

**THE BURDEN OF
UNINTENTIONAL POISONING
IN NORTH CAROLINA**



North Carolina
Injury & Violence
PREVENTION Branch

THE BURDEN OF Unintentional Poisonings in North Carolina

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**Updated by members of the
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Acknowledgements:

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Highlights:

- In 2012, 1,101 people died from unintentional poisoning in North Carolina.
- North Carolina's unadjusted death rate from unintentional poisoning is slightly higher than the national death rate
- Unintentional poisonings are the second leading cause of injury death in the state (1,101 deaths) after motor vehicle crashes (1,185 deaths).
- Men die at much higher rates of unintentional poisoning than women; whites die at higher rates than other racial groups.
- Approximately 92 percent of all unintentional poisoning deaths are drug or medication related.
- Nonfatal poisoning deaths are very common in young children, particularly those under five years of age.

Overview and Trends

Since 1999, unintentional injuries caused 54,749 deaths¹, making them the fifth leading cause of death in the state of North Carolina.

Unintentional poisonings may not receive the same amount of attention as other causes of death; however, unintentional deaths from poisoning exceed the number of deaths from hypertension, atherosclerosis, homicide, HIV, or liver disease². Since 1999, 10,952 North Carolina residents have lost their lives from unintentional poisonings.

Lagging behind only motor vehicle transport (MVT) deaths, poisoning is the second leading cause of unintentional death in N.C. Since 1999, unintentional poisonings caused 20 percent of all unintentional injury deaths; the other leading causes of fatal unintentional injuries were falls (16%), other and unspecified causes (7%), suffocation (5%), fire and burns (3%), and drowning (3%) (Figure 1). Unlike fatal MVT crashes, the rates of unintentional poisonings have steadily increased over the last decade. In 1999, the rate of fatal unintentional poisonings per 100,000 N.C. residents was 3.5 deaths; by 2012 the rate increased to 11.3 deaths, a 223 percent increase. The rate of fatal MVT crashes decreased by 35 percent during this same interval (Figure 2)³.

Figure 1. Causes of Unintentional Injury Deaths (ICD-10 V01-X59): N.C. Residents, 1999-2012

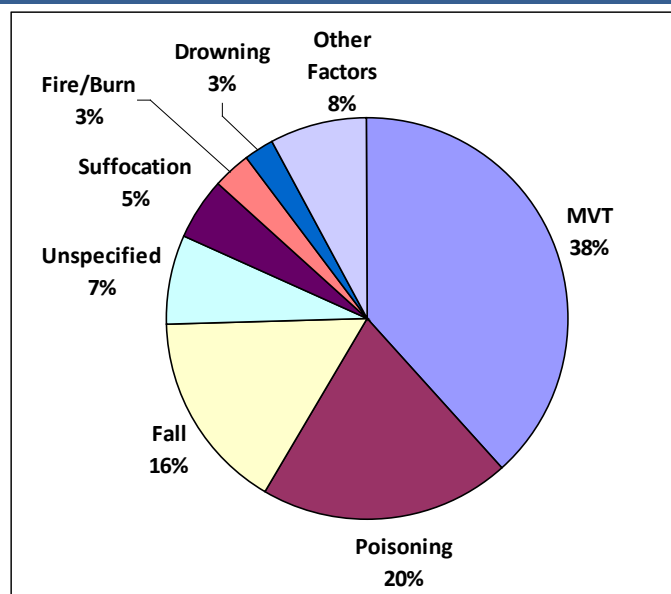
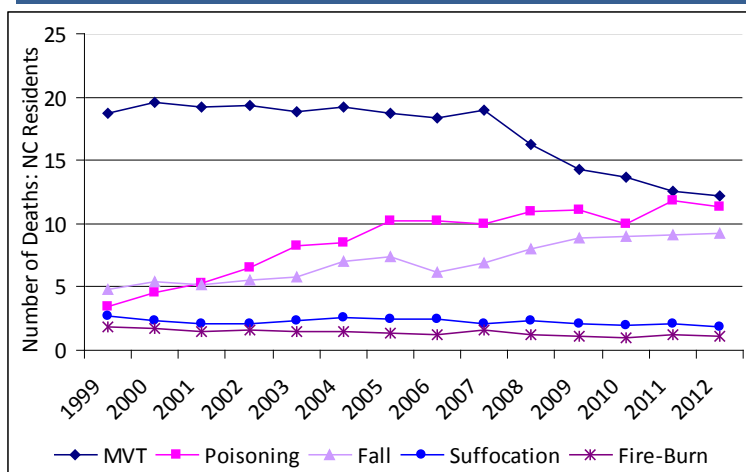


Figure 2. Top Five Leading Causes of Unintentional Injury Deaths (ICD-10 V01-X59): N.C. Residents, 1999-2012



If deaths from unintentional poisonings continue to escalate at the current rate, the number of unintentional poisoning deaths will quickly surpass the number of MVT deaths in N.C. In the past two decades deaths from drug overdose have become the leading cause of injury death in the United States, surpassing death from motor vehicle crashes^{4,5}.

