



Fentanyl and Heroin-Related Deaths in North Carolina: 2016

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OVERVIEW

The Office of the Chief Medical Examiner (OCME) investigates all suspicious, violent, unexpected, and sudden deaths in North Carolina, including all suspected drug-related deaths. The OCME collects data from autopsy reports, death certificates, investigation reports, and toxicology reports on all deaths investigated by the medical examiner system in North Carolina. The data collected by the OCME can be used to identify trends relating to deaths in North Carolina, inform public health initiatives, and develop prevention strategies.

OCME TOXICOLOGY LABORATORY

The OCME Toxicology Laboratory is accredited by the American Board of Forensic Toxicology (ABFT) and performs toxicology testing on all drug-related deaths in North Carolina to assist the pathologist in determining cause and manner of death. The OCME Toxicology Laboratory screens for more than 600 compounds. The number of novel compounds detected during screening has risen dramatically in the last two years.

PROVISIONAL DATA

SUMMARY

Based on provisional data, there were 479 fentanyl and/or fentanyl analogue-related deaths and 521 heroin-related deaths in North Carolina in 2016.^{1,4}

11.1% ($n = 53$) of fentanyl and/or analogue-related deaths occurred in August 2016, while 10.7% ($n = 51$) occurred in February 2016. June 2016 had the third highest number of deaths with 9.6% ($n = 46$).

12.5% ($n = 65$) of heroin-related deaths occurred in August 2016, while 10.0% ($n = 52$) occurred in May 2016. March 2016 had the third highest number of deaths with 9.4% ($n = 49$).

Mecklenburg County had the highest number of fentanyl and/or analogue-related deaths based on county of death ($n = 59$) and county of residence ($n = 49$).^{2,3}

Mecklenburg County had the highest number of heroin-related deaths based on county of death ($n = 53$) and county of residence ($n = 41$).^{2,3}

41.5% ($n = 199$) of fentanyl and/or analogue-related deaths were between 25 and 34 years of age. Of these deaths, white males represented 60.8% ($n = 121$).

39.2% ($n = 204$) of heroin-related deaths were between 25 and 34 years of age. Of these deaths, white males represented 65.7% ($n = 143$).

Source: Office of the Chief Medical Examiner (OCME).

¹2016 is considered provisional and is current as of April 11, 2017. The number of poisoning deaths may increase as cases are finalized.

²County-level population data for 2016 are not yet available, so rates were not calculated.

³Counties with zero deaths involving fentanyl, fentanyl analogues, and/or heroin are not included in Tables 5-8. See Table 13 for more information.

⁴Deaths included in this report are related to fentanyl, fentanyl analogues, and/or heroin. This does not necessarily indicate cause of death.



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Figure 1 Fentanyl and/or Analogue-Related Deaths in North Carolina by Month, 2016

