- $ While the highest total costs were associated with "Failure to Yield Right of Way" crashes, the highest costs per hospitalization occurred to those involved in alcohol-related crashes – an average cost over $555 thousand[xxxiii].

Figure 9.6. Total Comprehensive Costs for Traffic-Related Hospitalizations and ED Visits, NYS, 2008[xxxiii]



The Healthy People 2020 goals around Traffic Safety aim for a 10% reduction in the morbidity and mortality associated with traffic-related injuries by 2020[v]. Table 9.2. shows these goals for the US and NYS. The objectives for NYS include reducing the morbidity and mortality associated with crashes. BOHIP is working with its partners to:

1. ***Protect New Yorkers on the road*** by decreasing the rate of death (per 100,000 New Yorkers) from motor vehicle crashes from 6.3 to 5.7, and decreasing the rate of hospitalizations (per 100,000 New Yorkers) due to traffic-related injuries from 72.1 to 64.9.
2. ***Protect pedestrians in NYS*** by decreasing the rate of death (per 100,000 New Yorkers) from motor vehicle crashes from 1.4 to 1.3, and decreasing the rate of hospitalizations (per 100,000 New Yorkers) due to traffic-related injuries from 16.5 to 14.9.
3. ***Protect bicyclists in NYS*** by decreasing the rate of death (per 100,000 New Yorkers) from motor vehicle crashes from 0.16 to 0.14.
4. ***Provide education on the importance of proper motorcycle helmet use*** and the NYS motorcycle helmet law – working to maintain the 100% helmet use rate that is observed in NYS.

Table 9.2. HP2020 Objectives: Reducing motor vehicle crash-related deaths and nonfatal injuries[v]

Healthy People 2020 Objectives		National		New York State	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline (2007)**	**NYS 2020 Goal**	**NYS Baseline (2007-2009)**
13.1	Reduce motor vehicle crash-related deaths per 100,000 population	12.4 / 100,000 population	13.8/ 100,000 population	5.7 / 100,000 population	6.3 / 100,000 population
13.2	Reduce motor vehicle crash-related deaths per 100 million vehicle miles travelled	1.2 deaths /100 million miles driven	1.3 deaths /100 million miles driven	0.76 deaths /100 million miles driven	0.85 deaths /100 million miles driven
14	Reduce nonfatal motor vehicle crash-related injuries.	694.4 / 100,000 population	771.5 / 100,000 population	64.9 hospitalizations / 100,000 population	72.1 hospitalizations / 100,000 population
15	Increase use of safety belts	92.4 / 100,000 population	84.0 / 100,000 population	95%	85.9% of occupants in moving vehicles were restrained with seat belts and/or child safety seats in 2008.
16.1	Increase age-appropriate vehicle restraint system use in children birth to 12 months	95%	86% of children aged 0 to 12 months were restrained in rear-facing child safety seats in 2008	100%	92.3% of occupants moving vehicles aged birth to 12 months were restrained with child safety seats in 2008.
16.2	Increase age-appropriate vehicle restraint system use in children 1 to 3 years*	79%	72% of children aged 1 to 3 years were restrained in front-facing child safety seats in 2008	88%	79.8% of occupants aged 1 to 3 in moving vehicles were restrained with child safety seats in 2008.
16.3	Increase age-appropriate vehicle restraint system use in children 4 to 7 years*	47%	43% of children aged 4 to 7 years were restrained in booster seats in 2008	45%	41.3% of occupants aged 4 to 7 in moving vehicles were restrained with child safety seats in 2008.
16.4	Increase age-appropriate vehicle restraint system use in children 8 to 12 years*	86%	78% of children aged 8 to 12 years used safety belts in 2008	96%	87.0% of occupants aged 8 to 12 in moving vehicles were restrained with and/or child safety seats in 2008.
18	Reduce pedestrian deaths on public roads	1.3 / 100,000 population	1.4 / 100,000 population	1.3 / 100,000 population	1.4 / 100,000 population
19	Reduce nonfatal pedestrian injuries on public roads	20.3 / 100,000 population	22.6 / 100,000 population	14.9 hospitalizations / 100,000 population	16.5 hospitalizations / 100,000 population
20	Reduce pedal cyclist deaths on public roads	0.22 / 100,000 population	0.24 / 100,000 population	0.14 / 100,000 population	0.16 / 100,000 population
22	Increase the proportion of motorcycle operators and passengers using helmets	73.7%	67.0%	100%	100%

Priorities

The CDC has identified motor vehicle crashes as a winnable battle[xxix]. The winnable battles are public health priorities with large-scale impact on health, with known, effective strategies to address them. NYSDOH utilizes information and strategies from the CDC to assist in reducing the burden and impact of motor vehicle crashes.

The following are the priorities for injury reduction in NYS, through 2020, as related to this program area:

1. Maintain useful traffic data
2. Teen driver safety
3. Older driver safety
4. Occupant restraint
5. Motorcycle safety
6. Wheeled sport safety
7. Pedestrian Safety
8. Drowsy Driving

Program Goal: Improve Traffic Record Usage

Data surveillance is a fundamental tool in injury prevention. Data surveillance systems are used to identify at-risk populations, predict patterns, and recognize risk factors. In addition, data surveillance systems are often used to guide program decisions and to evaluate past program activities. For a data surveillance system to be highly useful, it has to have the most recent data available and an efficient method to disseminate the information. For these reasons, there is an ongoing need to update BOHIP surveillance systems with the newest and most accurate data available and to continually improve and enhance the data dissemination process. To address this need, BOHIP is working to maintain an up-to-date, efficient, and useful surveillance system to assist in traffic safety program development, implementation, and evaluation at the state and local levels.

Table 9.3. Action Plan for Traffic Record Usage

Objective	Evidence Based / Best Practice Strategy	Partners
Annually update and improve the NYSDOH Traffic Safety Surveillance System.	Maintain an up-to-date, efficient and useful Traffic Data Surveillance System to assist in traffic safety program development, implementation and evaluation at the state and local levels.	BBHS, BEMS and Trauma Systems, NYS DMV, ITSMR, NHTSA
		BBHS, BEMS and Trauma Systems, NYS DMV, ITSMR
		Information Systems and Technology, PWSA Team, DMV, ITSMR, BEMS and Trauma Systems
	Improve data dissemination to state and local traffic safety and injury prevention partners and the general public	NYSDOH, Healthcom
		NHTSA, ITSMR, NYS DMV, NYS GTSC, BBHS, BEMS and Trauma Systems, PWSA, NYS NYSDOH Bureau of Chronic Disease Evaluation and Research

Program Goal and Operational Plan: Improve Teen Driver Safety

BOHIP and partners will institute evidence-based programs and public awareness initiatives to promote teen driving safety best practices through the provision of resources and educational materials and collaboration with state and local partners. Goals include increasing public awareness of the dangers of teen driving and risk reduction strategies and expanding capacity on the state and local level to promote the institution of evidence-based, best practice and promising interventions. These goals will be addressed by increasing the availability of teen driving safety materials for ethnically diverse groups, instituting strategies to increase the awareness of the public and localities of the availability of teen driving safety educational materials, resources, and web-based information, as well as collaborating with state and local stakeholders to develop, coordinate, implement, and evaluate teen driving safety programs, campaigns, and activities.

Table 9.4. Action Plan for Teen Driving Safety

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
Increase public awareness of the dangers of teen driving and risk reduction strategies.	Institute strategies to increase the awareness of the public and localities of the availability of teen driving safety educational materials, resources and web-based information.	Motor Vehicles and Roadways	NYPTDS, GTSC, DMV, AAA, Law Enforcement, Parents, Teachers, Youth Bureau and School Board Associations, Driver Education Programs, Traffic Safety Agencies and Organizations, Hospitals, OASAS, NYS DMV, Judicial Agencies, Insurance Companies, High Schools
	Increase the availability of teen driving safety materials for ethnically diverse groups.	Motor Vehicles and Roadways	NYPTDS, GTSC, DMV, AAA, Law Enforcement, Parents, Teachers, Youth Bureau and School Board Associations, Driver Education Programs, Traffic Safety Agencies and Organizations, Hospitals, OASAS, NYS DMV, Judicial Agencies, Insurance Companies, High Schools

Program Goal and Operational Plan: Improve Older Driver Safety

BOHIP staff will work to increase knowledge and awareness of the risks for older drivers ages 65 and over and best practices to effectively minimize risk. Goals include maintaining and building partnerships with state and local traffic safety and injury prevention groups, as well as organizations serving this population that develop, implement and evaluate older driver safety programs. This will facilitate the development, dissemination and maintenance of older driver safety educational/promotional materials, and continued participation in and promotion of the CarFit program among local health departments, traffic safety boards and other agencies with an interest in older driver safety.

Table 9.5. Action Plan for Older Driver Outreach

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP will increase knowledge and awareness of the risks for older drivers ages 65 and over and best practices to effectively minimize risk by 2020.	Maintain and build partnerships with state and local traffic safety and injury prevention groups, as well as organizations serving this population that develop, implement and evaluate older driver safety programs.	Motor Vehicles and Roadways	GTSC, NYS DOT, FHWA, ITSMR, NYSOFA, local Area Offices on Aging, Local Traffic Safety Professionals, Local Health Departments, Rehabilitation Hospitals, Senior Centers, Law Enforcement agencies
	Provide education and technical assistance regarding older driver safety.	Motor Vehicles and Roadways	GTSC, NYS DOT, FHWA, ITSMR, NYSOFA, local Area Offices on Aging, Local Traffic Safety Professionals, Local Health Departments, Rehabilitation Hospitals, Senior Centers

Program Goal and Operational Plan: Improve Occupant Restraint Usage

BOHIP staff will work to increase awareness of the risks of non-use and misuse of occupant restraints as well as promote recommended occupant restraint practices to the public and high-risk groups. Additionally, BOHIP will continue to promote and expand the capacity for child passenger safety programs and other outreach activities through participation on state and local partnerships. These goals will be addressed by increasing the availability of child passenger safety materials for high-risk groups; instituting strategies to increase the awareness of the public and localities of child passenger safety educational materials, resources, and web-based information; and, collaborating with local and state partner agencies to provide technical assistance in the development, coordination, implementation, and evaluation of child passenger safety programs, campaigns, and activities.

Table 9.6. Action Plan for Occupant Restraint

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP will work to increase awareness of the risks of non-use and misuse of occupant restraints and promote recommended occupant restraint practices to the public and high-risk groups.	Institute strategies to increase the awareness of the public and local partners of child passenger safety educational materials, resources, and web-based information.	Motor Vehicles and Roadways	GTSC, Certified CPSTs and Instructors, Traffic Safety Program Managers, LHDs, Medical Providers, Prenatal Care Assistance Programs, WIC
	Promote back seat use for child occupants 8-12 years	Motor Vehicles and Roadways	CPSAB, NYSATSB, GTSC, schools
BOHIP will promote and work to expand the capacity for the institution of child passenger safety programs and outreach activities through participation on state and local partnerships.	Collaborate with local and state partner agencies to provide technical assistance in the development, coordination, implementation, and evaluation of child passenger safety programs, campaigns, and activities.	Motor Vehicles and Roadways	CPSAB, GTSC, Local Traffic Safety Professionals, Local Certified CPSTs
BOHIP will work to increase the number of children ages 16 to 19 years riding properly restrained in the back seat	Promote best practice through a virtual advocacy/awareness day.	Motor Vehicles and Roadways	NYS CPSAB, NYSATSB, GTSC, Schools
	Educate teens about the importance of buckling up in the back seat.		NYS CPSAB, NYSATSB, GTSC, Schools

of a motor vehicle by 15% in NYS by the end of 2020.		Motor Vehicles and Roadways	
	Policy evaluation	Motor Vehicles and Roadways	
	Educate key policy stakeholders	Motor Vehicles and Roadways	NYS CPSAB, NYSATSB, GTSC, Schools
BOHIP will work to increase the number of children ages 12 years and younger riding in the back seat of a motor vehicle by 15% in NYS by the end of 2020.	Educate parents/caregivers about best practices	Motor Vehicles and Roadways	Child Injury Policy Subgroup, NYS CPSAB, NYSATSB, GTSC

Program Goal and Operational Plan: Improve Motorcycle Safety

BOHIP staff will work to increase public knowledge and awareness about the availability of motorcycle training and rider education programs, motorcycle safety strategies, laws relating to motorcycle helmet use among motorcyclists, and other motor vehicle users. Goals include working to maintain and disseminate educational materials and providing technical assistance to promote motorcycle safety and participation in motorcycle rider education programs. BOHIP staff will also continue to provide technical assistance to public health, traffic safety, and injury prevention professionals on motorcycle safety.

Table 9.7. Action Plan for Motorcycle Safety

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP will work to increase awareness about motorcycle rider education and training programs, motorcycle safety strategies, motorcycle and helmet laws among motorcyclists and other motor vehicle users.	Provide technical assistance and education regarding motorcycle safety.	Roadways	GTSC, NYS DMV, NYS DOT, NHTSA, FHWA, ITSMR, NYS Thruway Authority, Local Traffic Safety Professionals, Local Health Departments, Law Enforcement Agencies.

Program Goal and Operational Plan: Improve Non-Motorized Transportation Safety

BOHIP staff will work to decrease wheeled sport-related injuries by increasing the public's knowledge regarding NYS helmet laws and injury prevention strategies. This increased knowlege may then increase the number of bicyclists, in-line skaters, scooter and skateboard riders who properly wear protective gear including approved safety helmets, knee and elbow pads, and wrist guards. Goals for improving wheeled sport safety include: coordinating the development, maintenance, and distribution of a Non-Motorized Traffic Safety Promotion Campaign; promoting helmet use and appropriate consistent bicycle safety education via participation in multi-agency workgroups that focus on bicycle safety issues; and providing technical assistance and training to local and state public health and traffic safety injury prevention partners regarding helmet standards and proper fitting for bicycle helmet distribution programs.

Table 9.8. Action Plan for Non-Motorized Transportation Safety

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP staff will work to decrease wheeled sport-related injuries by increasing the public's knowledge regarding NYS helmet laws and injury prevention strategies and by increasing the number of bicyclists, in-line skaters, scooter and skateboard riders who properly wear protective gear including approved safety helmets, knee and elbow pads and wrist guards.	Provide education and technical assistance regarding non-motorized traffic safety.	Public Roadways, Schools, Parks and Trails	GTSC, NYS DOT, FHWA, ITSMR, NYSMPOs, Local Traffic Safety Professionals, Local Health Departments, Safe Kids, Schools, NYBC, Law Enforcement agencies, PWSA
	Promote helmet use and appropriate consistent bicycle safety education throughout the project year via participation in multi-agency workgroups that focus on bicycle safety issues.	Public Roadways, Schools, Parks and Trails	GTSC, NYS DOT, FHWA, ITSMR, NYSMPOs, local traffic safety professionals, local health departments, Safe Kids, Schools, NYBC, Law Enforcement agencies

Program Goal and Operational Plan: Improve Pedestrian Safety

BOHIP staff will work to increase knowledge levels and promote pedestrian safety behaviors among at-risk populations. Pedestrian safety education will be expanded by identifying appropriate target populations and developing prevention messages that promote safety strategies to reduce injuries; conduct activities to increase awareness and promote safety behaviors among older adults, children and drivers to increase pedestrian safety; continue efforts with partner agencies to increase blind spot awareness and back- over injuries to children and workers; and maintain participation in multi-agency workgroups that focus on pedestrian safety issues and support initiatives statewide throughout the project year.

Table 9.9. Action Plan for Pedestrian Safety

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP will work to increase knowledge levels and promote pedestrian safety behaviors among at-risk populations to reduce injuries and increase pedestrian safety.	Expand pedestrian safety education by identifying additional target populations and developing prevention messages that promote safety strategies.	Public Roadways, Schools, Private and Commercial Properties (driveways & parking lots)	GTSC, NYS DOT, FHWA, ITSMR, NYSMPOs, Local Traffic Safety Professionals, Local Health Departments, Safe Kids, Schools, Law Enforcement Agencies
	Conduct activities to increase awareness and promote safety behaviors among older adults, children and drivers.	Public Roadways, Schools, Private and Commercial Properties (driveways & parking lots)	GTSC, NYS DOT, FHWA, ITSMR, NYSMPOs, Local Traffic Safety Professionals, Local Health Departments, Safe Kids, Schools, Law Enforcement Agencies

Program Goal and Operational Plan: Drowsy Driving Prevention

BOHIP staff will increase knowledge and awareness of the risks of drowsy driving and best practices to effectively minimize the risk of drowsy driving-related injuries. Goals include maintaining and disseminating campaign materials to increase public awareness of the dangers of drowsy driving, continued coordination of the multi-agency NYS Partnership Against Drowsy Driving and support public

awareness initiatives addressing driving while fatigued, and providing technical assistance to public health, traffic safety, and injury prevention professionals on drowsy driving prevention.