The rapid escalation in unintentional poisoning deaths is not limited to the state of N.C. Rates are increasing nationally; the age-adjusted death rate for the United States rose from 4.4 deaths per 100,000 U.S. population in 1999 to 10.6 deaths in 2010 (Figure 3). This was slightly less than the increase observed in N.C. during the same time period, though the N.C rate did drop slightly below the U.S. rate in 2010.⁵ Overdoses from opioid analgesics such as methadone, oxycodone, hydrocodone, and others are the most common causes of unintentional poisoning deaths in both the U.S. and N.C.⁶ (See section on Unintentional Poisonings by Substance, page 9.)

Unintentional deaths from poisoning comprise the majority of all poisoning deaths (Figure 4). Of the 14,068 poisonings between the years 1999-2012, 78 percent were unintentional, 19 percent were intentional self-inflicted (more commonly known as suicide), three percent were of undetermined intent, and less than one percent were intentional assaults. The dramatic increase in the rates of deaths from poisonings over the past decade is primarily due to the increase in unintentional poisonings.

Figure 3. Comparison of Age-Adjusted Rates of Unintentional Poisoning Deaths (X40-X49) for the United States and North Carolina: 2000 U.S. Standard Population, 1999-2010 (CDC-WISQARS)

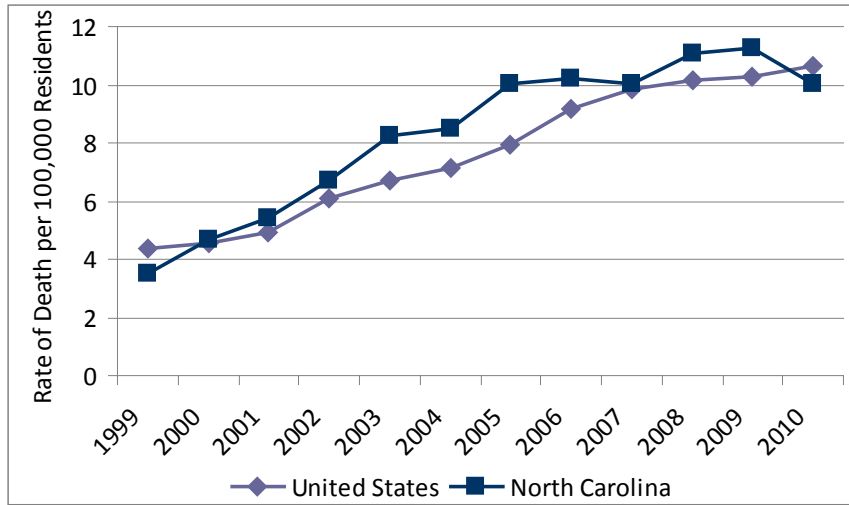
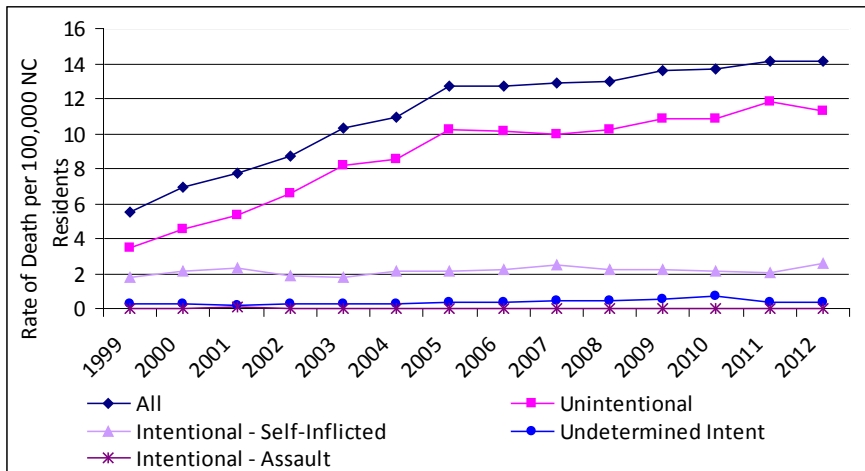


Figure 4. Poisoning Death Rates by All Manners of Intent: N.C. Residents 1999-2012



Demographic Information:

Overall, 1,101 North Carolina residents died due to unintentional poisoning in 2012. Table 1 provides demographic characteristics of these deaths. In N.C. certain populations are at a greater risk of fatal poisoning:

- The rate of all unintentional poisoning deaths in N.C. for 2012 was 11.3 per 100,000 N.C. residents (95% C.I. 10.6-12.0).
- The average age of death from a fatal unintentional poisoning is between the ages of 35 and 44.
- Men were 1.8 times more likely to die from unintentional poisoning than women. The rate of deaths from unintentional poisoning in men was 14.6 (95% C.I. 13.6-15.7). The rate of fatal unintentional poisoning in women was 8.1 (95% C.I. 7.3-8.9).
- Whites had much higher rates of unintentional poisoning than other racial groups. The rate of unintentional poisoning in whites was 13.9 (95% C.I. 13.1-14.8).
- Children between the ages of 0-4 did not have any deaths from unintentional poisoning.
- Unintentional deaths from poisonings peaked between the ages of 25-54 (816 deaths).
- The frequencies and rates of deaths from unintentional poisonings were highest for N.C. residents between the ages of 35-44 and 45-54. The rate for ages 35-44 was 19.6 (95% C.I. 17.2-22.0). The rate for ages 45-54 was 23.9 (95% C.I. 21.3-26.5).

Definitions:

The CDC defines a **poison** as “any substance that is harmful to your body when ingested, inhaled, injected, or absorbed through the skin⁷.”

- This definition does **not** include adverse reactions to medication.

An **unintentional poisoning** is a poisoning in which the individual exposed to the substance is not attempting to cause harm to him/her or others⁵.

- This includes unintentional overdoses of prescription or recreational drugs.
- Other potential poisons include exhaust fumes and gases, pesticides, acids, organic solvents, petroleum products, and etc.

All unintentional poisoning deaths are classified according to the criteria stipulated by the World Health Organization’s International Classification of Disease codes, version 10 (ICD-10) and fall under codes X40-X49⁸. Poisonings of **undetermined intent** (Y10-Y19) were excluded from analysis in this report.

Hospitalization and Emergency Department injury codes are classified using ICD-9 CM. The codes used for analysis are pulled from the Supplementary Classification of External Causes of Injury and Poisoning (E800-E999). The range of codes specific to unintentional poisonings are E850-E858 (Unintentional Poisoning by Drugs, Medicinal Substances, and Biologicals) and E860-E864 and E866-E869. E865 (Unintentional Poisoning by Other Solid, Liquid, or Gaseous Substance; poisoning by foodstuffs and plants) was excluded.

Table 1. Gender, Ethnicity, Race, and Age Group of Unintentional Deaths from Poisoning: N.C. Residents, 2012						
	Number	Percent	Rate[§]	95% C.I. for Rate		
				<i>Lower</i>	<i>Upper</i>	
Gender						
	Male:	696	63.3	14.6	13.6	15.7
	Female:	404	36.7	8.1	7.3	8.9
Hispanic						
	Hispanic:	21	1.7	2.5	1.4	3.5
	Non-Hispanic:	1,081	98.3	12.1	11.4	12.9
Race						
	American Indian:	15	1.4	*	*	*
	Asian/Pacific Islander:	1	0.1	*	*	*
	Black:	91	8.3	4.1	3.3	4.9
	White:	990	90.0	13.9	13.1	14.8
Age Group (Years)						
	0-4	0	0.0	0.0	0.0	0.0
	5-9	3	0.3	*	*	*
	10-14	3	1.7	*	*	*
	15-19	19	7.5	*	*	*
	20-24	82	21.1	11.8	9.2	14.3
	25-34	232	23.4	18.3	15.9	20.7
	35-44	257	29.7	19.6	17.2	22.0
	45-54	327	12.0	23.9	21.3	26.5
	55-64	132	2.4	11.0	9.1	12.9
	65-74	26	0.8	3.3	2.0	4.6
	75-84	9	0.9	*	*	*
	85+	10	0.3	*	*	*
Total Deaths		1,100	100.0	11.3	10.6	12.0

* Rate is based on fewer than 20 deaths and is considered statistically unreliable.

§All rates are per 100,000 N.C. residents.

Note: Confidence intervals are statistical measures that estimate the reliability of a given calculation. Since the measurements presented above are observations from a particular sample (NC residents in 2012) and a different sample could change the observations, a 95 percent confidence interval means that 95 percent of the time (when looking at different samples and repeating the calculation), we would expect the statistic to fall between the lower and upper confidence limits.

Unintentional Poisoning Deaths by Substance

The majority of all unintentional poisoning deaths are due to an unintentional overdose of prescription, over-the-counter (OTC), or illegal drugs. When limiting analysis to the primary cause of death (Table 2):

- Narcotics and hallucinogens (X42), which includes cocaine, heroin, methadone, and other opioids, are associated with approximately 60 percent of all deaths (Table 2).