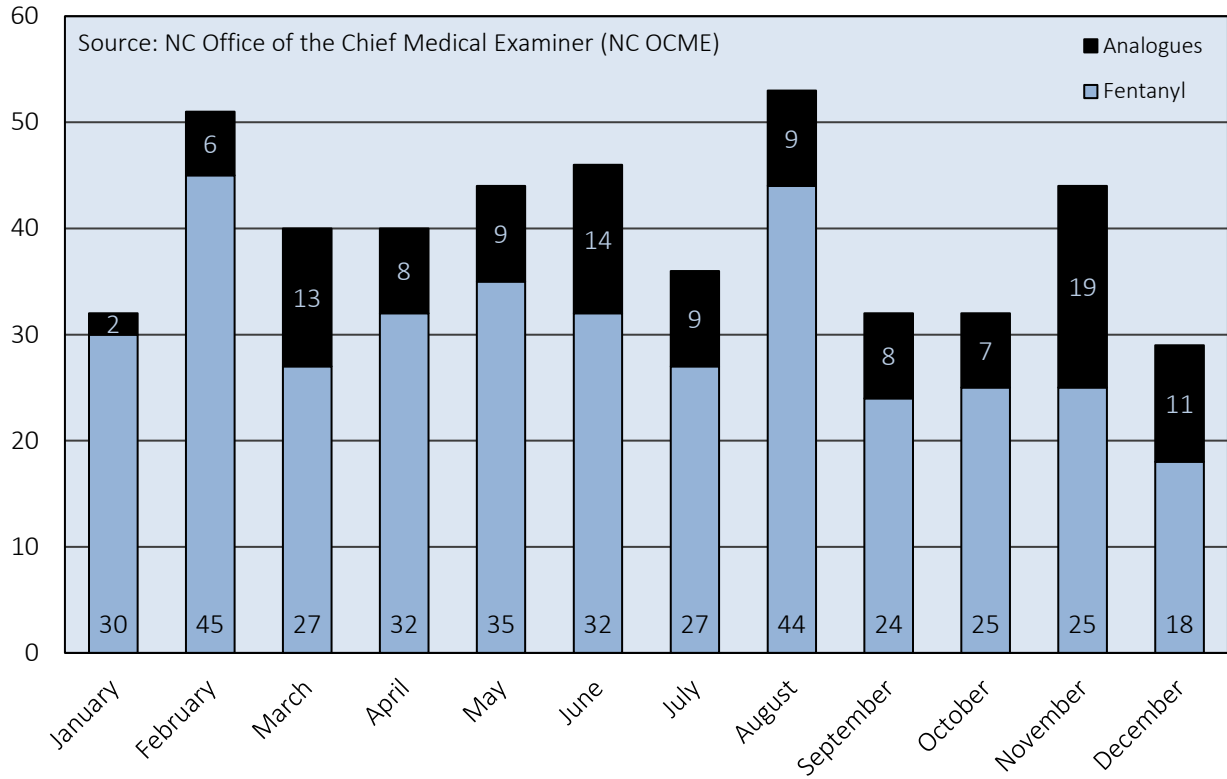


Figure 2 Heroin-Related Deaths in North Carolina by Month, 2016

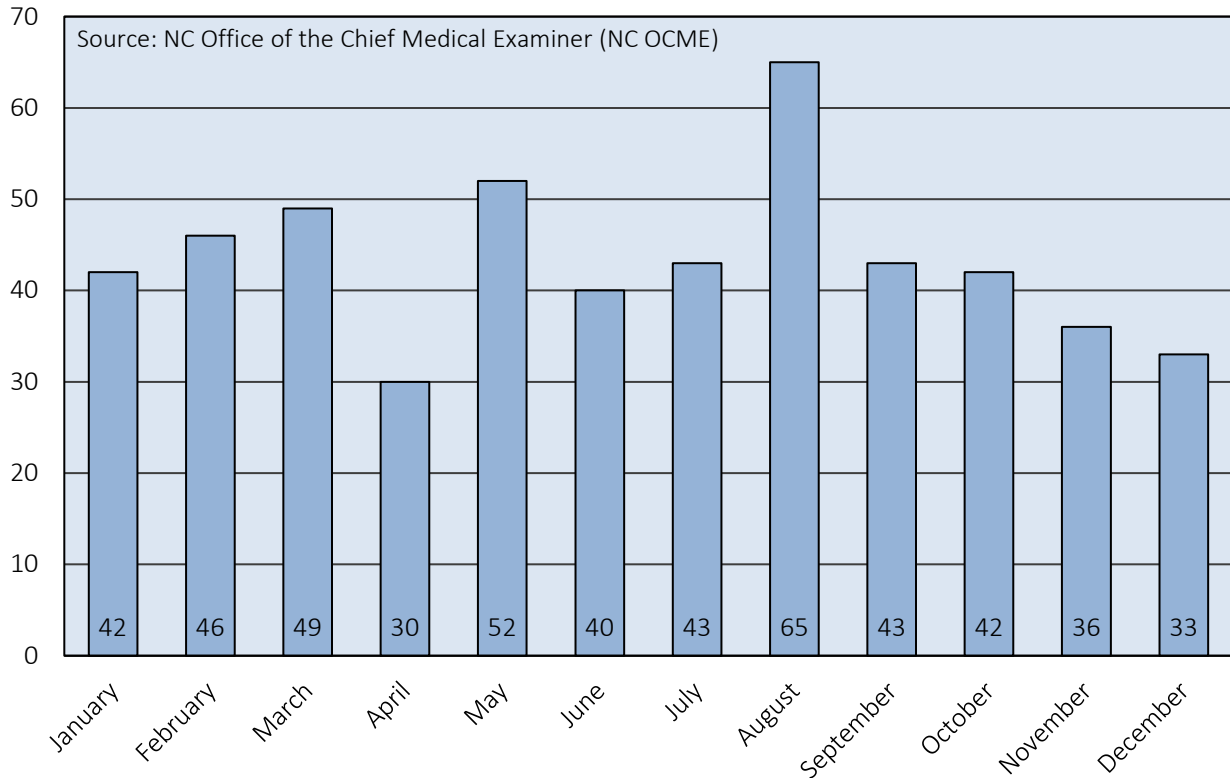




Table 1 Fentanyl and/or Analogue-Related Deaths in North Carolina by County of Death, 2016

| County of Death | Total |
|-----------------|-------|
| Mecklenburg | 59 |
| Wake | 48 |
| Guilford | 36 |
| New Hanover | 28 |
| Cumberland | 23 |

Table 2 Fentanyl and/or Analogue-Related Deaths in North Carolina by County of Residence, 2016

| County of Residence | Total |
|---------------------|-------|
| Mecklenburg | 49 |
| Wake | 42 |
| Guilford | 30 |
| Cumberland | 23 |
| New Hanover | 20 |

Table 3 Heroin-Related Deaths in North Carolina by County of Death, 2016

| County of Death | Total |
|-----------------|-------|
| Mecklenburg | 53 |
| Guilford | 49 |
| New Hanover | 37 |
| Forsyth | 34 |
| Wake | 34 |

Table 4 Heroin-Related Deaths in North Carolina by County of Residence, 2016

| County of Residence | Total |
|---------------------|-------|
| Mecklenburg | 41 |
| Guilford | 38 |
| New Hanover | 33 |
| Wake | 30 |
| Forsyth | 27 |



Table 5 Fentanyl and/or Analogue-Related Deaths in North Carolina By County of Death, 2016

| County of Death | Total | County of Death | Total | County of Death | Total |
|-----------------|-------|-----------------|-------|-----------------|------------|
| Alamance | 4 | Guilford | 36 | Rockingham | 6 |