Table 9.10. Action Plan for Drowsy Driving Prevention

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP will work to increase knowledge and awareness of the risks of drowsy driving and best practices to effectively minimize risk.	Coordinate the NYS Partnership Against Drowsy Driving and provide support in the development, implementation and evaluation of its initiatives and build partnerships with other state and local stakeholders that address drowsy driving safety.	Roadways	GTSC, NYS DOT, FHWA, ITSMR, NYS Thruway Authority, Local Traffic Safety Professionals, Local Health Departments, Colleges, AAA
	Provide education and technical assistance regarding drowsy driving prevention.	Roadways	GTSC, NYS DOT, FHWA, ITSMR, NYS Thruway Authority, Local Traffic Safety Professionals, Local Health Departments, Colleges, AAA

Traffic Safety Data and Resources

National Data and Resources

- AAA Foundation for Traffic Safety (www.aaafoundation.org)
    - Information for older drivers (seniordriving.aaa.com/)
- Bicycle Helmet Safety Institute (www.bhsi.org/)
- CarFit (www.car-fit.org/)
- Centers for Disease Control and Prevention (www.cdc.gov)
    - Community Guide describing programs and policies to improve health and prevent disease in a community (www.thecommunityguide.org)
        - Motor Vehicle Injury (www.thecommunityguide.org/mvoi/index.html)
    - Parents Are the Key to Safe Teen Drivers provides resources for parents of teen drivers online at www.cdc.gov/ParentsAreTheKey/index.html
- Children's Hospital of Philadelphia (www.chop.edu)
    - Data and resources for teen drivers safety, targeting teens: parents, policy makers, and researchers (www.teendriversource.org/)
- Department of Transportation Distracted Driving (www.distraction.gov)
- Fatality Analysis Reporting System (FARS) contains data on all fatal traffic crashes (www.nhtsa.gov/FARS)
- Your One-Stop Resource for Motorcycle Helmet Information (helmetcheck.org/)
- Model Inventory of Roadway Elements (MIRE) information and data elements (www.mireinfo.org/about.html)
- Model Minimum Uniform Crash Criteria (MMUCC) Information on the guidelines and data elements (www.mmucc.us/)
- The Motorcycle Safety Foundation – For Car Drivers (www.forcardrivers.com/)
- National Highway Traffic Safety Administration (NHTSA) (www.nhtsa.gov/)
    - Driving Safety: Research and Evaluation resources (www.nhtsa.gov/Driving+Safety/Research+&+Evaluation)
    - Databases and Software (www.nhtsa.gov/Research/Databases+and+Software)

    - Fatality Analysis Reporting System (FARS) (www.nhtsa.gov/FARS)
    - CODES Project (www.nhtsa.gov/Data/State+Data+Program+&+CODES)
    - Motorcycle Safety (www.nhtsa.gov/Safety/Motorcycles)
    - NHTSA's Traffic Safety Performance Measures (www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/USA%20WEB%20REPORT.HTM)
    - NHTSA Traffic Records resources (www.nhtsa-tsis.net/)
- National Safety Council (www.nsc.org/)
- National Sleep Foundation (www.sleepfoundation.org)
    - Drowsy Driving data and resources (drowsydriving.org/) and at (www.sleepfoundation.org/article/sleep-topics/drowsy-driving)
- Snell Memorial Foundation Use Your Head, Wear A Helmet (www.smf.org/)

New York State Data and Resources

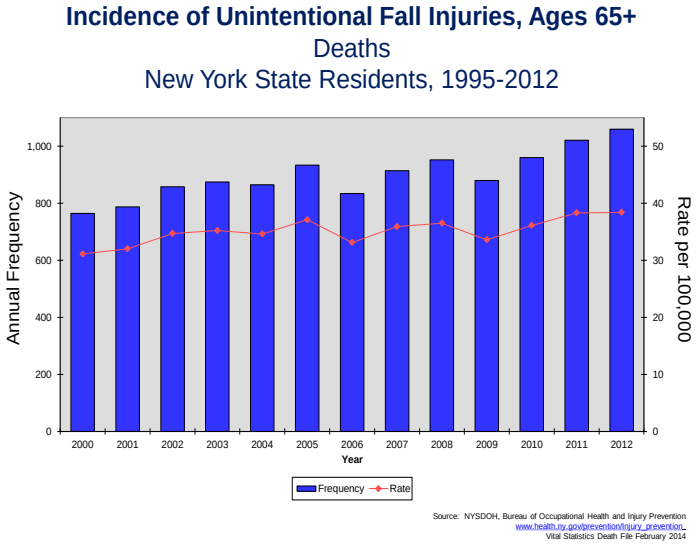
- Brain Injury Association of New York State (www.bianys.org/)
- NYSDOH, Traffic-related injury data (www.health.ny.gov/statistics/prevention/injury_prevention/traffic/index.htm)
- DOT (www.dot.ny.gov/)
- DMV (www.dmv.ny.gov/)
- NYS Motorcycle Safety Program -- Let the first ride, be your best ride (www.nysmsp.org/)
- Governor's Traffic Safety Committee (www.safeny.ny.gov/)
    - Motorcyle, Moped and ATV (safeny.ny.gov/mcyc-ndx.htm#faq/)
    - State and County data reports (www.safeny.ny.gov/hsdata.htm)
    - A Younger Driver Traffic Safety tool-kit (www.safeny.ny.gov/SRO-Toolkit/default.html)
- NYS Office for the Aging (www.aging.ny.gov/Caregiving/OlderDriver/DriverIntroduction.cfm)
- NHTSA's Traffic Safety Performance Measures for NYS (www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/36_NY/2010/36_NY_2010.htm)
- OASAS, underage drinking prevention (www.oasas.ny.gov/ud/index.cfm)

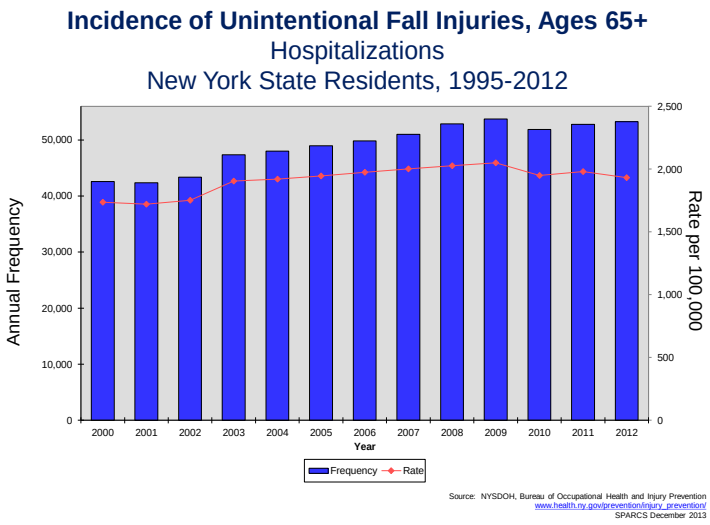
Fall Prevention for Older Adults

Problem Description

Falls are the leading cause of injury-related deaths, hospitalizations, and ED visits among adults 65 and older[iii,iv]. Falls can result in lasting, serious consequences, affecting mobility, independence, and mental health. Fortunately, fall risk can be reduced though evidence-based strategies, such as exercise to improve strength and balance.

Fall-related injuries are on the rise in NYS. Figures 10.2-10.3 highlight the distribution of fall-related injuries among older adults in NYS from 1995-2012. From 1995 to 2012, the rates of fall-related deaths and hospitalizations increased 6%[iii] and 20%[iv], respectively.





Many fall-related injuries occur in the home (Figure 10.3). Among older New Yorkers, 53% of the falls that resulted in hospitalization and 31% of the falls that resulted in outpatient ED treatment occurred in the home[iv]. Hazards that increase the risk of falling in homes include: clutter in walkways and on stairs, slippery or inconsistent flooring surfaces, unstable furniture, poor or inadequate lighting, pets and pet-related objects, a lack of stair railings or grab bars, and a lack of easy access bathrooms.

Figure 10.3. Place of Fall, Ages 65+, NYS Residents, 2008—2012[iv]

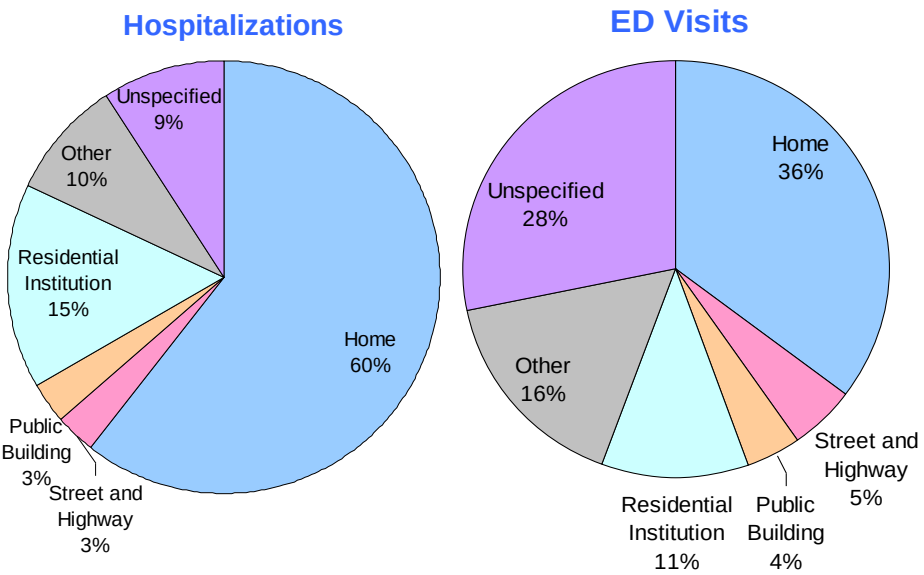
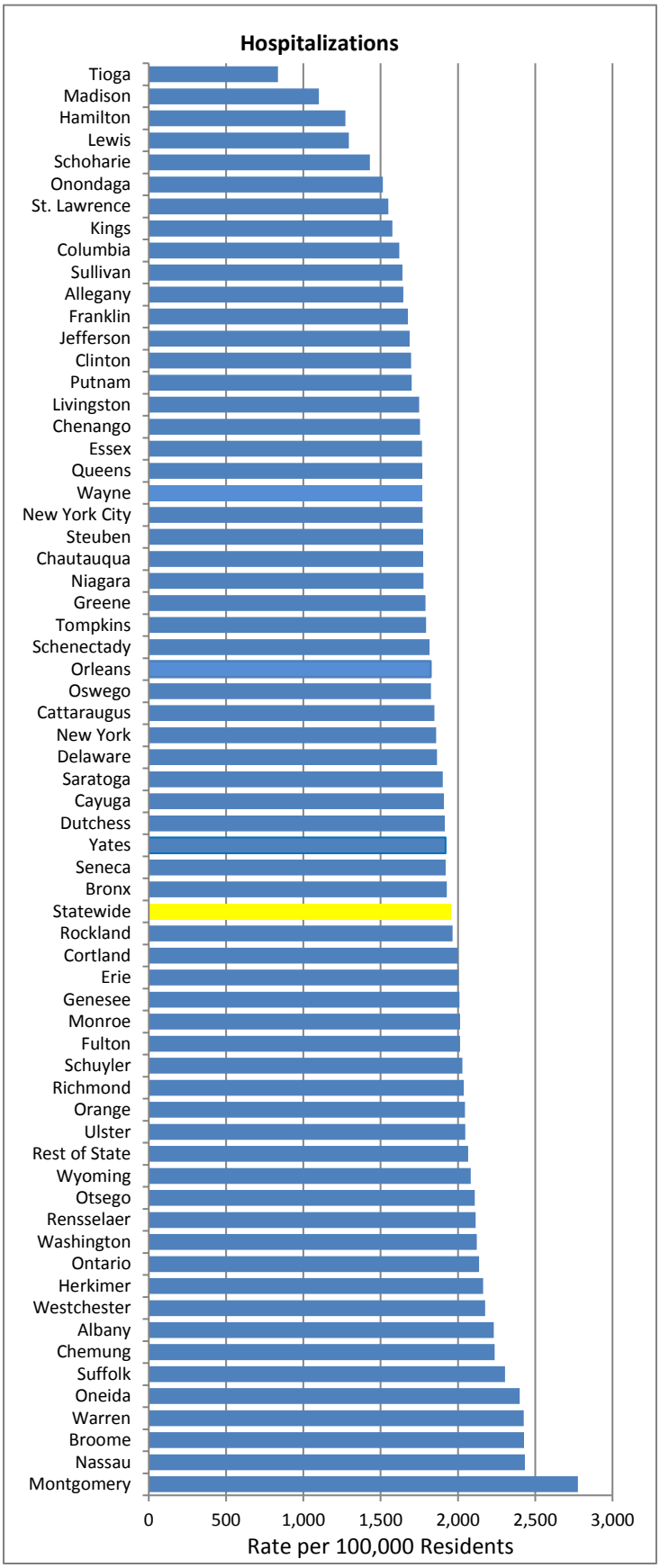
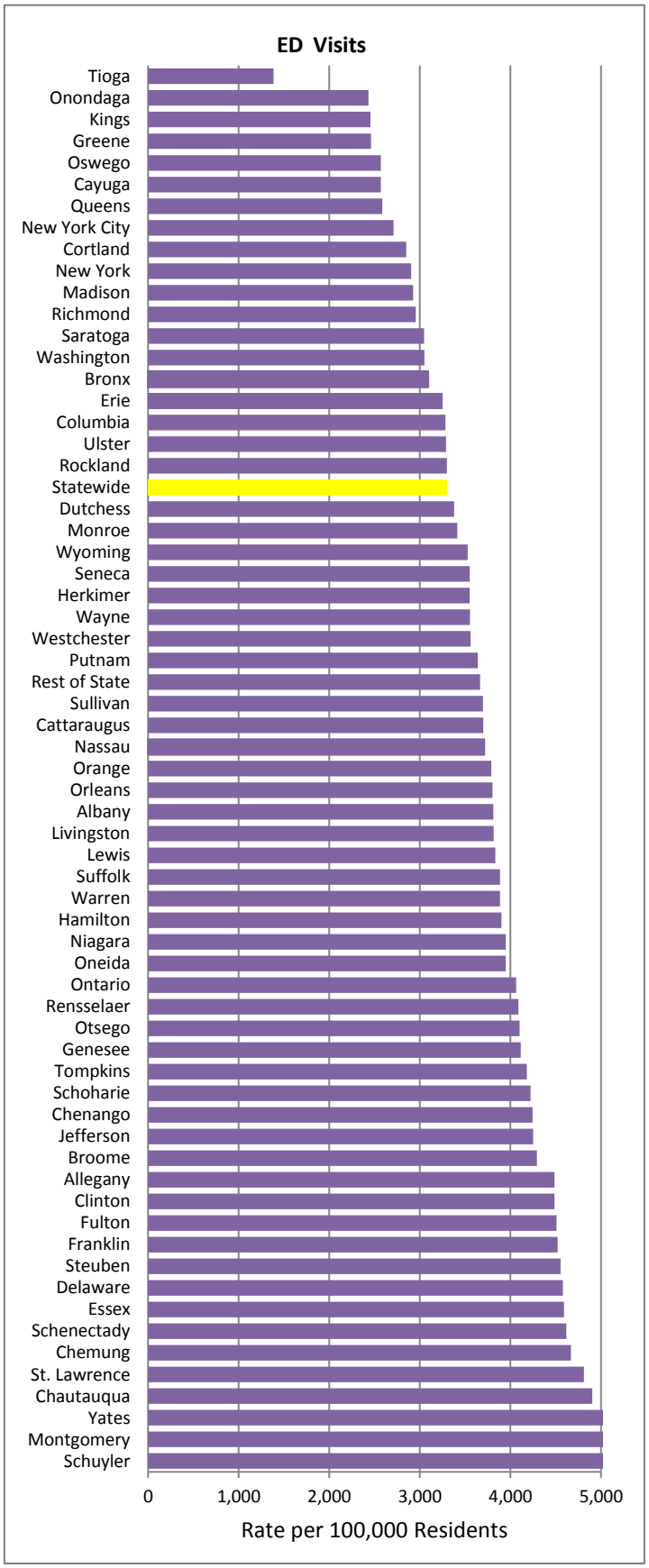


Figure 10.4. Age-Adjusted Fall-Related Injury Rate per 100,000 Older New Yorkers (aged 65+) by NYS County of Residence, 2010-2012[iv]





*Rest of State Includes all of NYS, excluding NYC

Fall-related injuries occur among older adults in every county of NYS. However, the burden of injury is not evenly distributed throughout the 62 counties. Figure 10.4 highlights the distribution of fall-related injuries in NYS from 2010-2012.

For fall-related hospitalizations, the three counties with the lowest age-adjusted rates of hospitalization were Hamilton, Lewis, and Schoharie. Conversely, the counties with the highest rates of fall-related hospitalizations were Broome, Nassau and Montgomery[iv].

For ED visits, the counties with the lowest age-adjusted rates were Kings, Green, and Oswego. The three highest age-adjusted county ED rates were Yates, Montgomery, and Schuyler [iv].

From 2010-2012, ***an average of 1,013 older New Yorkers died each year from fall-related injuries***[iii]. There were also 141,570 people who were treated at hospitals for fall-related injuries – 52,640 of them were injured severely enough to require inpatient treatment[iv] (Table 10.1).

