



Injury Report 2020

Wake County Human Services Public Health Report



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NOTE: Data customarily provided on the Wake County Drug Overdose Prevention and Tobacco Use Initiative was not available this year as program resources are re-directed to the ongoing COVID-19 pandemic response.

1.0 Overview

Information about the many types of injuries is complex and is gathered from several data sources such as death certificates, medical examiner reports, law enforcement reports, hospital admissions and emergency department visits. This report describes injuries and their impact on the health of those who live, work, play, and learn in Wake County. Deaths are the most severe outcome from injuries but are the “tip of the iceberg” (Figure 1) when evaluating the burden of injuries. Many injuries are either treated by medical providers during outpatient visits and not reported or no medical treatment is sought for the injury. Thus, the total societal burden of injuries from all causes is unknown.

The term "intentional" is used to refer to injuries resulting from purposeful human action, whether directed at oneself or others. Intentional injuries include self-inflicted and interpersonal acts of violence intended to cause harm.

“Unintentional” is used to refer to injuries that were unplanned and can be defined as events in which:

- the injury occurs in a short period of time (seconds or minutes)
- a harmful outcome was not sought
- the outcome was the result of one of the forms of physical energy in the environment or normal body functions being blocked by external means¹

As mentioned in Wake County’s previous injury reports, the October 2015 transition in the International Classification of Diseases (ICD) from ICD-9 to ICD-10 has limited the ability to analyze injury trends. Therefore, 2015 data is currently not being analyzed.

Pre-transition data (2014 and before) is not comparable to post-transition data (2016 and after). As a result, only the leading causes of injury hospitalizations and emergency department (ED) visits from 2016-2019 are discussed in this report. (The ICD-9 to ICD-10 transition for deaths occurred in 1998, so death trend analysis is done in this report.)

This report analyzes the three leading causes of injury death in Wake County (motor vehicle traffic (MVT), falls and poisonings). Falls surpassed poisonings and MVT as the number one cause of injury death in 2019.

Figure 1



Source: Injury and Violence Prevention Branch, NC DHHS, 8/24/15.

¹Unintentional Injury (2013). Maine Center for Disease Control and Prevention. Retrieved 10/9/17 from <http://www.maine.gov/dhhs/mecdc//population-health/inj/unintentional.html>.

2.0 Leading Causes of Emergency Department (ED) Visits and Hospitalizations by Injury

Table 1 shows Motor Vehicle Traffic (MVT)-Unintentional was the top cause of injury ED visits in from 2016-2019.

Table 1: Top Five Causes of Emergency Department Visits by Injury (All Ages), Wake County, 2016-2019												
	2016			2017			2018			2019*		
Cause of Injury	Cases	Rate**	Rank	Cases	Rate**	Rank	Cases	Rate**	Rank	Cases	Rate**	Rank
MVT - Unintentional	10750	1026.9	1	11210	1045.5	1	11,820	1082.1	1	11,896	1070.0	1
Fall - Unintentional	7617	727.7	2	9843	918.0	2	11,655	1067.0	2	11,892	1069.7	2
Natural/Environmental - Unintentional [♦]	2575	246.0	3	2900	270.5	3	2,832	259.3	3	2,812	252.9	3
Unspecified - Unintentional	-	-	-	-	-	-	1,858	170.1	4	1912	172.0	4
Other Specified/Classifiable - Unintentional [♦]	1596	152.5	4	1911	178.2	4	1,848	169.2	5	1,788	160.8	5
Poisoning - Unintentional	1168	111.6	5	1257	117.2	5	-	-	-	-	-	-

*2019 data is provisional. **Rate is per 100,000 population.

♦ A “natural/environmental” injury is defined as one resulting from exposure to adverse natural and environmental conditions (such as severe heat, severe cold, lightning, sunstroke, large storms, and natural disasters) as well as lack of food or water. (Source: [Definitions for WISQARS Nonfatal - NCIPC \(cdc.gov\)](#)).

♦ An “other specified/classifiable” injury is defined as one associated with any other specified cause that does not fit another category. Some examples include causes such as electric current, electrocution, explosive blast, fireworks, overexposure to radiation, welding flash burn, or animal scratch. (Source: [Definitions for WISQARS Nonfatal - NCIPC \(cdc.gov\)](#)).

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Table 2 shows that unintentional falls were the top cause of injury hospitalizations in Wake County from 2016 to 2019 by a significant margin.