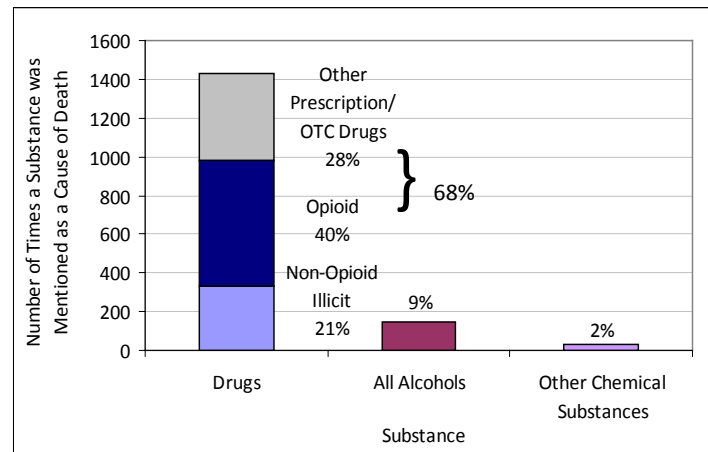
Many deaths from unintentional poisonings are due to multiple substances; therefore, more substances are identified as causing or contributing to death than the number of deaths in any given year. Substances involved in the deaths were classified using the International Classification of Disease, Version 10 (ICD-10) codes T36-T50 (Poisoning by Drugs, Medicaments, and Biological Substances), T51-T65 (Toxic Effects Chiefly Nonmedicinal As to Source), and T61-T64 (Poisonings by foodstuffs, plants, fungi, and animals, were excluded from analysis). Figures 5 and 6 present all mentioned causes of death (for additional information regarding Figures 5 and 6, including the codes used to generate these figures, please see the Notes section, page 17):

- Opioid, other prescription, and OTC drugs were identified as 68 percent of the drugs that contributed to fatal unintentional poisoning in 2012. OTC drugs are available without a prescription at a pharmacy. Prescription drugs can be legally administered to a patient with the written consent of a physician. Both OTC and prescription drugs may be obtained or used illegally.
- Illicit drugs or “street drugs,” such as cocaine, heroin or methamphetamines that are nearly always used for recreational purposes were identified as 21 percent of the drugs contributing to these deaths.
- Methadone, a drug prescribed by physicians for pain relief or to treat heroin and prescribed opioid addiction, was identified as 17 percent of drugs that contributed to these deaths.
- Other opioids, not including heroin, and other synthetic and unspecified narcotics were mentioned 357 times.
- Among illicit drugs, cocaine was the most prevalent substance (189 mentions).
- Alcohol was the only chemical substance other than prescription and illicit drugs that contributed to a substantial number of deaths (93 deaths).

Table 2. Frequency of Unintentional Poisoning Deaths by Primary Cause (ICD-10 X40-X49): N.C. Residents, 2012

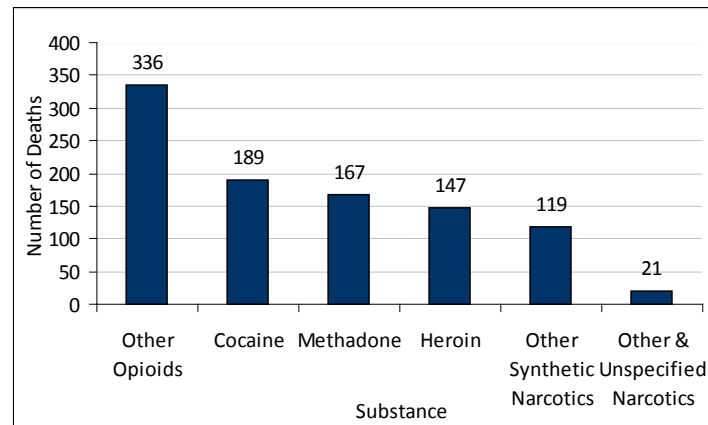
Cause	ICD-10 Code	Number	%
Nonopioid analgesics, antipyretics, and antireheumatics	X40	4	0.4
Antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs	X41	33	3.0
Narcotics and hallucinogens	X42	663	60.3
Other and unspecified drugs	X44	313	28.5
Alcohol	X45	55	5.0
Organic solvents and hydrocarbons	X46	3	0.3
Other gases and vapors	X47	19	1.7
Pesticides	X48	1	0.1
Other and unspecified chemicals	X49	9	0.8
Total:		1,100	100.0

Figure 5. Causes of Deaths from Unintentional Poisonings (ICD-10 T36-T60): N.C. Residents, 2012



Illicit drugs: are substances that are not considered to have a legitimate medical use.
Prescription drugs: have a medical use and may be prescribed by a physician or may be misused/abused illicitly.
 Drug categories are not mutually exclusive. Deaths involving more than one category are counted multiple times.