Table 10.1. Incidence of Deaths, Hospitalizations and ED† Visits due to Fall-Related Injury among Older New Yorkers (aged 65+), 2010-2012[iii,iv]

Characteristics	Deaths		Hospitalizations		ED Visits	
	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	1,013	37.6	52,640	1,954.2	88,930	3,301.5
Age Group						
65-74	133	9.4	10,670	753.3	29,490	2,082
75-84	359	41.3	19,167	2,205.8	31,767	3,655.7
85+	522	127.8	22,802	5,584.9	27,673	6,778
Gender						
Male	485	43.1	16,877	2,283.0	27,964	2,487.1
Female	529	33.7	35,763	3,454.7	60,964	3,884.9
Unknown	0	n/a	n/a	n/a	*	n/a
Percent Traumatic Brain Injury	55%		13%		20%	
Percent Hip Fracture	n/a		26%		1%	
Mean Charge per Hospitalization or ED Visit	n/a		$39,673		$2,776	
One Year Total Hospitalization or ED Visit Charges	n/a		$2.1 Billion		$246.9 Million	
Three Year Total Hospitalization or ED Visit Charges	n/a		$6.3 Billion		$740.6 Million	
Average Length of Hospital Stay (Days)	n/a		7		n/a	

†The incidence of ED visits does not include patients who were subsequently admitted into the hospital
Rate = Frequency/Population *100,000
*Data based on frequencies less than six are not reported
**Caution: Rates based on frequencies less than 20 are unstable

Not only did falls among older New Yorkers exact a toll on morbidity and mortality, fall-related injuries are an economic burden to the people of NYS. On average, each year, falls result in the death of over 900 older New Yorkers[iii]. The CDC estimates that the 858 deaths that occurred in 2005 resulted in $105 million in medical and work loss costs[ii]. Falls account for $1.8 billion in annual hospitalization charges and $173.7 million in annual outpatient emergency department charges[iv]. Approximately 95% of the hospitalization charges are billed to publicly funded programs such as Medicaid and Medicare. In addition, half of adults 65 and older who are hospitalized due to a fall end up in a nursing home or rehabilitation center[iv].

The Healthy People 2020 goals around falls in older adults aim to stop the rise in the morbidity and mortality associated with falls in older adults[v]. Table 10.2. shows these goals for the US and NYS.

Table10.2. HP2020 Objectives: Prevent an Increase in the Rate of Fall-Related Deaths[v]

Healthy People 2020 Objectives		National		NYS	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline (2007)**	**NYS 2020 Goal**	**NYS Baseline (2007-2009)**
23.2	Prevent an increase in the rate of fall-related deaths among persons 65 and older	45.3 / 100,000 population	45.3 / 100,000 population	35.3 /100,000 population	35.3 /100,000 population

Priorities

The following are priorities for fall-related injury reduction in select counties and for further expansion statewide, through 2020:

1. Promote and implement evidence-based falls prevention programs, strategies, and services that address physical mobility, medications management, home safety, and environmental safety in the community.
2. Educate healthcare providers on CDC's *STEADI (Stopping Elderly Accidents, Deaths, & Injuries) Toolkit* to help them screen, assess, and treat older adult patients based on their specific fall risk factors.
3. Support policies and regulations that facilitate falls prevention activities.
4. Build a business case for falls prevention.
5. Promote and coordinate falls prevention awareness, education, and outreach activities year-round.

Program Goal: Prevent an Increase in Fall-Related Injuries Among Older Adults

Falls are not an inevitable part of the aging process, and can be prevented through evidence-based strategies.

As the NYS population continues to age, BOHIP strives to prevent an increase in fall-related injury among older adults. This will be accomplished through evidence-based programming and raising awareness to reduce fall risk and fall-related injury among NYS older adults.

Evidence-based programming utilized in NYS includes Tai Chi: Moving for Better Balance, Stepping On, the Otago Exercise Program, and STEADI.

***YMCA Moving for Better Balance* (based on *Tai Chi: Moving for Better Balance*)**

Developed by Dr. Fuzhong Li, this program includes eight forms derived from the Yang style of Tai Chi that emphasize weight shifting, postural alignment, and coordinated movements to improve muscle strength, balance, and postural control. This program is designed for community dwelling older adults

who can walk with ease with or without assistive devices. The program meets two to three times per week for 12 weeks. Studies show *Tai Chi: Moving for Better Balance* can reduce fall risk by 47% to 55%.

***Tai Chi for Arthritis* (formerly known as the *Arthritis Foundation Tai Chi Program*)**
Developed by Dr. Paul Lam and a team of medical experts, this tai chi program is has been shown to improve balance, strength, and posture. The program meets twice a week for 8 weeks. The program emphasizes movement control, weight transference, and integration of mind and body.

Stepping On
Stepping On is a group program that empowers older adults to carry out health behaviors that reduce the risks of falls, improve self-management, and increase quality of life. It is a community-based workshop offered once a week for seven weeks using adult education and self-efficacy principles. The program is facilitated by a health professional and co-leader. Local guest experts also assist by providing information on fall prevention topics such as balance and strength exercises, vision, community and home safety, and medications. Older adults develop specific knowledge and skills to prevent falls in community settings. This program is for people who are: a) at risk of falling, b) have a fear of falling or c) who have fallen one or more times. Studies show *Stepping On* reduces fall risk by 31%.

The Otago Exercise Program
Otago was developed, tested, and proven to be effective for reducing falls among adults 65 years of age and older in four randomized controlled trials conducted in New Zealand at the University of Otago. This program consist of a series of 17 strength and balance exercises delivered by a Physical Therapist in the home. Otago has been shown to reduce falls by 35 percent among high risk individuals. It was most effective for adults 80 years of age or older, who have fallen within the last year, and who have moderate to severe decreased strength and balance due to multiple risk factors. It is an individually tailored, home-based program that includes muscle-strengthening and balance-retraining exercises of increasing difficulty, combined with a walking program. The program is delivered by a certified physical therapist and lasts for a year, which includes 7 home visits and 7 phone calls. Otago may be reimbursable through Medicare and other health insurance plans.

***STEADI* Toolkit**
Developed by the CDC, *STEADI* is a comprehensive and easy-to-use resource designed to help healthcare providers incorporate fall risk assessment and proven interventions into clinical practice. The toolkit contains resources such as: referral forms, directory of community programs, training materials, case studies, conversation scripts, risk assessment tools, patient education materials, and a physician pocket guide. The toolkit will be introduced by peers at in-person meetings with clinical practices using an academic detailing model.

Fall Prevention Among Older Adults: Operational Plan

Table 10.3. Action Plan for Fall Prevention Among Older Adults

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
BOHIP will promote the adoption and expansion of effective older adult fall prevention programs in selected communities in NYS.	Implement Tai Chi: Moving for Better Balance	Community	CDC, LHDs, AAAs, Physical Therapists, Regional Trauma Centers, Local Falls Coalitions
	Implement Stepping On	Community	CDC, LHDs, AAAs, Regional Trauma Centers, Local Falls Coalitions
	Implement the Otago Exercise Program	Home	CDC, LHDs, AAAs, Physical Therapists
BOHIP will assist in building capacity/infrastructure and implement changes in clinical care practice and policy.	Implement STEADI	Primary care practice	CDC, LHDs, AAAs, Regional Trauma Centers, Local Falls Coalitions, Health Care Plans, Healthcare Providers, Insurance Companies
BOHIP will work with local communities to support state- and local-level commemorations of Fall Prevention Awareness Day.	Provide safety materials to participating agencies.	Community	LHDs and AAAs in NYS, NCOA
Promote home safety and evidence-based fall prevention strategies.	Educational resources to raise awareness and promote action.	Community	CDC, LHDs, AAAs
Provide interventions consisting of exercise or physical therapy and/or vitamin D supplementation at appropriate dosage by age and ability to prevent falls among older adults	Vitamin D supplementation to prevent falls.	Community	USPSTF, Healthcare Providers
	Exercise or physical therapy to prevent falls in community-dwelling adults aged 65 years or older who are at increased risk for falls.	Community	USPSTF, Healthcare Providers, Community Service Agencies

Data and Resources for Fall Prevention Among Older Adults

National Data

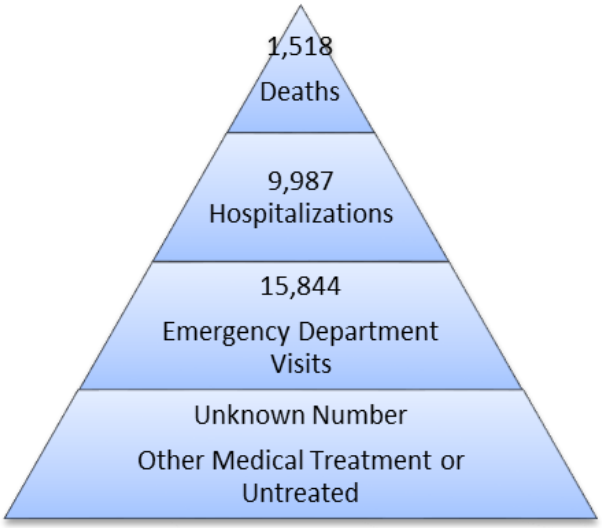
- CDC (www.cdc.gov/HomeandRecreationalSafety/Falls/index.html)
- NCOA (www.ncoa.org/improve-health/center-for-healthy-aging/falls-prevention/)
    - NCOA Falls Free Coalition Logic Model (www.ncoa.org/improve-health/center-for-healthy-aging/falls-prevention/evaluation-guidelines/why-use-a-logic-model.html)
    - Evidence-based fall prevention programs (www.ncoa.org/improve-health/center-for-healthy-aging/falls-prevention/community-programs.html)
- U. S. Preventive Services Task Force current recommendations for Prevention of Falls in Community-Dwelling Older Adults, May 2012 (www.uspreventiveservicestaskforce.org/uspstf/uspsfalls.htm)

New York State Data

- NYSDOH (https://www.health.ny.gov/prevention/injury_prevention/falls_in_older_adults_nys.htm)
- NYS Office for the Aging (www.aging.ny.gov)
    - Fall and Injury Prevention (www.aging.ny.gov/NYSOFA/Programs/HealthWellness/FallPrevention.cfm)

Unintentional Poisoning Related Injuries

Figure 11.1. Unintentional Poisonings
New York State Residents, 2010-2012

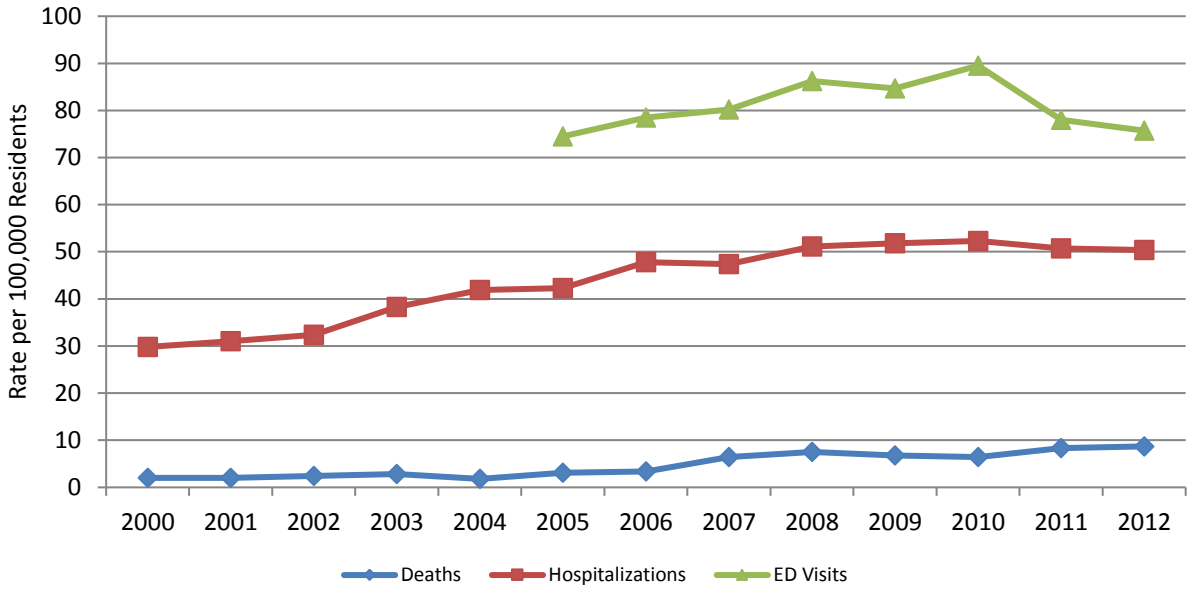


Problem Description

A poisoning is an exposure to any extrinsic substance (including prescription and non-perscription drugs) by ingestion, inhalation, injection, or absorption through the skin or mucous membranes that results in at least one related adverse clinical effect. [xxx]

Unintentional poisonings are an increasingly important cause of injury-related morbidity and mortality. Nationally and in NYS, poisoning is a significant public health concern. Poisoning is *the* leading cause of unintentional injury mortality for New Yorkers. On average, there are four deaths, 28 hospitalizations, and 46 outpatient ED visits each day because of unintentional poisonings among NYS residents, and these numbers are on the rise (Figure 11.2). Since 2000, the rate of unintentional poisoning deaths has increased 334% and the rate of hospitalizations has increased 69%. ED data is only available since 2005. In the seven years from 2005 - 2012, the rate of ED visits rose to a high of 89.5 in 2010 and then dropped to a rate of 75.7 in 2012.

Figure 11.2. Unintentional Poisoning Deaths, Hospitalizations and ED Visits, NYS Residents, 2000-2012



NB: ED visit data is not available prior to 2005

In NYS, the average hospitalization charge for unintentional poisoning is $22,654, resulting in an average of over $226 million each year. The rate of death is highest in New Yorkers 45-64 years old and the rate of hospitalizations is highest among New Yorkers 65 and older. However, the rate of outpatient ED treatment is highest among children ages one to four years old (Table 11.1). The rate of poisoning is higher for males than for females.

Unintentional Drug Poisonings

Poisonings from drug use and abuse occur with legal medication and illegal drug use. For the purpose of this document, *drug* refers to "any chemical compound that is chiefly used by or administered to humans or animals as an aid in the diagnosis, treatment, or prevention of disease or injury, for the relief of pain or suffering, to control or improve any physiologic or pathologic condition, or for the feeling it causes."[i] Unintentional drug poisonings are defined through ICD-10 and ICD-9 codes (Table 11.2). The use of drugs accounted for almost 90% of the unintentional poisoning-related deaths and hospitalizations in NYS (Figure 11.3). However, drugs accounted for just over half of the poison-related outpatient ED visits.