**Table 2: Top Five Causes of Hospitalizations by Injury (All Ages),
Wake County, 2016-2019**

	2016			2017			2018			2019*		
Cause of Injury	Cases	Rate**	Rank	Cases	Rate**	Rank	Cases	Rate**	Rank	Cases	Rate**	Rank
Fall - Unintentional	1,752	167.4	1	1,837	171.3	1	1,886	172.7	1	2,150	193.4	1
MVT - Unintentional	492	47.0	2	440	41.0	2	478	43.8	2	561	50.5	2
Poisoning - Unintentional	315	30.1	3	284	26.5	3	312	28.6	3	339	30.5	3
Poisoning - Self-Inflicted	257	24.6	4	246	22.9	4	243	22.2	4	257	23.1	4
Fire/Burn - Unintentional	155	14.8	5	157	14.6	5	183	16.8	5	187	16.8	5

*2019 data is provisional.

**Rate is per 100,000 population.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

3.0 Leading Causes of Injury Deaths

As in previous years, the top three causes of injury death in Wake County have not changed. However, there was a major shift in the relative proportion of injury deaths in 2019; for the first time, falls represented the highest percentage of injury deaths (Figure 2).

Figure 3 shows the 2019 rankings for the top five causes of injury death were the same as in 2017 and 2018, with two key exceptions: in 2019, the fall death rate increased 38%, and is now ranked first. For the second year in a row, the poisoning death rate decreased dramatically and is now ranked second. Death rates for unintentional MVT, firearm self-inflicted, and suffocation self-inflicted ranked third, fourth, and fifth respectively, and were essentially unchanged from 2018 to 2019.

Figure 2: *2019 data is provisional.
Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Figure 2: *2019 data is provisional.
Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Figure 2: Percentages of the Top Three Causes of Injury Death, Wake County, 2015-19

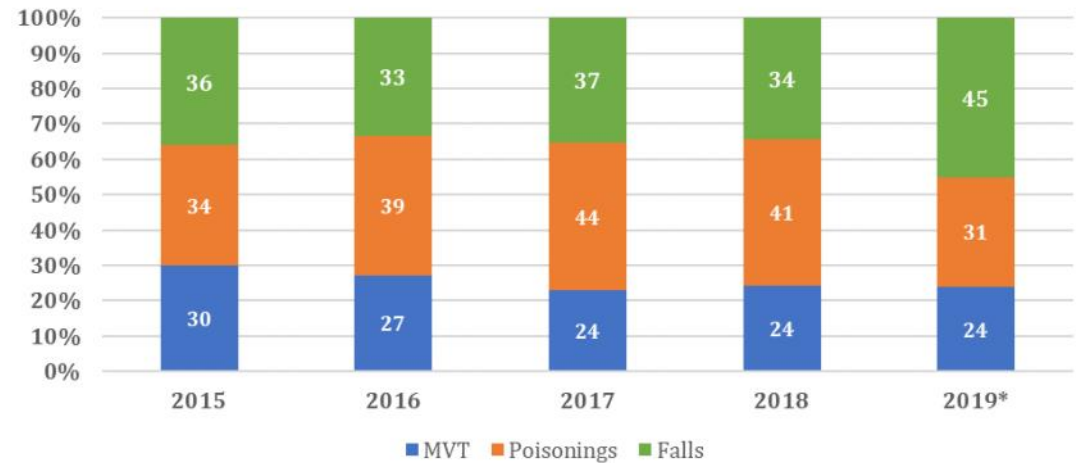
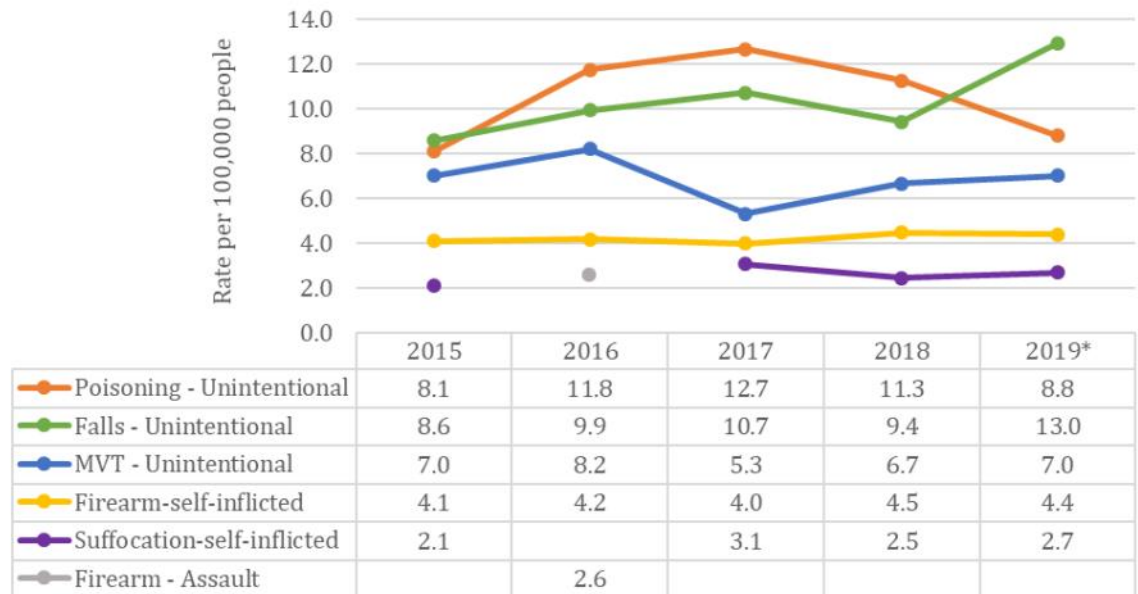