Figure 6. Top Five Causes of Prescription and Illicit Drug Deaths (ICD-10 T36-T50): N.C. Residents, 2012



Unintentional Poisoning Death Rates by County 2010-2012 (Pooled Population)

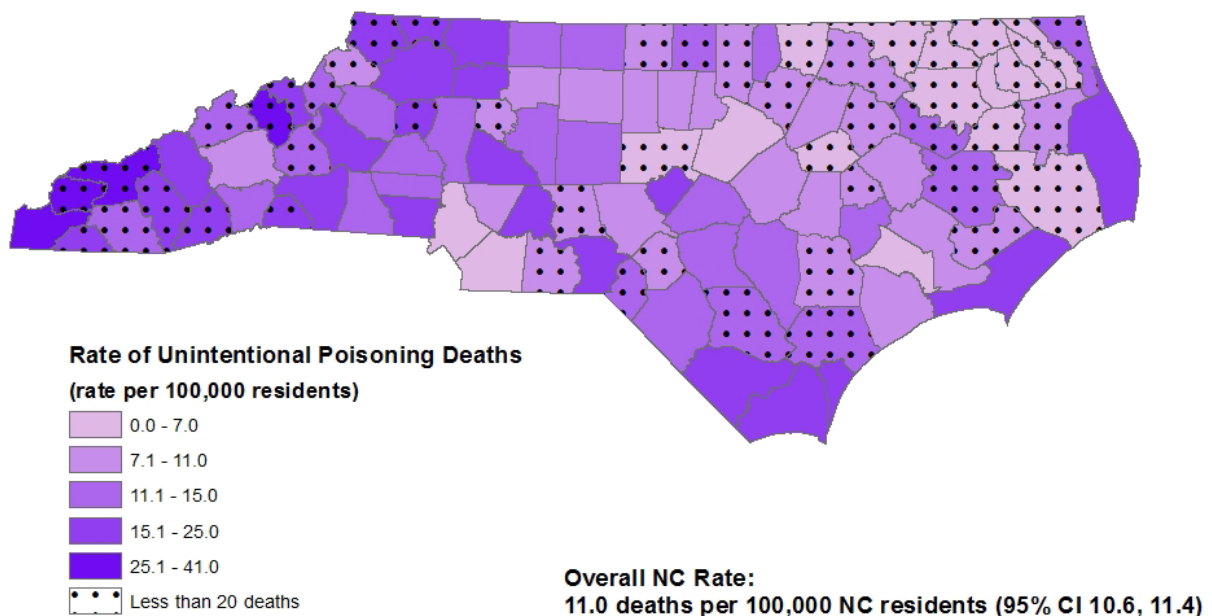
Note: Categories are not mutually exclusive.

The rates of poisoning deaths are not distributed evenly across the state of North Carolina. During the three years between 2010 and 2012, N.C. had an average unintentional poisoning rate of 11.0 per 100,000 N.C. residents (3,185 deaths). Figure 7 presents the death rates by county for these years. The rates should be interpreted with caution; counties with fewer than 20 deaths may have statistically unstable, and therefore, unreliable rates.

- A total of 32 counties with stable rates (Brunswick, Burke, Cabarrus, Caldwell, Davidson, Davie, Gaston, McDowell, Macon, New Hanover, Rockingham, Rowan, Rutherford, Surry, Vance, and Wilkes) each had unintentional poisoning rates that were significantly higher than the average state rate.
- The average rate for counties with significantly higher death rates (≥ 20 deaths) was 14.2.
- Cherokee County had the highest rate of 36.8 (95% C.I. 23.6-49.9) of counties with greater than or equal to 20 deaths.
- A total of 18 counties with stable rates had unintentional poisoning rates that were significantly lower than the state rate.
- Union County had the lowest rate of 4.1 (95% C.I. 2.5-5.7) of counties with greater than or equal to 20 deaths.
- Chowan and Jones counties did not have any unintentional poisoning deaths during this period.

Figure 7. Map of Unintentional Poisoning Death Rates (per 100,000 N.C. Residents): N.C., 2010-2012

Rate of Unintentional Poisoning Deaths per 100,000 by North Carolina County of Residence: 2010-2012



Hospitalization and Emergency Department Data:

Deaths are not the only adverse effect of unintentional poisoning; nonfatal injury is far more common. Sources of morbidity data include the emergency department (ED) and hospital discharge records.

Although these systems do not capture all injuries from unintentional poisoning (and some of these injuries may overlap), these systems provide an approximation of the toll that injury from unintentional poisoning has on N.C. In general, Table 3 is roughly organized according to severity of injury: death, hospital admission, and ED visits regarding an unintentional poisoning. Table 3 presents these results:

For 2011, the median hospital bill for all unintentional poisoning admissions was **\$11,874.40** and the total hospital charges for N.C. was over **\$72 million**.