Table 11.1. Incidence of Deaths, Hospitalizations and ED† Visits due to Unintentional Poisonings among NYS Residents, 2010-2012

Characteristics	Deaths		Hospitalizations		ED Visits	
	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	1,518	7.8	9,987	51.1	15,844	81.1
Age Group						
0<1	*	*	56	23.3	365	151.9
1-4	*	*	434	45.9	3,123	330.1
5-9	*	*	74	6.3	707	60.4
10-14	*	*	84	7.0	615	51.5
15-19	23	1.8	329	24.8	1,253	94.5
20-24	123	8.7	545	38.4	1,437	101.3
25-44	613	11.6	2,503	47.3	3,970	75.1
45-64	684	13.0	3,893	74.0	3,007	57.2
65+	70	2.6	2,069	76.8	1,366	50.7
Gender						
Male	1,068	11.3	5,574	58.7	7,966	84.0
Female	450	4.5	4,413	44.0	7,879	78.4
Unknown	0	n/a	*	n/a	0	n/a
Mean Charge per Hospitalization or ED Visit	n/a		$22,654		$1,607	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$226.2 Million		$25.5 Million,	
Three Year Total Hospitalization or ED Visit Charges	n/a		$678.7 Million		$76.4 Million	
Average Length of Hospital Stay (Days)	n/a		4		n/a	

†The incidence of ED visits does not include patients who were subsequently admitted into the hospital

Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

Figure 11.3. Prevalence of Unintentional Poisoning from Drugs, NYS Residents 2010-2012

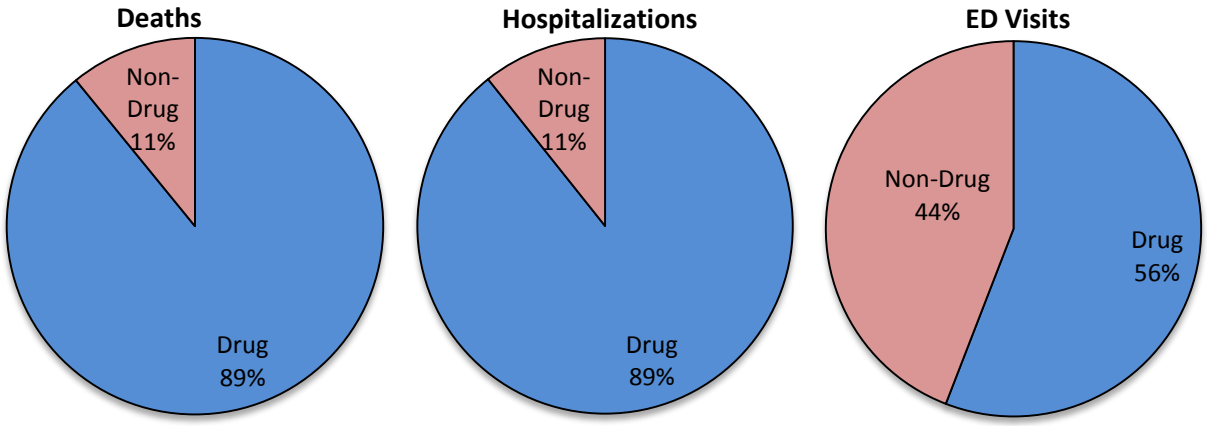


Table 11.2. External Cause of Injury Codes Used for Identification of Unintentional Drug-Related Poisoning

Data	Grouping	Codes	Description
Mortality (ICD-10 Codes)	Drug	X40	Nonopoid analgesics
		X41	Antiepileptic, sedative-hypnotic, anti-Parkinsonism, antidepressant, and other psychotropic drugs, not elsewhere classified
		X42	Narcotics and psychodysleptics not elsewhere classified
		X43	Other drugs acting on the autonomic nervous system
		X44	Drugs not elsewhere classified or unspecified
	Non-Drug	X45	Alcohol
		X46	Organic solvents, and halogen derivatives of aliphatic and aromatic hydrocarbons
		X47	Other gases and vapors (including carbon monoxide)
		X48	Other specified non-drugs
		X49	Other non-drugs not elsewhere classified or unspecified
Morbidity (ICD-9-CM Codes)	Drug	E850 (.3-.8)	Nonopioid analgesics, Antipyretics, and antirheumatics
		E850 (.0-.2)	Opiates/opioids
		E854.3, E855.2	Cocaine
		E851-E853, E854 (.0-.2,.8), E855.0	Antidepressants, barbiturates and other antiepileptics, sedative-hypnotics, and psychotropic drugs not elsewhere classified
		E850 (.9), E855 (.1,.3-.9), E856-E858	Other specified and unspecified drugs
	Non-Drug	E860	Alcohol
		E868 (.2-.9)	Carbon monoxide

		E862	Petroleum products, and other solvents and their vapors
		E861, E863-E867, E868 (.0-.1), E869	Other specified and unspecified non-drugs

Source: Consensus Recommendations for National and State Poisoning Surveillance

The rate of drug-related unintentional poisoning has been increasing in recent years (Figures 11.4). From 2000-2012, the rate of drug related poisoning deaths has increased 328%, with a high of 7.7 deaths/100,000 New Yorkers in 2012. The rate of hospitalizations due to drug-related poisoning increased 93%, with a high of 47.3 hospitalizations/100,000 New Yorkers in 2010. During this same period, hospitalizations due to non-drug related poisonings remained constant.

Emergency department data is only available since 2005; however, the rate of outpatient treatment at an ED for drug-related poisoning increased 20%, while, the rate of outpatient treatment at an ED for non-drug-related poisoning remained mostly constant.

Figure 11.4. Annual Rate of Deaths due to Unintentional Poisoning, 2000-2012

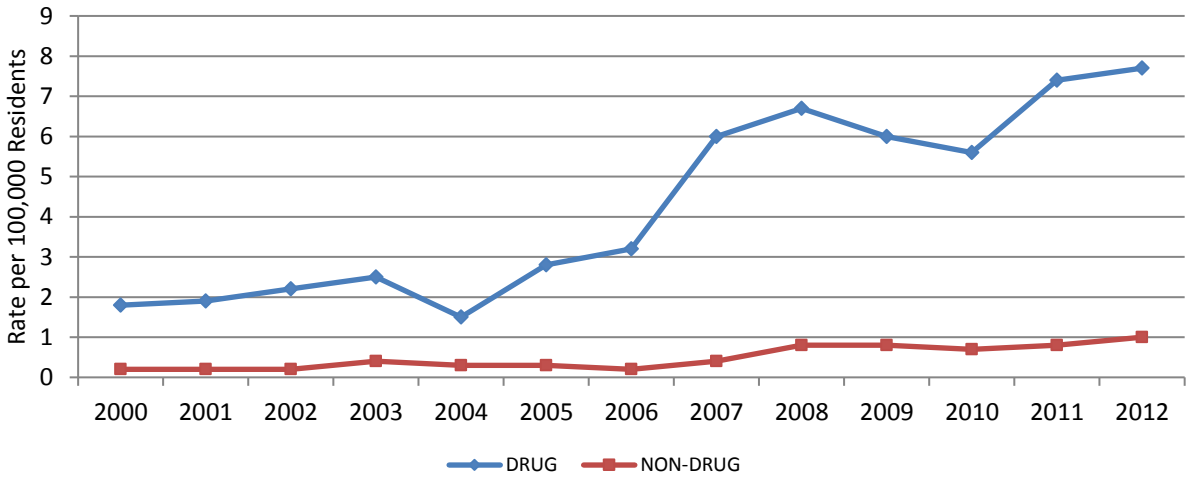


Figure 11.5. Annual Rate of Hospitalizations due to Unintentional Poisoning, 2000-2012

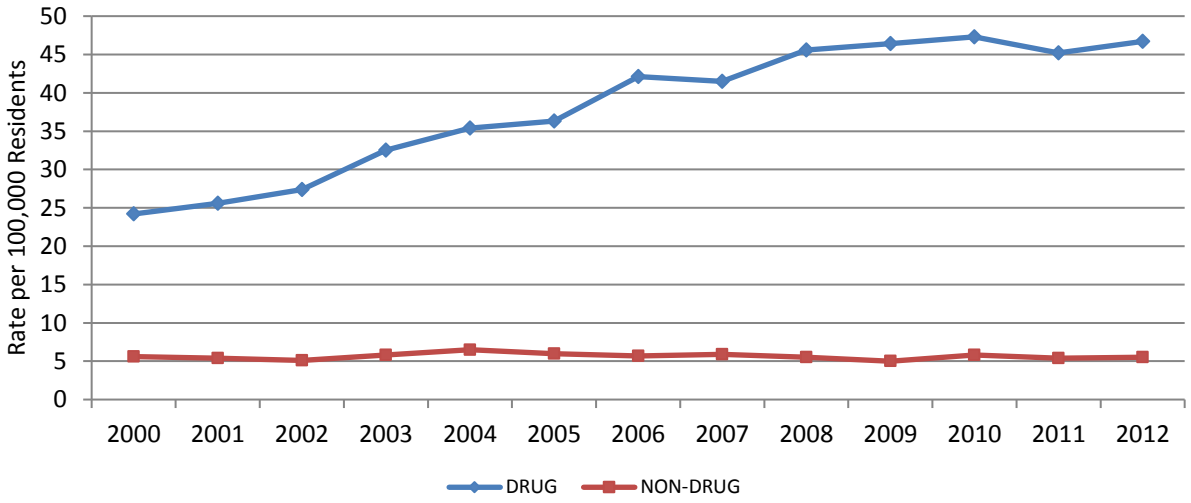


Figure 11.6. Annual Rate of ED Visits due to Unintentional Poisoning, 2005-2012

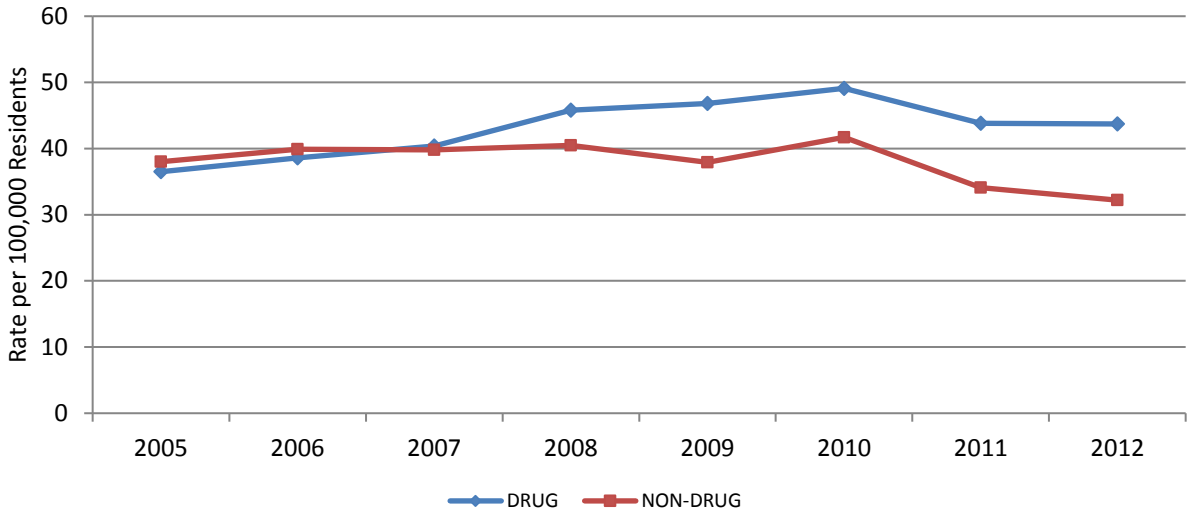


Figure 11.8. Hospitalizations due to Unintentional Poisoning, by Age, New York State Residents, 2010-2012

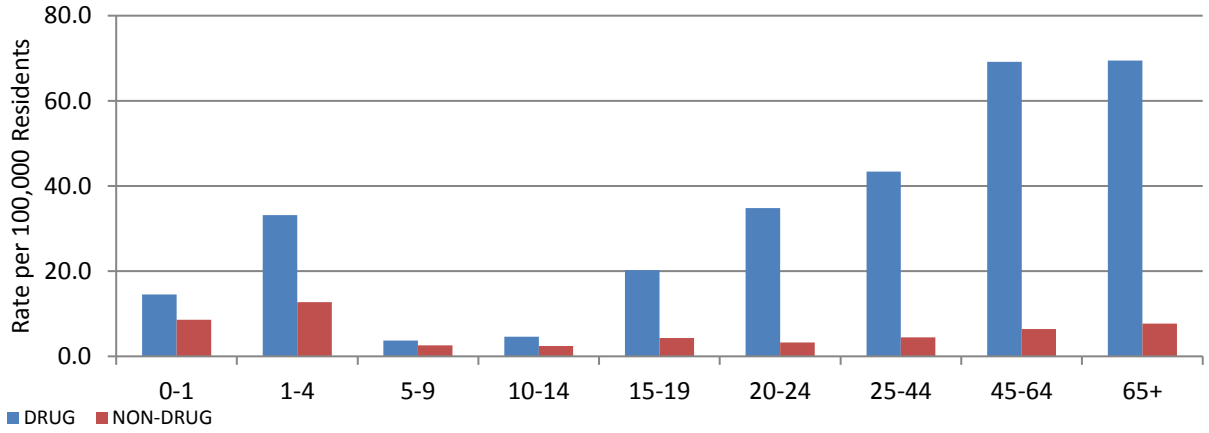
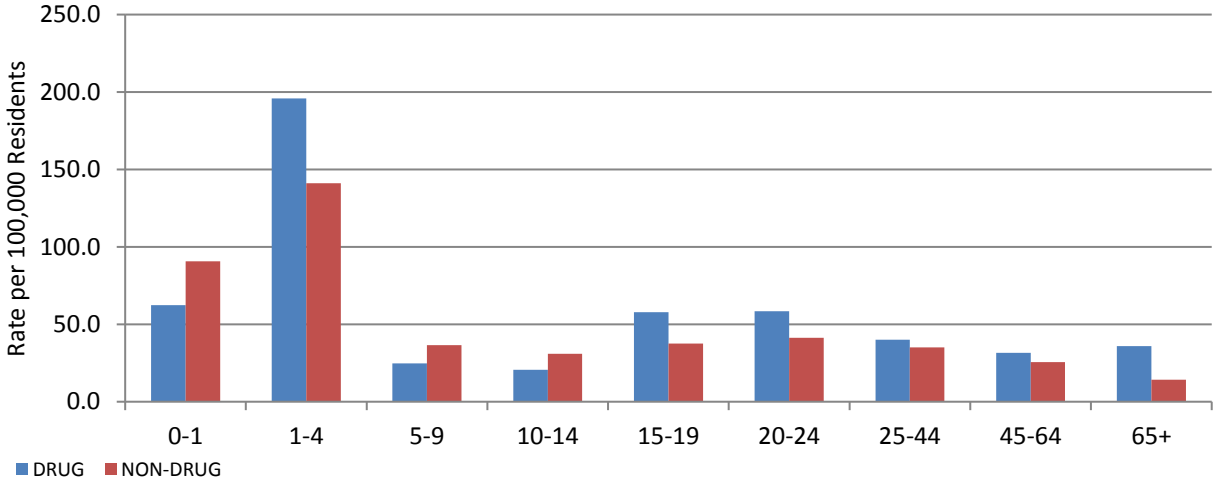


Figure 11.9. ED Visits due to Unintentional Poisoning, by age, New York State Residents, 2010-2012



Unintentional Poisonings Among Children

In New York State, for children ages one to 19 years, unintentional poisoning deaths are the second leading cause of death because of unintentional injury, second only to motor vehicle crashes. Most poisoning deaths among children are attributed to drugs, including prescription and over-the-counter medications. Also, almost 7,000 children ages 19 years and younger are treated in hospitals for unintentional poisoning each year, making it a significant cause for hospital emergency room visits and hospitalizations in New York.

As observed in Figure 11.9 and Table 11.1, there is a spike in poison-related hospitalizations and ED visits among children one – four years old; the rate of outpatient ED visits due to unintentional injury is highest for children under five years old. They are at particular risk for poisoning from drugs (prescription and over-the-counter), household cleaning products, paints, varnishes and gasoline, alcohol ingestion, lead poisoning, cosmetics, and carbon monoxide. Of growing concern in the United States is the increased use of prescription drugs taken by young teens, in particular drugs from the opioid family. These drugs are known as "painkillers" and include oxycodone, fentanyl and methadone. Many teens use prescription drugs for non-medical reasons (e.g., recreationally or to get "high"). Also, children may inhale substances that may cause poisoning, such as glue.

Heavy Metal Poisoning

The term heavy metals applies to a group of metals with similar chemical properties. There are heavy metals in our environment both naturally and from pollution. Examples of heavy metals include mercury (Hg), cadmium (Cd), arsenic (As), and lead (Pb). Some of these metals may be toxic when inhaled or ingested at certain concentrations. Exposure to heavy metals may occur through diet, medications, the environment, work or hobbies. BOHIP receives reports of all blood lead tests performed on adults (ages 16 years and older) residing or employed in NYS, along with reportable levels of mercury, arsenic and cadmium. From 2010-2012 more than 12,000 people were reported to the NYSDOH's Heavy Metal Registry (Table 11.3). For mercury, arsenic and cadmium, only test results above specified limits are reportable to the NYSDOH.

Table 11.3. Number of Adults, ages 16+, reported to the NYS Heavy Metals Registry, 2010 - 2012

		Arsenic		Cadmium		Lead		Mercury	
		number	percent	number	percent	number	percent	number	percent
Total Adults		644	100	15	100	5,874	100	5,652	100
Sex	Male	357	55.4	13	86.7	4,898	83.4	2,787	49.3
	Female	287	44.6	2	13.3	976	16.6	2,865	50.7
Age	≤29 years	57	8.9	2	13.3	1,284	25.4	480	8.5
	30-49 years	187	29.0	9	60.0	3,073	50.5	2,031	35.9
	≥50 years	400	62.1	4	26.7	1,517	24.0	3,140	55.6
	Unknown	0	---	0	---	0	---	0	---
Exposure Type	Occupational	5	0.8	6	40.0	2,323	39.6	5	0.1
	Non-Occupational	473	73.4	1	6.7	722	12.3	854	15.1
	Both	4	0.6	0	0	119	2.0	4	0.1
	Unknown	162	25.2	8	53.3	2,710	46.1	4,789	84.7
Exposure Area	NYS w/o NYC	422	65.5	12	80.0	3,155	53.7	2,163	38.3
	NYC	207	32.1	1	6.7	2,113	36.0	3,125	55.3
	Out of State/ Unknown	15	2.3	2	13.3	606	10.34	364	6.4

Pesticide Poisoning

From 1998-2014, well over 2,800 persons were reported to the Pesticide Poisoning Registry (PPR), as suspected victims of pesticide poisoning. More than half of these people were exposed in their own homes. Many other exposures occurred in settings where pesticide exposure would not normally be considered likely, e.g., office spaces, retail stores, schools, parks, and golf courses.

Two thirds of these suspect poisonings involved insecticides. The active ingredients chosen to kill insect or animal pests are similarly toxic to people. Herbicides and fungicides are generally less toxic to people than their intended target organism.

The root cause for most of these poisonings is failure to read and follow label directions. This results in applying too much product, the wrong product, or applying under the wrong conditions. In the case of total release foggers, fires and explosions have resulted when label directions were not followed precisely. In several cases, label directions could not be followed because the product had been poured into a new, unlabeled container. This not only makes safe application impossible, it has also caused several poisonings when people have mistakenly swallowed a pesticide product. Some of the reports were the result of accidental spills, often involving containers that had been in storage for a long time, or accidental exposures because the wind was blowing. In 2000, one pesticide product line was recalled by the US Enviornonmental Protection Agency to an unexpectedly strong tendency to trigger allergic and asthmatic response in users, even when directions were followed. The recall of this product was initiated by reports from state pesticide poisoning registries, and highlights the importance of reporting pesticide poisonings to public health agencies.