Figure 3: Death Rates, Top Five Causes of Injury Death, Wake County, 2015-2019



4.0 Fall Deaths

Table 3 shows there were 554 fall deaths in Wake County from 2015-19. Notably, the 65+ led all age groups in number of deaths, and the 65+ death rate increased 7.2%. White non-Hispanics had the highest death rate among racial and ethnic groups, and females had a slightly higher death rate than males.

Table 3: Unintentional Fall Deaths, Wake County, 2015-2019*

	Number	Percent	Rate per 100,000
		Sex	
Female	292	52.7	10.6
Male	262	47.3	10.1
		Race/Ethnicity	
White (NH)**	480	86.6	14.7
Black (NH)	52	9.4	4.7
American Indian (NH)	0	0.0	0.0
Asian (NH)	***	0.5	***
Hispanic	16	2.9	2.9
Other/Unknown	***	0.5	***
		Age Group	
0-14	0	0.0	0.0
15-24	***	0.5	***
25-34	5	0.9	0.6
35-44	9	1.6	1.1
45-54	24	4.3	3.1
55-64	33	6.0	5.5
65+	480	86.6	80.2
Total	554	100	10.4

*2015-19 data is provisional.

**"NH" means non-Hispanic ethnicity.

***Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20

5.0 Poisoning Deaths

Table 4 shows there were 563 unintentional poisoning deaths in Wake County in 2015-19, up from 531 in 2014-18. As in previous years, males, white non-Hispanics and people ages 25-54 had the highest percentages of poisoning deaths (73.7%, 76.6% and 72.1% respectively).

Table 4: Unintentional Poisoning Deaths, Wake County, 2015-19*			
	Number	Percent	Rate per 100,000
Sex			
Female	148	26.3	5.4
Male	415	73.7	16.0
Race/Ethnicity			
White (NH)**	431	76.6	13.2
Black (NH)	103	18.3	9.2
American Indian (NH)	***	0.2	***
Asian (NH)	5	0.9	1.3
Hispanic	20	3.6	3.7
Other/Unknown	***	0.5	***
Age Group			
0-14	***	0.2	***
15-24	82	14.6	11.5
25-34	177	31.4	22.5
35-44	121	21.5	15.0
45-54	108	19.2	14.1
55-64	55	9.8	9.1
65+	19	3.4	3.2
Total	563	100	10.5

*2015-19 data is provisional. **"NH" means Non-Hispanic ethnicity. *** Rate suppressed, fewer than 5 deaths.
Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

6.0 Unintentional Overdose Deaths

Table 5 shows black non-Hispanics in Wake County are disproportionately affected by cocaine deaths. From 2015-19, black non-Hispanics died at more than 1.5 times the rate that white non-Hispanics.