- N.C. residents are almost four times more likely to be hospitalized and nine times more likely to seek treatment from an ED for nonfatal unintentional overdoses than to die from a unintentional poisoning^{9,11}.
- Although children are unlikely to die from unintentional poisonings, they make up a large percentage of nonfatal cases. Children between the ages of zero and four have the highest rates of ED visits.

Table 3. Unintentional Poisoning Rates (per 100,000 N.C. Residents): N.C., 2011

	Vital Statistics (Deaths)		Hospital Discharges		Emergency Dept. Visits	
	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>
Gender:						
Male:	679	14.4	1,848	39.3	4,959	105.4
Female:	460	9.3	2,248	45.4	5,284	106.7
Total:	1,139	11.8	4,096	42.4	10,244	106.1
Age Group (Years)						
0-4	2	*	168	26.7	2,256	358.2
5-9	0	0.0	30	4.7	457	71.7
10-14	1	*	35	5.4	309	48.1
15-19	31	4.7	133	20.3	616	94.2
20-24	79	11.6	201	29.6	744	109.7
25-34	250	19.8	472	37.4	1,258	99.6
35-44	255	19.4	551	41.9	1,185	90.0
45-54	342	25.0	855	62.4	1,274	93.0
55-64	131	11.0	756	63.7	1,026	86.4
65-74	32	4.4	463	63.7	577	79.4
75-84	11	*	320	80.3	390	97.9
85+	5	*	112	72.9	152	98.9
Total:	1,139	11.8	4,096	42.4	10,244	106.1

* Rate is based on fewer than 20 deaths and is considered statistically unreliable.

- The CDC defines a poisoning as "Ingestion, inhalation, absorption through the skin, or injection of so much of a drug, toxin (biologic or non-biologic), or other chemical that a harmful effect results, such as drug overdoses. This category does not include harmful effects from normal therapeutic drugs (i.e., unexpected adverse effects to a drug administered correctly to treat a condition) or bacterial illnesses."¹²
- "Unintentional" is defined as "Injury or poisoning that is not inflicted by deliberate means (i.e., not on purpose). This category includes those injuries and poisonings described as unintended or "accidental", regardless of whether the injury was inflicted by oneself or by another person. Also, includes injury or poisoning where no indication of intent to harm was documented in the ED record."¹²

Unintentional Poisonings in Children

Although the number of poisoning deaths are few in children less than 18 years of age (12 deaths in 2012), children make up a large proportion of nonfatal injuries from unintentional poisonings. Nationally, children less than five years of age make up approximately 40 percent of unintentional injuries associated with the ingestion of poisons¹³. The rate of emergency department (ED) visits for unintentional poisonings in children under the age of 18 is 152.2 (95% C.I.147.2-157.3) per 100,000 N.C. residents. Similar to adults, ingestion of pharmaceuticals is the most likely cause of unintentional poisonings. Unlike adults, OTC medications are more likely to be the cause of injury than prescription drugs¹². Figure 8 and Table 4 summarize ED visits of children in 2012 for unintentional poisonings (N.C. residents):

- Overall, boys have a higher rate of injury from unintentional poisonings than girls.
- Analgesics, antipyretics, and antirheumatics are the most common cause of unintentional poisoning in children (363 ED visits). Acetaminophen is the single most commonly identified drug in the ED (156 ED visits) for this age group.
- Of substances other than medications, environmental tobacco smoke is the most common cause of unintentional poisoning in N.C. children (734 ED visits). This trend is unexpected and will be the focus of future investigation.

Figure 8. Emergency Department Visits by Age Group and Sex for Unintentional Poisonings: N.C. Residents, 2012

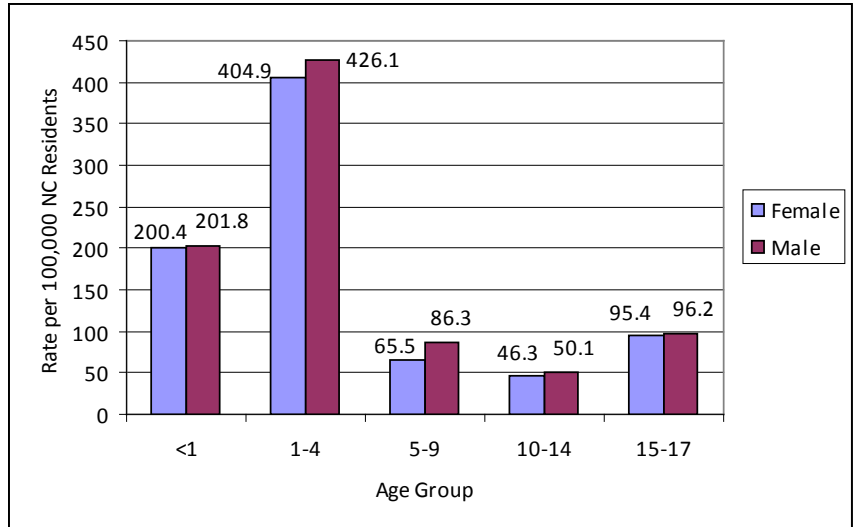


Table 4. Mechanism of Unintentional Poisonings in Children (<18 yrs.) Admitted to the Emergency Department (ICD-9 E code 850-869): N.C. Residents, 2012