Priorities

The following are the priorities for injury reduction in NYS, through 2020, as related to poisonings:

- Prevent an increase in unintentional poisonings among children ages 19 and younger.
- Prevent an increase in unintentional poisonings among all New Yorkers.
- Improve surveillance of unintentional poisonings in NYS.

Program Goal: Prevent an Increase in Poisonings

BOHIP works to prevent an increase in unintentional poisoning rates among children and adults through problem identification and education strategies. BOHIP surveillance staff provide data to local partners and program staff field technical assistance requests and keep an up-to-date inventory of educational material.

The Healthy People 2020 goals around poisoning prevention aim to prevent an increase in the morbidity and mortality associated with poisoning. Table 11.4. shows these goals for the US and NYS.

Table 11.4. HP2020 Objectives: Prevent an increase in the rate of poisoning deaths and nonfatal poisonings

Healthy People 2020 Objectives		National		New York State	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline**	**NYS 2020 Goal**	**NYS Baseline**
9.1	Prevent an increase in poisoning deaths among all persons	13.1 deaths due to poisoning of any intent / 100,000 population	13.1 deaths due to poisoning of any intent / 100,000 population	9.7 deaths due to poisoning of any intent / 100,000 population	9.7 deaths due to poisoning of any intent / 100,000 population
9.2	Prevent an increase in poisoning deaths among persons aged 35 to 54 years	25.5 deaths due to poisoning of any intent / 100,000 population aged 35 to 54 years	25.5 deaths due to poisoning of any intent / 100,000 population aged 35 to 54 years	18.7 deaths due to poisoning of any intent / 100,000 population aged 35 to 54 years	18.7 deaths due to poisoning of any intent / 100,000 population aged 35 to 54 years
9.3	Prevent an increase in poisoning deaths that were caused by unintentional and undetermined intent among all persons	11.1 deaths due to poisoning of unintentional or undetermined intent / 100,000 population	11.1 deaths due to poisoning of unintentional or undetermined intent / 100,000 population	6.9 deaths due to unintentional poisoning* / 100,000 population	6.9 deaths due to unintentional poisoning* / 100,000 population
9.4	Prevent an increase in poisonings that were caused by unintentional and undetermined intent among persons aged 35 to 54 years	21.6 poisonings caused by unintentional and undetermined intent / 100,000 population aged 35 to 54 years	21.6 poisonings caused by unintentional and undetermined intent / 100,000 population aged 35 to 54 years	13.4 deaths due to unintentional poisoning* / 100,000 population aged 35 to 54 years	13.4 deaths due to unintentional poisoning* / 100,000 population aged 35 to 54 years
10	Prevent an increase in the rate of nonfatal poisonings	304.4/ 100,000 population	304.4/ 100,000 population	51.7 hospitalizations due to unintentional poisoning* / 100,000 population	51.7 hospitalizations due to unintentional poisoning* / 100,000 population
				86.8 ED visits due to unintentional poisoning* / 100,000 population	86.8 ED visits due to unintentional poisoning* / 100,000 population

*These statistics refer to unintentional poisonings. Poisoning of undetermined intent will be explored in the future (see Table x. Action Plan)

Poisoning Prevention: Operational Plan

Table 11.5. Action Plan for Unintentional Poisoning Prevention

Objective	Strategy	Environment Affected	Partners
Reduce access to potential poisons.	Provide outreach and education about unintentional poisoning prevention to parents and caregivers.	Home	NYSDOH Bureau of Media and Creative Communication, PWSA
	Reduce access to prescription drugs.	Community	CBOs, law enforcement, policy makers, pharmacies, medical professionals
	Provide outreach and education about unintentional drug-related poisoning prevention.	Community	CBOs, law enforcement, policy makers, pharmacies, medical professionals, media, BNE
Improve the surveillance of unintentional poisonings	Collaborate with partners to identify individuals at risk and discover the root problems that cause unintentional poisoning.	Use of data by partners can impact all of the environments where people work, learn, live and socialize.	BBHS, NYSDOH Bureau of Chronic Disease Evaluation and Research, NYS ED, BEMS and Trauma Systems, Bureau of Health Care Research and Information Services, Poison Control Centers, BNE, Medicaid, Workers Compensation
	Promote and support research on poisoning prevention.		BBHS, SSA, Poison Control Centers, BNE, Medicaid, Workers Compensation
	Improve data dissemination to state and local injury prevention partners and the general public.		NYSDOH Healthcom, Division of Certification and Surveillance
Prevent an increase in the rates of pesticide poisoning in NYS.	Utilize surveillance to discover the root problems that cause pesticide poisoning in NYS.	Home, work and communities	BTSA, DEC, LHDS, PCCs, Hospitals, laboratories, NYS Occupational Health Clinic Network
	Provide education to affected individuals to prevent further exposures.		Hospitals, laboratories, NYS Occupational Health Clinic Network
Prevent an increase in the rates of adult heavy metal poisoning in NYS.	Identify individuals at risk for potential poisoning through occupational and environmental sources.	Home, work and communities	Clinical laboratories, physicians, NYS Occupational Health Clinic Network, health facilities and employers
	Provide interventions that can help prevent further exposures and potential illness.	Home and work	LHDs, employers, unions, NYS Occupational Health Clinic Network

Data Sources for Poison-Related Injuries

National Data and Resources

- Agency for Healthcare Research and Quality (www.ahrq.gov/)
    - Healthcare Cost and Utilization Project (HCUP) is a family of health care databases and related software tools and products (www.hcup-us.ahrq.gov)
        - Nationwide Emergency Department Sample (NEDS)
        - Nationwide Inpatient Sample (NIS)
- Alliance of States with Prescription Monitoring Programs (www.pmpalliance.org)
- American Association of Occupational and Environmental Clinics, Medical Management Guidelines for Lead-Exposed Adults (www.aoec.org/documents/positions/MMG_FINAL.pdf)
- American Association of Poison Control Centers (www.aapcc.org)
    - National Poison Data System (NPDS) is a database holding information from all phone calls to every poison control center (www.aapcc.org/data-system)
    - Prevention resources (www.aapcc.org/prevention)
- Centers for Disease Control and Prevention (www.cdc.gov/)
    - Lead (www.cdc.gov/nceh/lead/)
    - National Institute for Occupational Safety and Health (NIOSH) (http://www.cdc.gov/niosh/)
        - Adult Blood Lead Epidemiology and Surveillance (ABLES) (www.cdc.gov/niosh/topics/ABLES/ables.html)
        - Pesticide Illness and Injury Surveillance (www.cdc.gov/niosh/topics/pesticides/)
    - Youth Risk Behavior Surveillance System (YRBSS) (http://www.cdc.gov/HealthyYouth/yrbs/index.htm)
- Drug Enforcement Administration Office of Diversion Control (www.deadiversion.usdoj.gov/index.html)
    - Automation of Reports and Consolidated Orders System (ARCOS) is an automated, comprehensive drug reporting system which monitors the flow of DEA controlled substances from their point of manufacture through commercial distribution channels to point of sale or distribution at the dispensing/retail level. (www.deadiversion.usdoj.gov/arcos/index.html)
- Federal Drug Administration Adverse Events Reporting System (FAERS) contains data on adverse event and medication error reports submitted to FDA. (www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AdverseDrugEffects/default.htm)
- Monitoring the Future is an ongoing study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults (http://monitoringthefuture.org/)
    - Monitoring the Future National Survey Results on Drug Use (1987-2012) Volume 1: Secondary School Students (http://monitoringthefuture.org//pubs/monographs/mtf-vol1_2012.pdf)
    - Monitoring the Future National Survey Results on Drug Use (1987-2012) Volume 2: College Students and Adults Ages 19-50 (http://monitoringthefuture.org//pubs/monographs/mtf-vol2_2012.pdf)
- National MCH Center for Child Death Review (www.childdeathreview.org)
- Safe States Alliance (www.safestates.org/)
    - Consensus Recommendations for National and State Poisoning Surveillance (www.safestates.org/associations/5805/files/ISW7%20Full%20Report_3.pdf)
- Substance Abuse and Mental Health Services Administration (SAMHSA) (www.samhsa.gov)
    - Drug Abuse Warning Network (www.samhsa.gov/data/DAWN.aspx)
    - National Survey on Drug Use and Health (http://www.oas.samhsa.gov/NSDUH.HTM)

- Substance Abuse and Mental Health Data Archive (www.icpsr.umich.edu/icpsrweb/SAMHDA)

New York State Data and Resources

- Department of Environmental Conservation (www.dec.ny.gov)
  - Maintains information about drug disposal at:
    - www.dontflushyourdrugs.net
    - http://www.dec.ny.gov/chemical/45189.html
- Department of Health (www.health.ny.gov),
  - Bureau of Narcotic Enforcement (BNE) (www.health.ny.gov/professionals/narcotic/)
    - Prescription Drug Abuse Awareness (www.health.ny.gov/professionals/narcotic/prescription_drug_abuse_awareness/)
    - Prescription Monitoring Program (www.health.ny.gov/professionals/narcotic/prescription_monitoring/)
    - Safe Disposal (www.health.ny.gov/professionals/narcotic/safe_disposal/)
  - Poison Proof your Home (www.health.ny.gov/prevention/injury_prevention/poison_proof_your_home.htm)
  - Poisoning Prevention (http://www.health.ny.gov/prevention/injury_prevention/children/fact_sheets/birth-19_years/poisoning_prevention_birth-19_years.htm)
- New York State Poison Control Network (www.health.ny.gov/professionals/poison_control/)
- Internet System for Tracking Over-Prescribing (I-STOP)
  - Attorney General's Office (www.ag.ny.gov/press-release/ag-schneidermans-landmark-i-stop-bill-curb-rx-drug-abuse-unanimously-passes-nys)
- New York Statewide School Health Services Center (State Plan Draft Updated Data 0216.docx)
- Youth Risk Behavior Surveillance Survey (http://www.schoolhealthservicesny.com/datareporting.cfm?subpage=267)

Homicide and Assault-Related Injuries

Problem Description

Homicide is a leading cause of injury-related deaths for New Yorkers[iii] (Table 1.4). From 2010-2012, homicides to New Yorkers resulted in an average of 790 deaths each year (Table 12.1). These New Yorkers were killed by other people through various means such as poisoning, suffocation, drowning, firearm discharge, blunt force trauma, cutting or stabbing, neglect, or bodily force.

There were an average of 89,946 people treated at hospitals for assault-related injuries – 8,482 of these people required inpatient stays (Table 12.1). These New Yorkers were intentionally injured by other people through various means such as bodily force, poisoning, firearm discharge, suffocation, submersion, blunt force trauma, cutting, stabbing, or burning. These injuries resulted in over $1.1 billion in medical charges over the three years[iv].

Table 12.1. Deaths, Hospitalizations, and ED† Visits due to Homicide and Assault-Related Injuries among NYS Residents, 2010-2012[iv].

Characteristics	Deaths		Hospitalizations		ED Visits	
	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	790	4.0	8,482	43.4	81,464	417.0
Age Group						
0<1	14	6.0	87	36.3	97	40.3
1-4	16	1.7	63	6.7	516	54.6
5-9	6	0.5**	28	2.4	1,136	97.0
10-14	7	0.6	178	14.9	4,720	395.7
15-19	96	7.2	1,204	90.8	12,829	967.3
20-24	159	11.2	1,627	114.7	15,436	1,087.8
25-44	326	6.2	3,403	64.4	32,793	620.2
45-64	126	2.4	1,604	30.5	12,733	242.0
65+	36	1.3	288	10.7	1,204	44.7
Gender						
Male	640	6.7	7,046	74.2	50,363	530.9
Female	150	1.5	1,436	14.3	31,100	309.4
Unknown	*	n/a	*	n/a	*	n/a
Percent Traumatic Brain Injury	34%		23%		16%	
Mean Charge per Hospitalization or ED Visit	n/a		$29,138		$2,013	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$247.2 Million		$164.0 Million	
Three Year Total Hospitalization or ED Visit Charges	n/a		$741.5 Million		$492.1 Million	
Average Length of Hospital Stay (Days)	n/a		6		n/a	

†The incidence of ED visits does not include patients who were subsequently admitted into the hospital

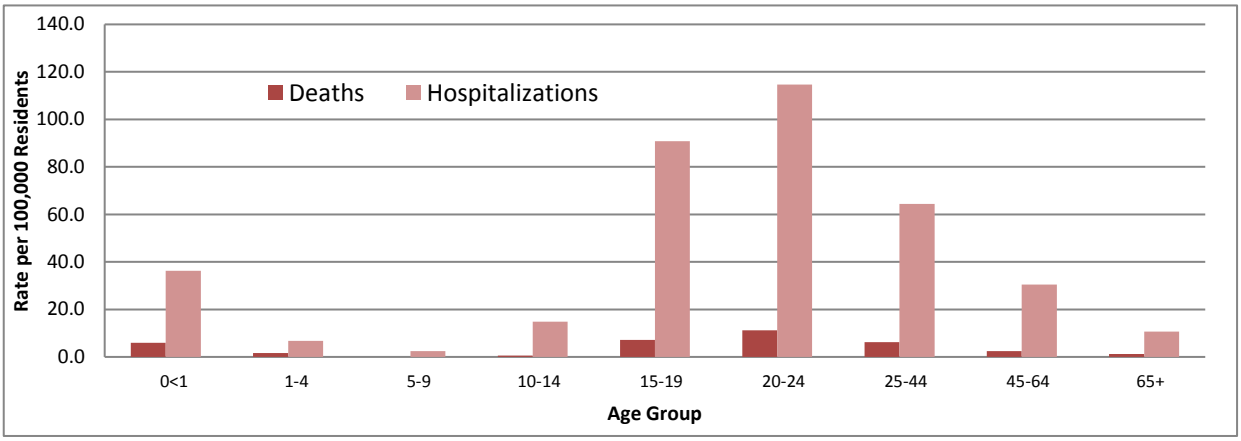
Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

While all age groups are at risk for becoming victims of violence, adolescents and young adults, ages 15 to 24, have the highest rates of homicide and assault-related injury (Table 12.1, Figure 12.1).

Figure 12-1. Homicide and Assault-Related Hospitalization Rates, NYS Residents, 2010-2012[iii,iv]



Between 2010-2012, firearms were the leading mechanism of homicide for victims aged 10 and older[iii] (Table 12.2). During this period, the leading mechanism of assault-related hospitalizations and ED visits was for the victim to be struck by or against something[iv] (Tables 12.3 – 12.4). This includes unarmed fights using hands, fists, or feet, and being struck by a blunt or thrown object. For young children, "Unspecified" is a leading mechanism of homicide and assault, meaning there is insufficient information in the medical record to describe the mechanism of assault or homicide. This is consistent with national statistics[ii].

Table 12.2. Leading Mechanisms of Homicide, NYS Residents, 2010-2012[iii]

Rank	Age Groups μ=Mean Annual Frequency								
	<1	1-4	5-9	10-14	15-19	20-24	25-44	45-64	65+
1	Unspecified μ=4	Unspecified μ=7	*	Firearm μ=5	Firearm μ=67	Firearm μ=115	Firearm μ=218	Firearm μ=40	Unspecified μ=12
2	*	*	*	*	Cut / Pierce μ=20	Cut / Pierce μ=31	Cut / Pierce μ=57	Cut / Pierce μ=32	Firearm μ=8
3	*	*	*	*	Suffocation μ=3	Unspecified μ=9	Unspecified μ=26	Unspecified μ=30	Suffocation μ=5
4	*	*	*	*	Unspecified μ=3	*	Suffocation μ=12	Suffocation μ=8	Cut / Pierce μ=4

* Means less than 2 are not reported

Table 12.3. Leading Mechanisms of Assault-related Hospitalizations, NYS Residents, 2010-2012[iv]

Rank	Age Groups μ=Mean Annual Frequency								
	<1	1-4	5-9	10-14	15-19	20-24	25-44	45-64	65+
1	Unspecified μ=26	Unspecified μ=16	Struck By, Against μ=8	Struck By, Against μ=83	Struck By, Against μ=416	Struck By, Against μ=565	Struck By, Against μ=1,393	Struck By, Against μ=829	Struck By, Against μ=111
2	Struck By, Against μ=3	Hot Object / Scald μ=4	Unspecified μ=2	Cut / Pierce μ=23	Cut / Pierce μ=304	Cut / Pierce μ=405	Cut / Pierce μ=716	Unspecified μ=223	Unspecified μ=43
3	*	Struck By, Against μ=3	*	Firearm μ=16	Firearm μ=267	Firearm μ=351	Firearm μ=471	Cut / Pierce μ=203	Cut / Pierce μ=16
4	*	*	*	Unspecified μ=8	Unspecified μ=76	Unspecified μ=114	Unspecified μ=347	Firearm μ=57	Firearm μ=8
5	*	*	*	Poisoning μ=2	Hot Object / Scald μ=3	Poisoning μ=3	Hot Object / Scald μ=8	Hot Object / Scald μ=9	Fall μ=2

* Means less than 2 are not reported

Table 12.4. Leading Mechanisms of Assault, Outpatient ED Visits, NYS Residents, 2010-2012[iv]

Rank	Age Groups μ=Mean Annual Frequency								
	<1	1-4	5-9	10-14	15-19	20-24	25-44	45-64	65+
1	Struck By, Against μ=22	Struck By, Against μ=93	Struck By, Against μ=470	Struck By, Against μ=2,709	Struck By, Against μ=7,144	Struck By, Against μ=8,040	Struck By, Against μ=16,443	Struck By, Against μ=6,453	Struck By, Against μ=588
2	Unspecified μ=10	Unspecified μ=43	Unspecified μ=78	Unspecified μ=430	Unspecified μ=1,277	Unspecified μ=1,698	Unspecified μ=4,133	Unspecified μ=1,760	Unspecified μ=172
3	*	Cut / Pierce μ=10	Cut / Pierce μ=23	Cut / Pierce μ=105	Cut / Pierce μ=861	Cut / Pierce μ=1,265	Cut / Pierce μ=2,328	Cut / Pierce μ=602	Cut / Pierce μ=36
4	*	Poisoning μ=5	Suffocation μ=4	Firearm μ=13	Firearm μ=176	Firearm μ=197	Firearm μ=291	Firearm μ=48	Firearm μ=5
5	*	Firearm μ=3	Fall μ=2	Suffocation μ=9	Suffocation μ=18	Poisoning μ=21	Suffocation μ=53	Hot Object / Scald μ=27	Hot Object / Scald μ=2

* Means less than 2 are not reported

The Healthy People 2020 goals around homicide and assault prevention aim for a 10% reduction in the morbidity and mortality associated with homicide and assault[v]. Table 12.5 shows these goals for the US and NYS.