Table 5: Cocaine Overdose Deaths, Wake County, 2015-19*			
	Number	Percent	Rate per 100,000
	Sex		
Female	41	21.8	1.5
Male	147	78.2	5.7
	Race/Ethnicity		
White (NH)**	114	60.6	3.5
Black (NH)	63	33.5	5.7
American Indian (NH)	0	0.0	0.0
Asian (NH)	0	0.0	0.0
Hispanic	10	5.3	1.8
Other/Unknown	***	0.5	***
	Age Group		
0-14	0	0.0	0.0
15-24	16	8.5	2.2
25-34	63	33.5	8.0
35-44	38	20.2	4.7
45-54	45	23.9	5.9
55-64	21	11.2	3.5
65+	5	2.7	0.8
Total	188	100	3.5

*2015-19 data is provisional. ** "NH" means Non-Hispanic ethnicity.

*** Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Table 6 shows significant disparities in 2015-19 heroin deaths between genders. White non-Hispanics and 25-34 year-olds died at significantly higher rates than other racial/ethnic and age groups.

Table 6: Heroin Overdose Deaths, Wake County, 2015-19*			
	Number	Percent	Rate per 100,000
	Sex		
Female	38	22.5	1.4
Male	131	77.5	5.0
	Race/Ethnicity		
White (NH)**	138	81.7	4.2
Black (NH)	21	12.4	1.9
American Indian (NH)	***	0.6	***
Asian (NH)	0	0.0	0.0
Hispanic	8	4.7	1.5
Other/Unknown	***	0.6	***
	Age Group		
0-14	0	0.0	0.0
15-24	24	14.2	3.4
25-34	64	37.9	8.1
35-44	43	25.4	5.3
45-54	28	16.6	3.6
55-64	9	5.3	1.5
65+	***	0.6	***
Total	169	100	3.2

*2015-19 data is provisional. ***"NH" means Non-Hispanic ethnicity.

***Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Table 7 shows that for other synthetic narcotic deaths in 2015-19, the trend is similar to heroin deaths. Men died at higher rates than women and white non-Hispanics and 25-34 year-olds died at significantly higher rates than other racial/ethnic and age groups.

Table 7: Other Synthetic Narcotic Overdose Deaths, Wake County, 2015-2019*			
	Number	Percent	Rate per 100,000
		Sex	
Female	73	25.2	2.7
Male	217	74.8	8.3
		Race/ Ethnicity	
White (NH)**	233	80.3	7.1
Black (NH)	44	15.2	4.0
American Indian (NH)	0	0.0	0.0
Asian (NH)	***	0.3	***
Hispanic	10	3.5	1.8
Other/ Unknown	***	0.7	***
		Age Group	
0-14	0	0.0	0.0
15-24	52	17.9	7.3
25-34	111	38.3	14.1
35-44	63	21.7	7.8
45-54	43	14.8	5.6
55-64	19	6.6	3.1
65+	***	0.7	***
Total	290	100	5.4

*2015-19 data is provisional. **"NH" means Non-Hispanic ethnicity.

***Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Table 8 shows that of all of the drug death categories listed in this report, women had a higher percentage of commonly prescribed opioid deaths than any other category. White non-Hispanics and 25-34 year-olds died at the highest rates.

Table 8: Commonly Prescribed Opioid Overdose Deaths, Wake County, 2015-2019*			
	Number	Percent	Rate per 100,000
		Sex	
Female	46	34.6	1.7
Male	87	65.4	3.3
		Race/ Ethnicity	
White (NH)**	112	84.2	3.4
Black (NH)	15	11.3	1.3
American Indian (NH)	0	0.0	0.0
Asian (NH)	***	0.8	***
Hispanic	***	3.0	***
Other/Unknown	***	0.8	***
		Age Group	
0-14	***	0.8	***
15-24	16	12.0	2.2
25-34	37	27.8	4.7
35-44	29	21.8	3.6
45-54	33	24.8	4.3
55-64	15	11.3	2.5
65+	***	1.5	***
Total	133	100	2.5

*2015-19 data is provisional. **"NH" means Non-Hispanic ethnicity.

***Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Table 9 shows that men, white non-Hispanics and 25-34 year olds had the highest rates of psychostimulant (including methamphetamine) deaths from 2015-19.

Table 9: Psychostimulant Overdose Deaths, Wake County, 2015-2019*			
	Number	Percent	Rate per 100,000
		Sex	
Female	6	23.1	0.2
Male	20	76.9	0.8
		Race/ Ethnicity	
White (NH)**	23	88.5	0.7
Black (NH)	***	7.7	***
American Indian (NH)	0	0.0	0.0
Asian (NH)	0	0.0	0.0
Hispanic	***	3.9	***
Other/ Unknown	0	0.0	0.0
		Age Group	
0-14	0	0.0	0.0
15-24	5	19.2	0.7
25-34	9	34.6	1.1
35-44	8	30.8	1.0
45-54	***	7.7	***
55-64	***	7.7	***
65+	0	0.0	0.0
Total	26	100	0.5

*2015-19 data is provisional. **"NH" means Non-Hispanic ethnicity.

*** Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

Table 10 shows that while the general trend for benzodiazepine deaths was similar to other drug categories listed in this report, the 15-24 year-old age group had a higher proportion of this type of drug death compared to other drugs.

Table 10: Benzodiazepine Overdose Deaths, Wake County, 2015-2019*			
	Number	Percent	Rate per 100,000
		Sex	
Female	40	28.6	1.5
Male	100	71.4	3.8
		Race/Ethnicity	
White (NH)**	125	89.3	3.8
Black (NH)	8	5.7	0.7
American Indian (NH)	0	0.0	0.0
Asian (NH)	***	0.7	***
Hispanic	***	2.9	***
Other/ Unknown	***	1.4	***
		Age Group	
0-14	0	0.0	0.0
15-24	30	21.4	4.2
25-34	45	32.1	5.7
35-44	29	20.7	3.6
45-54	24	17.1	3.1
55-64	12	8.6	2.0
65+	0	0.0	0.0
Total	140	100	2.6

*2015-19 data is provisional. **"NH" means Non-Hispanic ethnicity.

* **Rate suppressed, fewer than 5 deaths.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

7.0 Motor Vehicle Traffic (MVT) Deaths

Table 11 shows that for MVT deaths, males, black non-Hispanics and the 65+ age group had the highest death rates in 2015-19.

Table 11: Unintentional MVT Deaths, Wake County, 2015-19*			
	Number	Percent	Rate per 100,000
Sex			
Female	107	29.2	3.9
Male	259	70.8	10.0
Race/Ethnicity			
White (NH)**	175	47.8	5.3
Black (NH)	132	36.1	11.9
American Indian (NH)	***	0.3	***
Asian (NH)	10	2.7	2.5
Hispanic	41	11.2	7.5
Other/Unknown	7	1.9	♦
Age Group			
0-14	16	4.4	1.5
15-24	71	19.4	10.0
25-34	64	17.5	8.1
35-44	51	13.9	6.3
45-54	55	15.0	7.2
55-64	43	11.8	7.1
65+	66	18.0	11.0
Total	366	100	6.8

*2015-19 data is provisional. **"NH" means Non-Hispanic ethnicity.

***Rate suppressed, fewer than 5 deaths. ♦No rate calculated.

Source: NC DHHS DPH, Injury and Violence Prevention Branch, 10/26/20.

8.0 Pedestrian/Automobile Crashes

Table 12 shows pedestrian/automobile crashes by crash severity for the last five years. Total crashes, crashes with suspected serious injuries and crashes resulting in deaths have increased between 2015 and 2019.

Table 12: Pedestrian Crash Data by Crash Severity, Wake County, 2015-19						
	2015	2016	2017	2018	2019	Total
Suspected Serious Injury	22	27	41	31	53	174
Suspected Minor Injury	128	122	118	146	153	667
Possible Injury	139	155	108	125	138	665
Killed	11	15	12	17	22	77
No Injury	16	58	42	37	46	199
Unknown Injury	1	4	4	1	1	11
Total	317	381	325	357	413	1,793

Source: [North Carolina Pedestrian and Bicycle Crash Data Tool - Pedestrian Data Query Results \(pedbikeinfo.org\)](https://pedbikeinfo.org/), 11/25/20.

9.0 Bicycle/Automobile Crashes

Table 13 shows bicycle/automobile crashes by crash severity for the last five years. Total crashes and deaths decreased between 2015 and 2019.

Table 13: Bicycle Crash Data by Crash Severity, Wake County, 2015-19						
	2015	2016	2017	2018	2019	Total
Suspected Serious Injury	5	2	7	11	8	33
Suspected Minor Injury	49	36	54	44	44	227
Possible Injury	41	50	33	37	36	197
Killed	4	1	2	0	0	7
No Injury	13	30	15	20	15	93
Unknown Injury	0	3	0	0	0	3
Total	112	122	111	112	103	560

Source: [North Carolina Pedestrian and Bicycle Crash Data Tool - Bicycle Data Query Results \(pedbikeinfo.org\)](#), 11/25/20.

10.0 Acknowledgements

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