Cause:	Number:	Percent:
Unintentional Poisoning by Drugs:		
Analgesics, antipyretics, and antirheumatics	363	10.4
Systemic agents	148	4.3
Tranquilizers	150	4.3
Psychotropics	163	4.7
Cardiovascular agents	119	3.4
Agents acting on smooth and skeletal muscle	100	2.9
Central nervous system agents	144	4.1
Other Drugs	643	18.5
Total:	1,830	52.6
Unintentional Poisoning by Other Chemical Substances:		
Environmental tobacco smoke	734	21.1
Other and unspecified solids and liquids	229	6.6
Foodstuffs and poisonous plants	185	5.3
Cleansing and polishing agents	149	4.3
Corrosives and caustics	135	3.9
Agricultural products	73	2.1
Other substances	146	4.2
Total:	1,651	47.4
Total:	3,481	100.0

Prevention Strategies

For Adults:

- Always follow directions located on the labels of chemicals and medicines. Read all warning labels carefully.
- Take the correct amount of medication and consult a physician, or pharmacist, before combining the medication with other medications or alcohol.
- Keep medications and chemicals in their original containers. Keep prescription medications, especially pain relievers, in a safe place¹⁴.
- Dispose of medications correctly. Most can be disposed of in the trash. The Food and Drug Administration and United States Environmental Protection Agency recommend that you place them in sealable containers mixed with an undesirable substance such as coffee grounds or cat litter. Some pharmacies will also take back unused medications^{15,16}. Most communities in North Carolina have one or more Pill Take Back days every year to dispose of unused or expired medications, especially pain medicines and other highly addictive medications.
- Do not mix household chemicals together.
- When using chemical products, wear protective clothing and work in a well-ventilated space¹⁴.

For Children:

- Save the Poison Control Center phone number, 1-800-222-1222, in your cell phone.
- Keep all medications and chemicals in childproof cabinets. Do not store poisonous substances near food.
- Do not leave children unsupervised in the vicinity of household products or drugs.
- Identify poisonous plants in your house and yard and place them out of reach of children¹⁴.

What to Do if a Poisoning Has Occurred:

- Call 911 if an emergency. Signs of a poisoning emergency include unconsciousness, convulsions, or difficulty breathing.
- If the patient is responsive, call 1-800-222-1222.
- Provide the victim's age, weight, time of exposure, name on the poison container or bottle, and address.
- Follow all instructions provided by the operator¹⁴.

Carolinas Poison Center

Available 24/7 • FREE service • Private and confidential • 1-800-222-1222

The Carolinas Poison Control Center number is **(800) 222-1222**. This call is free and operators are available 24 hours a day, 365 days a year. For additional information, the website is www.ncpoisoncenter.org.



Safe Kids NC is a coalition whose mission is to reduce and prevent accidental childhood injuries, birth through age 14. For more information, visit:

<http://www.ncdoi.com/OSFM/SafeKids>

Prevention Strategies

Preventing and Responding to Opioid and Other Unintentional Poisoning Overdoses:

- Avoiding an overdose:
 - Do not use drugs alone.
 - Do not mix drugs. If using opioids, avoid alcohol and taking benzodiazepine.
 - Do not use drugs if unsure of their strength.
 - Do not use drugs after a period of prolonged nonuse (such as drug rehabilitation or prison).
- Signs of an overdose:
 - Skin has a blue tint (cyanosis).
 - Difficulty breathing.
 - Unresponsive.
 - Confusion or disorientation.
- Responding to an overdose:
 - Dial 911.
 - If the victim is not breathing, provide rescue breathing.
 - Immediate medical help is the best way to prevent death or disability from an overdose. Medications such as Naloxone (Narcan) can reverse an opioid overdose¹⁸.

Rescue Breathing:

- Tip the head back and place one hand under the neck.
- Close the nose with the other hand.
- Place your mouth over the victim's mouth and give two short breaths.
- Then give one breath every five seconds.
- Continue until the victim resumes breathing or professional medical help arrives¹⁸.