Priorities

The following are priorities for homicide and assault-related injury reduction in NYS:

1. Use injury surveillance to identify high risk communities and individuals to effectively target interventions.
2. Reduce violence by targeting prevention programs particularly to highest-risk populations.
    a) Develop multi-sector violence prevention programs in high-risk communities
    b) Improve safety in school and workplace environments with cameras, better lighting, and having more than one person on duty

Program Goal: Reduce Homicide and Assault-Related Injuries

BOHIP staff will seek to expand state and local capacity to institute evidence-based programs and public awareness initiatives to promote anti-violence best practices through the provision of resources and educational materials and collaboration with state and local partners.

Table 12.5 HP2020 Objectives: Reduce Homicide and Assault-Related Injuries [v]

Healthy People 2020 Objectives		National		New York State	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline**	**NYS 2020 Goal**	**NYS Baseline**
29	Reduce homicides	5.5 / 100,000 population	6.1 / 100,000 population	3.9 / 100,000 population	4.3 / 100,000 population
32	Reduce nonfatal physical assault injuries	462.7 / 100,000 population	514.1 / 100,000 population	42.9 hospitalizations / 100,000 population	47.7 hospitalizations / 100,000 population
				395.9 ED visits / 100,000 population	439.9 ED visits / 100,000 population
33	Reduce physical assaults	14.7 / 1,000 population aged 12 and older	16.3 / 1,000 population aged 12 and older	n/a*	n/a*
34	Reduce physical fighting among adolescents	28.4 % of students in grades 9-12	31.5% of students in grades 9–12	26.6% of students in grades 9–12	29.6% of students in grades 9–12
35	Reduce bullying among adolescents	17.9% of students in grades 9-12	19.9% of students in grades 9-12	16.4 % of students in grades 9-12 bullied on school property.	18.2% of students in grades 9-12 bullied on school property.
39.1	Reduce physical violence by current or former intimate partners	n/a	n/a	0.4 hospitalizations / 100,000 population	0.5 hospitalizations / 100,000 population
				7.1 ED visits / 100,000 population	7.9 ED visits / 100,000 population
39.2	Reduce sexual violence by current or former intimate partners	n/a	n/a	0.02 hospitalizations / 100,000 population	0.03 hospitalizations / 100,000 population
				0.11 ED visits / 100,000 population	.12 ED visits / 100,000 population
40.1	Reduce rape or attempted rape	n/a	n/a	0.2 rape hospitalizations / 100,000 population	0.3 rape hospitalizations / 100,000 population
				5.30 rape ED visits / 100,000 population	5.9 rape ED visits / 100,000 population

*The rates of physical assaults among all New Yorkers are not available in NYS. (not in the BRFSS, SPARCS only has injuries - #32, not in criminal justice)

Homicide and Assault-Related Injury Prevention: Operational Plan

Table 12.6. Action Plan for Homicide and Assault Prevention

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
Identify high-risk communities and individuals to effectively target interventions.	Identify high-risk communities and individuals.	Communities	BBHS, BEMS and Trauma Systems, CDC, Coroners, LHDs
Coordinate multi-sector violence prevention programs in high risk communities and for high risk individuals.	Reduce access to lethal means.	Community	CBOs, Law Enforcement, Policy Makers, Schools
Identify high-risk communities and individuals to effectively target interventions.	Identify high-risk communities and individuals.	Communities, home	Law Enforcement
Coordinate multi-sector violence prevention programs in high risk communities and for high risk individuals	Support violence prevention in high-risk communities.	Communities, Schools, Neighborhoods	LHDs, Schools, CBOs, School Boards, NYSED, Media, Health Care Providers, Law Enforcement, Neighborhood Associations, Local Municipalities, Translation Services, Mental Health Care Practitioners, Social Services, OMH, Insurance Companies, PTAs
	Provide support to at-risk individuals.	School, Home, Community, Medical Community, Neighborhoods, Hospitals	CBOs, Law Enforcement, Policy Makers, Schools, Gun Owner Associations, Media, School Boards, NYSED, PTAs, CBOs, LHDs, Health Care Providers, Physical and Mental Health Care Providers, OMH, OCFS, BBHS, social workers
	Provide support to the families of at-risk individuals.	School, Home, Work, Neighborhoods	Schools, School Boards, NYSED, PTAs, Physical and Mental Health Care providers, LHDs, CBOs, OMH, OCFS, Social Workers
Address the causes of violence.	Implement evidence-informed interventions to address the causes of violence.	Neighborhoods, schools	CBOs, Law Enforcement, Hospitals, LHDs, Schools, PTAs, School Boards
Work with employers to reduce the risks for workplace violence	Increase safety protections for at risk workers.	Places of employment, neighborhoods	Employers, Unions, Law Enforcement

Data and Resources for Homicide and Assault Prevention

National Data and Resources

- Association of State and Territorial Health Officials (www.astho.org/)
    - Preventing Firearm Injury and Death (www.astho.org/Prevention/Preventing-Firearm-Injury-and-Death/)
- Bureau of Justice Statistics (www.bjs.gov)
    - Crime statistics (www.bjs.gov/ucrdata/index.cfm)
- Centers for Disease Control and Prevention (www.cdc.gov)
    - Community Guide (www.thecommunityguide.org/violence/index.html)
    - Center for Injury Prevention and Control (www.cdc.gov/injury/index.html)
    - National Intimate Partner and Sexual Violence Survey (NISVS) (www.cdc.gov/violenceprevention/nisvs/index.html)
    - National Violent Death Reporting System (www.cdc.gov/ViolencePrevention/NVDRS/index.html)
    - Violence Prevention (www.cdc.gov/violenceprevention/)
        - Data and Statistics (www.cdc.gov/violenceprevention/data_stats/index.html)
        - Elder Abuse (www.cdc.gov/violenceprevention/elderabuse/index.html)
        - Intimate Partner Violence (www.cdc.gov/violenceprevention/intimatepartnerviolence/index.html)
        - Sexual Violence (www.cdc.gov/violenceprevention/sexualviolence/index.html)
        - Youth Violence (www.cdc.gov/violenceprevention/youthviolence/index.html)
    - Youth Risk Behavior Surveillance System (www.cdc.gov/HealthyYouth/yrbs/index.htm)
- Children's Safety Network (www.childrenssafetynetwork.org)
    - Data and resources about firearms and violence (www.childrenssafetynetwork.org/injurytopic/firearms)
- Cure Violence (www.cureviolence.org/)
- Federal Bureau of Investigation (www.fbi.gov)
    - Uniform Crime Reports (www.fbi.gov/about-us/cjis/ucr)
- National Criminal Justice Reference Service offers justice and drug-related information to support research, policy and program development (www.ncjrs.gov)
    - Children Exposed to Violence (www.ncjrs.gov/childrenexposedtoviolence/index.html)
    - Crime Prevention (www.ncjrs.gov/App/Topics/Topic.aspx?TopicID=49)
    - Special Populations (www.ncjrs.gov/App/Topics/Topic.aspx?topicid=189)
    - Victims (www.ncjrs.gov/App/Topics/Topic.aspx?Topicid=179_
    - Youth Violence (www.ncjrs.gov/yviolence/index.html)
- Occupational Safety and Health Administration (www.osha.gov/)
    - Workplace Violence (www.osha.gov/SLTC/workplaceviolence/)
- Safe States Alliance (www.safestates.org/)
    - Injury and Violence Prevention in the United States (www.safestates.org/displaycommon.cfm?an=1&subarticlenbr=191)
- Society for Advancement of Violence and Injury Research (SAVIR) (www.savirweb.org/)
- Violence Policy Center (www.vpc.org)

New York State Data and Resources

- Department of Health, injury data (www.health.ny.gov/statistics/prevention/injury_prevention/index.htm)
- Department of Health, violence data (www.health.ny.gov/statistics/prevention/injury_prevention/nvdrs/index.htm)
- Division of Criminal Justice Services, Statistics (www.criminaljustice.ny.gov/crimnet/ojsa/stats.htm)
- Office of Mental Health (www.omh.ny.gov)
    - New York Secure Ammunition and Firearms Enforcement (SAFE) Act (www.omh.ny.gov/omhweb/safe_act/)
    - Violence Prevention: Creating Safer Schools in New York State (www.omh.ny.gov/omhweb/sv/schlviol.htm)

- Strong Memorial Hospital: Safety and Violence Education (SAVE)
  (www.urmc.rochester.edu/psychiatry/outreach/safety.cfm)

Suicide and Self-Inflicted Injuries

Problem Description

Suicide is a leading cause of injury-related deaths for New Yorkers (Table 1.4). From 2010-2012, suicides among New Yorkers resulted in an average of 1,581 deaths each year[iii]. In addition, there was an average of 19,586 people treated at hospitals for self-inflicted injuries – 10,778 of these people required inpatient stays. These injuries resulted in over $756 million in medical charges over the three year period[iv] (Table 13.1).

Table 13.1. Deaths, Hospitalizations, and ED† Visits due to Suicide and Self-Inflicted Related Injuries among NYS Residents, 2010-2012[,iv].

	Deaths		Hospitalizations		ED Visits	
Characteristics	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents	Mean Annual Frequency	Rate per 100,000 Residents
Total	1,581	8.1	10,778	55.2	8,798	45.0
Age Group						
0<1	0	0.0	*	*	4	1.7
1-4	0	0.0	2	0.2**	26	2.7
5-9	0	0.0	8	0.7	46	4.0
10-14	10	0.9	290	24.3	678	56.8
15-19	73	5.5	1,399	105.5	2,117	159.6
20-24	118	8.3	1,437	101.3	1,614	113.8
25-34	229	8.4	2,171	80.0	1,818	67.0
35-44	263	10.2	1,995	77.5	1,187	46.1
45-54	374	13.0	1,967	68.4	864	30.0
55-64	259	10.9	919	38.6	305	12.8
65+	254	9.4	589	21.9	139	5.1
Gender						
Male	1,242	13.1	4,630	48.8	3,962	41.8
Female	339	3.4	6,148	61.2	4,836	48.1
Unknown	0	n/a	0	n/a	0	n/a
Percent Traumatic Brain Injury	32%		1%		1%	
Mean Charge per Hospitalization or ED Visit	n/a		$23,402		$2,446	
Mean One Year Total Hospitalization or ED Visit Charges	n/a		$252.2 Million		$21.5 Million	
Three Year Total Hospitalization or ED Visit Charges	n/a		$756.7 Million		$64.6 Million	
Average Length of Hospital Stay (Days)	n/a		6		n/a	

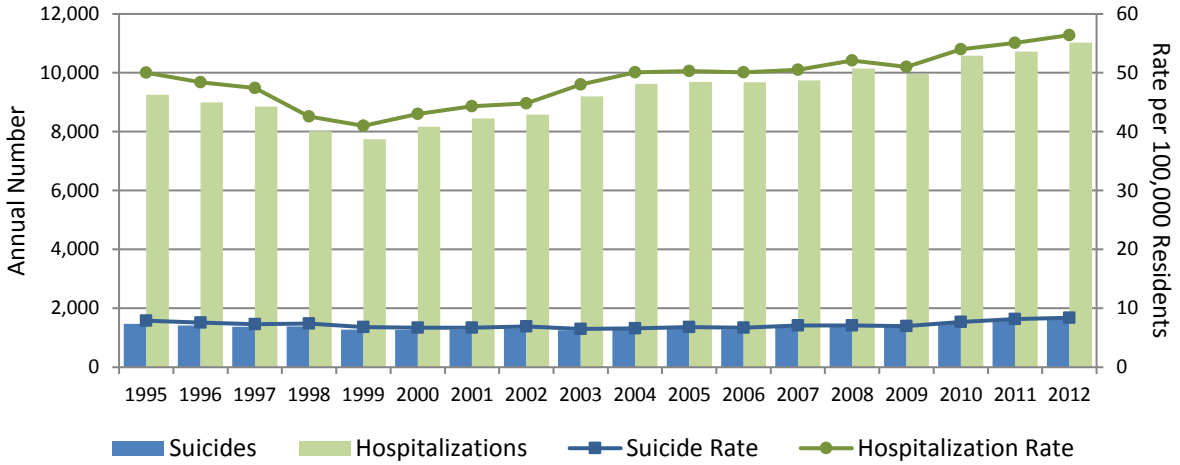
†The incidence of ED visits does not include patients who were subsequently admitted into the hospital

Rate = Frequency/Population *100,000

*Data based on frequencies less than six are not reported

**Caution: Rates based on frequencies less than 20 are unstable

Figure 13-1. Rate of Suicides and Hospitalizations Due to Self-Inflicted Injuries, NYS Residents, 1995-2012[iii,iv]



Of the 1,581 suicides that occurred in NYS from 2010-2012, suffocation was the leading mechanism for victims aged 10 to 44. Firearms were the leading mechanism for suicides among New Yorkers 45 and older[iii] (Table 13.2). During this period, the leading mechanism of self-inflicted injury that led to hospitalizations and ED visits was poisoning for all age groups, followed by cutting and piercing[iv] (Tables 13.3 – 13.4).

Table 13.2. Leading Mechanisms of Suicide, NYS Residents, 2010-2012[iii]

	Age Groups μ=Mean Annual Frequency							
Rank	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+
1	Suffocation **μ=8**	Suffocation **μ=36**	Suffocation **μ=54**	Suffocation **μ=101**	Suffocation **μ=106**	Suffocation **μ=121**	Firearm **μ=86**	Firearm **μ=120**
2	Firearm **μ=2**	Firearm **μ=18**	Firearm **μ=30**	Firearm **μ=53**	Firearm **μ=67**	Firearm **μ=108**	Suffocation **μ=72**	Suffocation **μ=55**
3		Fall **μ=6**	Poisoning **μ=11**	Poisoning **μ=32**	Poisoning **μ=49**	Poisoning **μ=79**	Poisoning **μ=60**	Poisoning **μ=34**
4		Poisoning **μ=5**	Fall **μ=11**	Fall **μ=18**	Fall **μ=21**	Fall **μ=22**	Fall **μ=16**	Fall **μ=25**
5		Drowning **μ=2**	Drowning **μ=2**	Drowning **μ=5**	Cut/Pierce **μ=5**	Cut/Pierce **μ=14**	Cut/Pierce **μ=11**	Cut/Pierce **μ=8**

Table 13.3. Leading Mechanisms of Self-Inflicted Injury, Hospitalizations of NYS Residents, 2010-2012[iv]

	Age Groups μ=Mean Annual Frequency							
Rank	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+
1	Poisoning μ=209	Poisoning μ=1068	Poisoning μ=1053	Poisoning μ=1646	Poisoning μ=1608	Poisoning μ=1623	Poisoning μ=762	Poisoning μ=453
2	Cut/Pierce μ=50	Cut/Pierce μ=229	Cut/Pierce μ=258	Cut/Pierce μ=342	Cut/Pierce μ=254	Cut/Pierce μ=218	Cut/Pierce μ=94	Cut/Pierce μ=67
3	Suffocation μ=9	Suffocation μ=27	Suffocation μ=30	Suffocation μ=38	Suffocation μ=28	Suffocation - 27 μ=27	Suffocation μ=14	Suffocation μ=12
4	Unspecified μ=6	Unspecified μ=13	Unspecified μ=14	Unspecified μ=22	Fall μ=18	Fall μ=16	Fall μ=9	Firearm μ=8
5	Fall μ=3	Fall μ=8	Fall μ=14	Fall μ=22	Unspecified μ=17	Unspecified μ=14	Unspecified μ=7	Unspecified μ=6

Table 13.4. Leading Mechanisms of Self-Inflicted Injury, Outpatient ED Visits of NYS Residents, 2010-2012[iv]

	Age Groups μ=Mean Annual Frequency							
Rank	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+
1	Cut/Pierce **μ=250**	Poisoning **μ=1021**	Poisoning **μ=733**	Poisoning **μ=924**	Poisoning **μ=685**	Poisoning **μ=542**	Poisoning **μ=200**	Poisoning **μ=77**
2	Poisoning **μ=244**	Cut/Pierce **μ=594**	Cut/Pierce **μ=450**	Cut/Pierce **μ=462**	Cut/Pierce **μ=264**	Cut/Pierce **μ=165**	Cut/Pierce **μ=52**	Cut/Pierce **μ=26**
3	Unspecified **μ=38**	Unspecified **μ=101**	Unspecified **μ=80**	Unspecified **μ=85**	Unspecified **μ=40**	Unspecified **μ=31**	Unspecified **μ=13**	Unspecified **μ=5**
4	Suffocation **μ=15**	Suffocation **μ=34**	Suffocation **μ=42**	Suffocation **μ=56**	Suffocation **μ=39**	Suffocation **μ=18**	Suffocation **μ=5**	Suffocation **μ=4**
5	Fall **μ=5**	Fall **μ=10**	Fall **μ=7**	Fall **μ=11**	Fall **μ=7**	Fall **μ=8**	Firearm **μ=3**	Firearm **μ=3**

The Healthy People 2020 goals around the prevention of suicide and self-inflicted injury aim for a 10% reduction in the morbidity associated with self-inflicted injury[v]. Table 13.5 shows these goals for the US and NYS.

Table 13.5. HP2020 Objectives: Reduce self-inflicted injuries[v]

Healthy People 2020 Objectives		**National**		**New York State**	
Objective Number	**Objective Description**	**US 2020 Goal**	**US Baseline**	**NYS 2020 Goal**	**NYS Baseline**
41.	Reduce nonfatal intentional self-harm injuries	112.8 ED visits / 100,000 population	125.3 ED visits / 100,000 population	43.8 ED visits /100,000 population 46.1 hospitalizations /100,000 population	48.7 ED visits /100,000 population 51.2 hospitalizations /100,000 population

Program Goal and Operational Plan: Reduce Suicide and Self-Inflicted-Related Injuries

In collaboration with partners, BOHIP staff will increase knowledge and awareness of suicide and best practices to effectively minimize the risk by integrating and coordinating suicide prevention activities across multiple sectors and settings.

Table 13.6. Action Plan for Suicide and Self-Inflicted Injury Prevention

Objective	Evidence Based / Best Practice Strategy	Environment Affected	Partners
Increase research informed communication efforts designed to prevent suicide by changing knowledge, attitudes, and behaviors.	Improve the likelihood that people receive appropriate evaluation and treatment.	School, Health Care	Schools, Primary and Mental Health Care Practitioners, Social Services, OMH, LHDs, Translation Services, OMH, Insurance Companies, CBOs
	Develop, implement, and monitor effective programs that promote wellness and prevent suicide and related behaviors.	Health Care, Community	Primary and Mental Health Care Practitioners, Social Services, LHDs, OMH, Suicide Prevention Training Centers
	Increase knowledge of the factors that offer protection from suicidal behaviors and promote wellness and recovery.	Home, School, Work	Schools, Employers, Primary and Mental Health Care Practitioners, Social Services, LHDs, CBOs
	Decrease the stigma regarding mental health and substance abuse issues and suicide.	Community	Media organizations, CBOs, OASAS, OMH, PAG, LHDs, Schools
	Increase knowledge of depression, suicide prevention resources, and improve intentions to engage in help-seeking behaviors.	Community, Home, School, Work, Health Care setting	Media organizations, CBOs, OASAS, OMH, PAG, LHDs, Primary and Mental Health Care Practitioners, Social Services
Create safe and supportive communities.	Reduce access to lethal means.	Community	CBOs, Law Enforcement, Policy Makers, schools, Gun Owner Associations, Media, Pharmacies, Medical Professionals
	Create safe and supportive school and community environments.	Home, Community, School	Translation Services, Social Services, OMH, Insurance Companies, LHDs, CBOs, Primary and Mental Health Care Practitioners, Schools, Local Economic Development Organizations, Media, Schools, LGBTQ centers, Cultural Community Centers, YMCA, Faith-based Groups, Detention Centers
Increase the timeliness and usefulness of surveillance systems relevant to suicide prevention and improve the ability to collect, analyze, and use this information for action.	Promote and support research on suicide prevention.		University of Rochester ICRC-S
	Improve data dissemination to state and local injury prevention partners and the general public.		BBHS, BEMS, and Trauma Systems

Data and Resources for Suicide and Self-Inflicted Prevention

National Data and Resources

- American Association of Suicidology (www.suicidology.org/home) is a membership organization for all those involved in suicide prevention and intervention.
    - Resources (www.suicidology.org/resources/media-professionals)
    - Training (www.suicidology.org/training-accreditation)
- American Foundation for Suicide Prevention (www.afsp.org) is dedicated to understanding and preventing suicide through research, education and advocacy.
    - Suicide Prevention Action Network (www.afsp.org/index.cfm?fuseaction=home.viewPage&page_id=742A7AD2-C8D5-C18D-0A2665B3F8977D99) is the public policy program within the American Foundation for Suicide Prevention.
- Centers for Disease Control and Prevention (www.cdc.gov/ViolencePrevention/suicide/index.html)
    - Statistics www.cdc.gov/ViolencePrevention/suicide/statistics/aag.html#A.
    - Suicide Among Adults Aged 35-64 Years – United States, 1999-2010 (www.cdc.gov/mmwr/preview/mmwrhtml/mm6217a1.htm)
    - National Violent Death Reporting System (www.cdc.gov/ViolencePrevention/NVDRS/index.html)
- DrugWatch (www.drugwatch.com) is a website devoted to providing information about prescription drugs and their potential side effects.
- Injury Control Research Center for Suicide Prevention (suicideprevention-icrc-s.org/)
    - Best and Promising Practices (suicideprevention-icrc-s.org/best-promising-practices)
    - Conferences and Trainings (suicideprevention-icrc-s.org/conferences-and-trainings)
    - Fact sheets and Toolkits (suicideprevention-icrc-s.org/fact-sheets-and-toolkits)
    - Online Courses (suicideprevention-icrc-s.org/online-courses)
- Mental Health America (www.mentalhealthamerica.net/)
    - Depression Screening (www.mentalhealthamerica.net/llw/depression_screen.cfm)
- National Action Alliance for Suicide Prevention (www.actionallianceforsuicideprevention.org)
    - Suicide prevention resources (www.actionallianceforsuicideprevention.org/resources)
- National Suicide Prevention Lifeline (www.suicidepreventionlifeline.org/) 1-800-273-8255
- Reach Out (www.ReachOut.com) provides stories of people going through tough times that got better, as well as resources.
- Sources of Strength (www.sourcesofstrength.org) is an evidence-based comprehensive wellness program that focuses on suicide prevention.
    - Additional resources sourcesofstrength.org/resources/links.html.
- Substance Abuse and Mental Health Services Administration (www.samhsa.gov)
    - Data www.samhsa.gov/data/
    - Drug Abuse Warning Network (www.samhsa.gov/data/DAWN.aspx)
    - National Survey on Drug Use and Health (www.samhsa.gov/data/NSDUH.aspx)
- Suicide Prevention Resource Center (www.sprc.org/) provides prevention, support, training and resources to assist organizations and individuals develop suicide prevention programs, intervention and policies.
    - Best Practice Registry (www.sprc.org/bpr)
    - Searchable Library (www.sprc.org/library_resources/listing)
    - Resources (www.sprc.org/library_resources/sprc)
    - Training Institute (www.sprc.org/training-institute)
- The Connect Project (www.theconnectprogram.org/) is a community based approach to suicide prevention, intervention, and postvention.
- The Jed Foundation (www.jedfoundation.org) works to reduce the rate of suicide and prevalence of emotional distress among college and university students.

    - The Half of Us campaign (www.halfofus.com) uses stories to increase awareness about mental health problems and the importance of getting help.
- The Trevor Project (www.thetrevorproject.org) is the leading national organization focused on crisis and suicide prevention efforts among LGBTQ youth.
- To Write Love on Her Arms (www.twloha.com) presents hope and find help for people struggling with depression, addiction, self-injury and suicide.
- Veterans Crisis Line (www.veteranscrisisline.net)

New York State Data and Resources

- Department of Health, suicide and self-inflicted injury data www.health.ny.gov/statistics/prevention/injury_prevention/suicide_selfinflicted.htm
- Mental Health Association of New York State (www.mhanys.org/suicide_prevention/index.php)
- Office of Mental Health (www.omh.ny.gov/omhweb/suicide_prevention/)
- Suicide Prevention Center of New York State (www.preventsuicideny.org/)
    - New York State specific materials (www.sprc.org/states/new-york)
    - Resources (www.preventsuicideny.org/Resources_JU2M.html)
    - Training and Events (www.preventsuicideny.org/Trainings___Events.html)

Acknowledgements

This work has been supported through the Centers from Disease Control and Prevention grant U17CE001997.

In addition, contributions from the NYS Injury Community Planning Group have been invaluable.

List of Appendices

Appendix A: Classification of Injury

Categorization of External Cause of Mortality Codes* used to Present Injury Mortality by the New York State Department of Health

The NYSDOH uses the VS death files for surveillance of injury mortality. The NYSDOH maintains the VS death files through vital records.

External cause of mortality codes are recorded in the VS death files. These codes capture the cause and intent of the injury. Injury deaths are often broken into four different categories of intent: Unintentional injury, suicide, homicide, and undetermined. The external cause of mortality codes that BOHIP uses to define intent are found in Table A-1. In categorizing injury death data, BOHIP follows the guidelines published by the CDC[xxxi].

Table A-1. Intent of Injury. This table contains the External Cause of Mortality Code* groupings used by the NYSDOH to present injury mortality.

Intent	External Cause of Mortality Codes Included in the VS Death Files
All Injuries	V01-Y34, Y85-Y87.2, Y89.9
Unintentional	V01-X59, Y85-Y86
Suicide	X60-X84, Y87.0, U03
Homicide	X85-Y09, Y87.1, U01-U02
Undetermined	Y10-Y34, Y87.2, Y89.9

Preventing unintentional injury is a major focus for BOHIP. As such, the unintentional injury data is often further subdivided into additional categories by the mechanism of injury. A listing of these mechanisms and the corresponding E-Codes is found in Table 2.

Table A-2. Mechanism of Unintentional Injury. This table contains the E-code* groupings used by the NYSDOH to present unintentional injury mortality.

Mechanism of Injury	External Cause of Mortality Codes Included in the VS Death Files
Cut / Pierce	W25-W29, W45
Drowning / Submersion	W65-W74
Fall	W00-W19
Fire / Burn	X00-X19
Fire / Flame	X00-X09
Hot Object / Scald	X10-X19
Firearm	W32-W34
Machinery	W24, W30-W31
Motor Vehicle Traffic	V02-V04 (.1-.9), V09.2, V12-V14(.3-.9), V19.4-V19.6, V20-V28 (.3-.9), V29.4-V29.9, V30-V79 (.4-.9), V80.3-V80.5, V81.1, V82.1, V83-V86 (.0-.3), V87.0-V87.8, V89.2
Occupant	V30-V79 (.4-.9), V83-V86 (.0-.3)
Motorcyclist	V20-V28 (.3-.9), V29 (.4-.9)
Pedal Cyclist	V12-V14 (.3-.9), V19 (.4-.6)
Pedestrian	V02-V04 (.1, .9), V09.2
Unspecified	V87.0-V87.8, V89.2
Other Specified	V80 (.3-.5), V81-V82 (.1)
Pedal Cyclist, Non-Traffic	V10, V11, V12-V14 (.0-.2), V15-V18, V19 (.0-.3), V19.8, V19.9
Pedestrian, Non-Traffic	V01, V02-V04 (.0), V05, V06, V09 (.0, .1, .3, .9)
Transport, Non-Traffic	V20-V28 (.0-.2), V29 (.0-.3), V30-V79 (.0-.3), V80 (.0-.2, .6-.9), V81-V82 (.0, .2-.9) V83-V86 (.4-.9), V87.9, V88.0-V88.9, V89 (.0, .1, .3, .9), V90-V99
Natural / Environmental	W42-W43, W53-W64, W92-W99, X20-X39, X51-X57
Overexertion	X50
Poisoning	X40-X49
Struck by, Against	W20-W22, W50-W52
Suffocation	W75-W84
Other Specified and Classifiable	W23, W35-W41, W44, W49, W85-W91, Y85
Other Specified, Not Elsewhere Classifiable	X58, Y86
Unspecified	X59

Table A-3. Mechanism of Suicide. This table contains the external cause of mortality code* groupings used by the NYSDOH to present suicide mortality.

Mechanism of Injury	External Cause of Mortality Codes Included in the VS Death Files
Cut / Pierce	X78
Drowning / Submersion	X71
Fall	X80
Fire / Burn	X76-X77
Fire / Flame	X76
Hot Object / Scald	X77
Firearm	X72-X74
Transport	X82
Poisoning	X60-X69
Struck by, Against	X79
Suffocation	X70
Other Specified and Classifiable	X75, X81
Other Specified, Not Elsewhere Classifiable	X83, Y87.0
Unspecified	X84, *U03

Table A-4. Mechanism of Homicide. This table contains the external cause of mortality code* groupings used by the NYSDOH to present homicide mortality.

Mechanism of Injury	External Cause of Mortality Codes Included in the VS Death Files
Cut / Pierce	X99
Drowning / Submersion	X92
Fall	Y01
Fire / Burn	X97, X98, *U01.3
Fire / Flame	X97
Hot Object / Scald	X98
Firearm	X93-X95, *U01.4
Transport	Y03, *U01.1
Poisoning	X85-X90, *U01.6, *U01.7
Struck by, Against	Y00, Y04
Suffocation	X91
Other Specified and Classifiable	X96, Y02, Y05-Y07, *U01.0, *U01.2, *U01.5
Other Specified, Not Elsewhere Classifiable	Y08, Y87.1, *U01.8, *U02
Unspecified	Y09, *U01.9

Table A-5. Mechanism of Injury of Undetermined Intent. This table contains the external cause of mortality code* groupings used by the NYSDOH to present injury mortality of undetermined intent.

Mechanism of Injury	External Cause of Mortality Codes Included in the VS Death Files
Cut / Pierce	Y28
Drowning / Submersion	Y21
Fall	Y30
Fire / Burn	Y26-Y27
Fire / Flame	Y26
Hot Object / Scald	Y27
Firearm	Y22-Y24
Transport, Non-Traffic	Y32
Poisoning	Y10-Y19
Struck by, Against	Y29
Suffocation	Y20
Other Specified and Classifiable	Y25, Y31
Other Specified, Not Elsewhere Classifiable	Y33, Y87.2
Unspecified	Y34, Y89.9

Categorization of External Cause of Injury Codes used to Present Injury Morbidity by the NYSDOH

The NYSDOH uses the HDDS and the ED data in surveillance of injury morbidity. The NYSDOH maintains the HDDS and ED, through the Statewide Planning and Research Cooperative System. External cause of injury codes (E-codes**) are recorded in the HDDS and the ED data. E-codes** capture the cause and intent of the injury. Injury is often broken into four different categories of intent: unintentional, self-inflicted, assault, and undetermined. The E-codes** that NYSDOH uses to define intent are listed in Table A-6.

The NYSDOH does not include data from the late effects of unintentional injury (E929, E959, E969, E977, E989), operations of war and terrorism (E990-E999), medical misadventures (E870-E879), and adverse effects from medications (E930-E949).

Table A-6. Intent of Injury. This table contains the E-code** groupings used by the NYSDOH to present injury morbidity.

Intent	E-Codes** Included for Hospitalization and ED Data
All Injuries	E800.0- E848, E850.0-E869.9, E880.0-E929.9, E950.0- E969 E980.0-E989
Unintentional	E800.0- E848, E850.0-E869.9, E880.0-E929.9
Self-Inflicted	E950.0-E959
Assault	E960.0- E969
Undetermined	E980.0- E989

Preventing unintentional injury is a major focus for the NYSDOH. As such, the unintentional injury data is often further subdivided into additional categories by the mechanism of injury. A listing of these mechanisms and the corresponding E-Codes** is found in table A-6.

Table A-7. Mechanism of Unintentional Injury. This table contains the E-code** groupings used by the NYSDOH to present unintentional injury morbidity.