Prevent Overdoses, Be a Good Samaritan

“[SB20 911 Good Samaritan/ Naloxone Access law](#), effective April 9, 2013, states that individuals who experience a drug overdose or persons who witness an overdose and seek help for the victim can no longer be prosecuted for possession of small amounts of drugs, paraphernalia, or underage drinking. The purpose of the law is to remove the fear of criminal repercussions for calling 911 to report an overdose, and to instead focus efforts on getting help to the victim.”¹⁹

“The Naloxone Access portion of SB20 removes civil liabilities from doctors who prescribe and bystanders who administer naloxone, or Narcan, an opiate antidote which reverses drug overdose from opiates, thereby saving the life of the victim. SB20 also allows community based organizations to dispense Narcan under the guidance of a medical provider. As a result, officers may encounter people who use opiates and their loved ones carrying overdose reversal kits that may include Narcan vials, 3cc syringes, rescue breathing masks and alcohol pads.”¹⁹

Full text of SB20 is available here:

<http://openstates.org/nc/bills/2013/SB20/documents/NCD00022391/>

Additional Sources of Information:**North Carolina:****North Carolina Division of Public Health, Injury and Violence Prevention Branch**

Phone: (919) 707-5425

Email: beinjuryfreenc@dhhs.nc.govWebsite: www.injuryfreenc.ncdhhs.gov**North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse**Email: contactdmh@dhhs.nc.govWebsite: www.dhhs.nc.us/MHDDSAS**Carolinas Poison Center**

Phone: 1-800-222-1222

Website: www.ncpoisoncenter.org**Project Lazarus**

Phone: (336) 262-6768

Email: info@projectlazarus.orgWebsite: <https://www.communitycarenc.org/population-management/chronic-pain-project/>**National:****American Association of Poison Control Centers**Website: www.aapcc.org/DNN**Centers for Disease Control and Prevention****National Center for Injury Prevention and Control**

Phone: 1-800-232-4636

Email: cdcinfo@cdc.govWebsite: www.cdc.gov/index.html**National Safety Council**

Phone: 1-630-285-1121

Email: info@nsc.orgWebsite: www.nsc.org**Poison Prevention**

Notes:

Rates: All rates (unless documented otherwise) are per 100,000 North Carolina residents. Unless noted otherwise, all rates are not age-adjusted.

Population Estimates: The North Carolina State Center for Health Statistics provided population data for the years 1999-2012. These estimates originate from the National Center of Health Statistics' Bridged Population Files.

Death Data: The N.C. State Center for Health Statistics provided death certificate data for every death in N.C. Only N.C. residents with a valid N.C. county were considered in our analyses. Primary cause of death was assigned with the International Classification, 10th Revision (ICD-10) codes.

Hospital Discharge Data: The N.C. Center for Health Statistics provided hospital discharge data for every hospital discharge of N.C. residents. A hospital discharge occurs after a patient leaves a hospital following admission. This data does not represent number of patients, but number of discharges (multiple discharges per patient are possible). Cause of injury was assigned with International Classification, 9th Revision, Clinical Modification (ICD-9-CM) External Causes of Injury codes (E Codes).

Emergency Department Data: The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is a state system that collects and monitors emergency department (ED) for public health purposes. NC DETECT receives data on at least a daily basis from hospital emergency departments statewide to provide early detection and timely public health surveillance. As of 2010, NC DETECT captured ED records from 113 of 114 (99%) 24/7 acute care hospital-affiliated EDs in NC and captured and estimated 99.5% of all eligible ED visits. The ED data and the hospital discharge data are not mutually exclusive. Cause of injury was assigned with International Classification, 9th Revision, Clinical Modification (ICD-9-CM) External Causes of Injury codes (E Codes).

Notes:

Figures 5 and 6: Death certificates can list up to 20 causes of death including the primary cause of death. These are ICD-10 injury codes, or T-codes.

In Figure 5, causes of unintentional poisoning death were categorized as either illicit drug deaths, prescription/OTC drug deaths, opioids, alcohol deaths, or deaths due to other chemical substances. The illicit drug category includes all Schedule One drugs and cocaine. The codes for illicit drugs (heroin and cocaine) are T40.0, T40.1, T40.5 T40.7, T40.8, and T40.9. The category prescription/OTC drugs contain all other specified drug deaths (codes T36-T39 and T41-50.9). Opioids include opioids other than heroin, methadone, other synthetic narcotics, and other and unspecified narcotics (T40.2-T40.4 and T40.6). The codes for the all alcohols category are T51.0 and T51.1-T51.9. “Other chemical substances” contains all other causes of unintentional poisoning death (T51-T60 and T65). Categories are *not* mutually exclusive.

The results from Figure 6 are also classified according to ICD-10 injury codes. Figure 6 is limited to leading causes of deaths from Poisoning by Drugs, Medicinal Substances, and Biological Substances (codes T36-T50).

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