Mechanism of Injury	E-Codes** Included for Hospitalization and ED Data
Cut / Pierce	E920.0-E920.9

Drowning / Submersion	E830.0-E830.9, E832.0-E832.9, E910.0-E910.9
Fall	E880.0-E886.9, E888.0-E888.9
Fire / Burn	E890.0- E899, E924.0-E924.9
Fire / Flame	E890.0- E899
Hot Object / Scald	E924.0-E924.9
Firearm	E922.0-E922.3, E922.8-E922.9
Machinery	E919.0-E919.9
Motor Vehicle Traffic	E810.0-E819.9
Occupant	E810.0-E810.1, E811.0-E811.1, E812.0-E812.1, E813.0-E813.1, E814.0-E814.1, E815.0-E815.1, E816.0-E816.1, E817.0-E8171, E818.0-E818.1, E819.0-E819.1
Motorcyclist	E810.2-E810.3, E811.2-E811.3, E812.2-E812.3, E813.2-E813.3, E814.2-E814.3, E815.2-E815.3, E816.2-E816.3, E817.2-E817.3, E818.2-E818.3, E819.2-E819.3
Pedal Cyclist	E810.6, E811.6, E812.6, E813.6, E814.6, E815.6, E816.6, E817.6, E818.6, E819.6
Pedestrian	E810.7, E811.7, E812.7, E813.7, E814.7, E815.7, E816.7, E817.7, E818.7, E819.7
Occupant of Streetcar	E810.4, E811.4, E812.4, E813.4, E814.4, E815.4, E816.4, E817.4, E818.4, E819.4
Rider of Animal	E810.5, E811.5, E812.5, E813.5, E814.5, E815.5, E816.5, E817.5, E818.5, E819.5
Unspecified	E810.9, E811.9, E812.9, E813.9, E814.9, E815.9, E816.9, E817.9, E818.9, E819.9
Other Specified	E810.8, E811.8, E812.8, E813.8, E814.8, E815.8, E816.8, E817.8, E818.8, E819.8
Pedal Cyclist, Non-Traffic	E800.3, E801.3, E802.3, E803.3, E804.3, E805.3, E806.3, E807.3, E820.6, E821.6, E822.6, E823.6, E824.6, E825.6, E826.1, E826.9, E827.1, E828.1, E829.1
Pedestrian, Non-Traffic	E800.2, E801.2, E802.2, E803.2, E804.2, E805.2, E806.2, E807.2, E821.7, E822.7, E823.7, E824.7, E825.7, E826.0, E827.0, E828.0, E829.0
Transport, Non-Traffic	E800.0-E800.1, E800.8-E800.9, E801.0-E801.1, E801.8-E801.9, E802.0-E802.1, E802.8-E802.9, E803.0-E803.1, E803.8-E803.9, E804.0-E804.1, E804.8-E804.9, E805.0-E805.1, E805.8-E805.9, E806.0-E806.1, E806.8-E806.9, E807.0-E807.1, E807.8-E807.9, E820.0-E820.5, E820.8-E820.9, E821.0-E821.5, E821.8-E821.9, E822.0-E822.5, E822.8-E822.9, E823.0-E823.5, E823.8-E823.9, E824.0-E824.5, E824.8-E824.9, E825.0-E825.5, E825.8-E825.9,E826.2-E826.8, E827.2-E827.9, E828.2-E828.9, E829.2-E829.9, E831.0-E831.9, E833.0-E845.9
Natural / Environmental	E900.0-E909.9, E928.0-E928.2
Bites and Stings	E905.0-E905.6, E905.9-E906.5, E906.9
Overexertion	E927.0-E927.9
Poisoning	E850.0-E869.9
Struck by, Against	E916 -E917.9
Suffocation	E911-E913.9
Other Specified and Classifiable	E846 -E848, E914-E915, E918, E921.0-E921.9, E922.4-E922.5, E923.0-E923.9, E925.0-E926.9, E928.3-E928.6, E929.0-E929.5
Other Specified, Not Elsewhere Classifiable	E928.8, E929.8
Unspecified	E887, E928.9, E929.9

Table A-8. Mechanism of Self-Inflicted Injury. This table contains the E-code** groupings used by the NYSDOH to present self-inflicted injury morbidity.

Mechanism of Injury	**E-Codes** Included for Hospitalization and ED Data**
Cut / Pierce	E956
Drowning / Submersion	E954
Fall	E957.0-E957.9

Fire / Burn	E958.1, E958.2, E958.7
Fire / Flame	E958.1
Hot Object / Scald	E958.2, E958.7
Firearm	E955.0-E955.4
Motor Vehicle Traffic	E958.5
Transport, Non-Traffic	E958.6
Natural / Environmental	E958.3
Poisoning	E950.0-E952.9
Suffocation	E953.0-E953.9
Other Specified and Classifiable	E955.5, E955.6, E955.9, E958.0, E958.4
Other Specified, Not Elsewhere Classifiable	E958.8, E959
Unspecified	E958.9

Table A-9. Mechanism of Assault-Related Injury. This table contains the E-code** groupings used by the NYSDOH to present assault-related injury morbidity.

Mechanism of Injury	**E-Codes** Included for Hospitalization and ED Data**
Cut / Pierce	E966
Drowning / Submersion	E964
Fall	E968.1
Fire / Burn	E961, E968.0, E968.3
Fire / Flame	E968.0
Hot Object / Scald	E961, E968.3
Firearm	E965.0-E965.4,
Motor Vehicle Traffic	E968.5
Poisoning	E962.0-E962.9
Struck by, Against	E960.0, E968.2
Suffocation	E963
Other Specified and Classifiable	E960.1, E965.5-E965.9, E967.0-E967.9, E968.4, E968.6, E968.7
Other Specified, Not Elsewhere Classifiable	E968.8, E969
Unspecified	E968.9

Table A.10. Mechanism of Injury of Undetermined Intent. This table contains the E-code** groupings used by the NYSDOH to present injury morbidity of undetermined intent.

Mechanism of Injury	**E-Codes** Included for Hospitalization and ED Data**
Cut / Pierce	E986
Drowning / Submersion	E984
Fall	E987.0-E987.9
Fire / Burn	E988.1, E988.2, E988.7
Fire / Flame	E9881
Hot Object / Scald	E988.2, E988.7
Firearm	E985.0-E985.4
Motor Vehicle Traffic	E988.5
Transport, Non-Traffic	E9886

Natural / Environmental	E988.3
Poisoning	E980.0-E982.9
Suffocation	E983.0-E983.9
Other Specified and Classifiable	E985.5, E985.6, E9857 E988.0 E988.4
Other Specified, Not Elsewhere Classifiable	E988.8, E989
Unspecified	E988.9

*External Cause of Mortality Codes are from on the ***International Statistical Classification of Diseases and Related Health Problems, 10th Revision*** (ICD-10). This table includes the ICD-10 codes for terrorism.
E-Codes are from on the ***International Classification of Diseases, 9th Revision Clinical Modification* (ICD-9 CM).

Appendix B: Injury Prevention Publications

Many of the publications produced by the NYSDOH are available for order from the Distribution Center (www.health.ny.gov/publications/4208/).

The injury prevention materials are included below.

Title	Type	Publication Number	Language
4 Steps 4 Kids - The Right Seat Matters for Safety	Poster	0627	English
	Tip Card	0626	English
		0647	Spanish
Attention Farm Families: Be Alert, Be Safe	Tip Sheet	2701	English
Attention Farm Families: Protect Your Ears	Tip Sheet	2702	English
Baby Car Seat	Brochure	0662	English
Baby On the Way? Baby Car Seat	Poster	0661	English
Booster Seat Activity Sheet	Activity Sheet	5302	English
Car Seat Kitty	Coloring Book	3126	English
Chainsaw Safety for Homeowners	Brochure	3233	English
Check for Safety: A Home Fall Prevention Checklist for Older Adults	Booklet	0641	English
		0643	Spanish
Child Passenger Safety for Infants and Young Children With Special Health Care Needs	Brochure	3046	English
		3065	Spanish
Face the Rear . . . More Than a Year!	Card	3077	English
Falls Hurt	Poster	3049	English
	Sticker	3050	English
Fires Don't Always Happen to Someone Else	Brochure	3053	English
		3054	Spanish
Gear Up and Go	Brochure	3110	English
		3089	Spanish
Get the facts about LATCH	Brochure	0625	English
Gimme a Boost	Activity Sheet	3037	Spanish
Give Your Kids a Boost	Brochure	3090	English
		3085	Spanish
	Poster	3087	English
Have You Planned Your Great Escape?	Brochure	3079	English
		3081	Spanish
Head Out with a Helmet	Brochure	3128	English
		3083	Spanish
Heads Up - Domestic Violence	Poster	3274	English
Home Safe Home	Checklist	3106	English
		3107	Spanish
		3163	French
Is It Safe? Choosing a Safe Vehicle for Your Teen	Brochure	3039	English
		3038	Spanish
Is It Safe? Teen Driver Tip Sheet	Card	0620	Spanish
Is Your Playground Safe?	Brochure	3101	English
Keep Your Cool During Summer Heat	Brochure	1243	English

Know the Facts About Drowsy Driving	Brochure	3042	English
LATCH	Brochure	0624	English
Looking Back, Driveway Safety	Flier	3080	English
Never Shake a Baby	Magnet	3151	English
	Brochure	3160	Russian
		3161	Chinese
		3162	French
		3181	Spanish
	Poster	3182	English/Spanish
New Baby? Less Sleep Important Facts About Drowsy Driving for New Parents	Brochure	3100	English
		3044	Spanish
NYS Occupational Fatality Alert: Fatal Injuries Among Animal Handlers	Brochure	6021	English
Older Driver Safety	Brochure	0663	English
Poison Proof Your Home	Brochure	3111	English
		3043	Spanish
Ride Restraint	Tip Sheet	3036	Spanish
Roll With It! (In-Line Skating)	Brochure	3177	English
		3088	Spanish
Safe Driving Pledge Cards	Card	3040	English
Safety Helmet Prescription Pads	Pad	3191	English
Save by the Helmet Club News	Poster	3129	English
		3130	Spanish
Shaken Baby Syndrome	Brochure	3192	English
		3181	Spanish
Smooth Moves	Brochure	3047	English
		3048	Spanish
Some of Your Best Friends are Pedestrians	Poster	3071	English
		3082	Spanish
Spot the Tot	Poster	0651	English
	Card	0652	English
	Sticker	0653	English
Stay Awake, Stay Alive. Don't Drive Drowsy	Brochure	3069	English
		3067	Spanish
	Poster	5301	Spanish
Teen Driving	Brochure	0622	Spanish
Teen Driving: Parental Guidance	Brochure	3084	English
Teen Passenger Survival Tips	Card	3091	English
Tips for Truckers	Card	0628	English
		0646	Spanish
Too Hot for Tots	Coloring Book	3135	English
		3133	Spanish
Traumatic Brain Injury: Prevention is the Only Cure	Booklet	0660	English
Wake up!	Brochure	0623	Spanish
Wake Up To The Risks of Drowsy Driving	Card	3041	English
Walk Aware - Pedestrians Safety Tips For Kids	Tip Sheet	3184	English
Walk Aware - Pedestrians Safety Tips for Adults	Tip Sheet	3185	English

What Can You Do To Prevent Falls	Brochure	0640	English
		0642	Spanish
What Parents Say Matters	Card	3092	English
		3231	Spanish
When In Doubt - Sit It Out	Magnet	3280	English
	Poster	3281	English
When In Doubt - Take Them Out (Coach's Clipboard)	Tip Sheet	3277	English
When In Doubt - Take Them Out (For Parents & Caregivers)	Fact Sheet	3278	English
		3282	Spanish
When In Doubt - Take Them Out (For Coaches)	Fact Sheet	3279	English
Work at Night? Not Getting Enough Sleep?	Brochure	3042	English
		3093	Spanish

[i] *Robertson LS. Injury epidemiology. 2nd Ed. New York: Oxford University Press, 1998:265.*

[ii] Web-based Injury Statistics Query and Reporting System (WISQARS) – Cost of Injury Reports. https://wisqars.cdc.gov:8443/costT/. February 10, 2016

[iii] Healthy People 2020 - IVP-2.1 – 2.3. www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=24. February 10, 2016

[iv] CDC- Injury Prevention and Control. www.cdc.gov/injury/about/approach.html . February 10, 2014

[v] Children Safety Network. www.childrenssafetynetwork.org/infographics/playground-infographic. February 10, 2016

[vi]CDC-Injury Prevention and Control -Unintentional Drowning. www.cdc.gov/homeandrecreationalsafety/water-safety/waterinjuries-factsheet.html. February 11, 2016

[vii] Web-based Injury Statistics Query and Reporting System (WISQARS) – Fatal Injury Reports. http://www.cdc.gov/injury/wisqars/fatal_injury_reports.html. February 10, 2016

[viii] Brenner RA, Saluja Taneja G, Haynie DL, Trumble AC, Qian C, Klinger RM, et al. Association between swimming lessons and drowning in childhood: A case-control study. *Arch Pediatr Adolesc Med* 2009;163:203-10.

[ix] Thompson DC, Rivara F. Pool fencing for preventing drowning of children. Cochrane Database of Systematic Reviews 1998, Issue 1. Art. No.: CD001047. DOI: 10.1002/14651858.CD001047.

[x] World Health Organization - Child *Maltreatment* (2014) www.who.int/mediacentre/factsheets/fs150/en. February 11, 2016

[xi] Flaherty, EG., Stirling J. Clinical Report – The Pediatricians's Role in Child Maltreatment Prevention. Pediatrics. 2010: 2087

[xii] Zaveri, H., Burwick, A., Maher, E. – Home Visiting: The potential for cost savings from home visiting due to reductions in child maltreatment http://www.casey.org/media/evidence-based-home-visiting.pdf. March 2014.

[xiii] Dube, S., Anda, R., Whitfield, C., Brown, D., Felitti, V., Dong, M. and Giles, W. (2005) Long-Term Consequences of Childhood Sexual Abuse by Gender of Victim. American. *Journal of Preventive Medicine*. 28:430–438.

[xiv] *Preventing Sexual Abuse: Tips for Parents* (2013) Retrieved on February 10, 2016 from www.preventchildabuse.org/images/docs/anapproachtopreventingchild%20abuse.pdf

[xv] *Preventing Child Sexual Abuse* (2013) Retrieved on February 10, 2016 from www.preventchildabuseny.org/files/2013/0391/7036/PCANYposition-sexabuse.pdf

[xvi] Douglas, E. and Finkelhor, D. (2005) Childhood Sexual Abuse Fact Sheet. University of New Hampshire: Durham, NH: Crimes Against Children Research Center.

[xvii] *The Adverse Childhood Experiences (ACE) Study (1997 & 2007)* Centers for Disease Control & Prevention (CDC). Atlanta, GA: U.S. Department of Health & Human Services, Centers for Disease Control & Prevention.

[xviii] Prevent Child Abuse New York (2003). The Costs of Child Abuse and The Urgent Need For Prevention. Albany, NY: Prevent Child Abuse New York.

[xix] *The Economic Impact of Child Sexual Abuse* (2013). Retrieved on February 10, 2016 from www.d2l.org/site/c.4dICIJOkGcISE/b.6069261/k.E915/The_Economic_Impact_of_Child_Sexual_Abuse.htm

[xx] *Cost of Child Abuse and Neglect in New York (Year 2006 Incidence, Year 2007 Costs)* (2009) Calverton, MD: Children's Safety Network – Economics and Data Analysis Resource Center, Pacific Institute for Research and Evaluation.

[xxi] Child Maltreatment 2011. Retrieved on February 10, 2016 from www.acf.hhs.gov/sites/default/files/cb/cm11.pdf

[xxii] *Home Visiting Matters* (2012) Retrieved on February 10, 2016 from www.scaany.org/documents/home_visiting_matters_aug2012.pdf

[xxiii] *Home Visiting Saves Money, Prevents Child Abuse, Helps Children Learn and Strengthens Families* (2011) Retrieved on February 10, 2016 from www.scaany.org/resources/documents/homevisiting_issuebrief_summer2011.pdf

[xxiv] Cornell, E. (2002) The Benefits and Financing of Home Visiting Programs. *National Governors Association Center for Best Practices.*

[xxv] *Universal Prenatal/Postpartum Care and Home Visitation: The Plan for an Ideal System in New York State* (2007) Retrieved on February 10, 2016 from www.scaany.org/documents/home_visiting_white_paper.pdf

[xxvi] *Universal Prenatal/Postpartum Care and Home Visitation: The Plan for an Ideal System in New York State* (2007) Retrieved on February 10, 2016 from www.scaany.org/documents/home_visiting_white_paper.pdf

[xxvii] Association of State and Territorial Health Officials (ASTHO) (2006) Bringing Home Better Birth Outcomes.

[xxviii] Screening for Family and Intimate Partner Violence. Agency for Healthcare Research and Quality. Retrieved on February 10, 2016 from www.ahrq.gov/downloads/pub/prevent/pdfser/famviolser.pdf

[xxix] CDC - Winnable Battle. www.cdc.gov/WinnableBattles/MotorVehicleInjury. February 10, 2016

[xxx] Consensus Recommendations for National and State Poisoning Surveillance Retrieved on February 10, 2016 from www.cste.org/resource/resmgr/injury/isw7.pdf

[xxxi] CDC - Tools for Classifying ICD Codes www.cdc.gov/nchs/injury/injury_tools.htm. February 10, 2016.