| Alexander | 2 | Halifax | 3 | Rowan | 16 |
| Ashe | 2 | Harnett | 4 | Rutherford | 3 |
| Bertie | 1 | Hertford | 1 | Sampson | 1 |
| Brunswick | 14 | Hoke | 2 | Stanly | 1 |
| Buncombe | 15 | Iredell | 5 | Surry | 2 |
| Burke | 6 | Jackson | 2 | Swain | 1 |
| Cabarrus | 20 | Johnston | 1 | Transylvania | 1 |
| Caldwell | 4 | Jones | 1 | Tyrrell | 1 |
| Carteret | 5 | Lee | 5 | Union | 5 |
| Catawba | 9 | Lincoln | 3 | Vance | 4 |
| Chatham | 1 | Martin | 1 | Wake | 48 |
| Chowan | 1 | Mecklenburg | 59 | Watauga | 1 |
| Clay | 1 | Montgomery | 1 | Wayne | 7 |
| Cleveland | 1 | Moore | 3 | Wilkes | 5 |
| Columbus | 6 | Nash | 8 | Wilson | 1 |
| Craven | 13 | New Hanover | 28 | Yadkin | 1 |
| Cumberland | 23 | Onslow | 11 | TOTAL | 479 |
| Currituck | 1 | Orange | 3 | | |
| Dare | 2 | Pamlico | 2 | | |
| Davidson | 4 | Pasquotank | 6 | | |
| Durham | 9 | Pender | 8 | | |
| Edgecombe | 2 | Perquimans | 1 | | |
| Forsyth | 9 | Pitt | 4 | | |
| Franklin | 1 | Polk | 1 | | |
| Gaston | 8 | Randolph | 3 | | |
| Gates | 4 | Richmond | 1 | | |
| Granville | 1 | Robeson | 3 | | |



Table 6 Fentanyl and/or Analogue-Related Deaths in North Carolina by County of Residence, 2016

| County of Residence | Total | County of Residence | Total | County of Residence | Total |
|---------------------|-------|---------------------|-------|---------------------|------------|
| Alamance | 7 | Guilford | 30 | Robeson | 3 |
| Alexander | 2 | Halifax | 3 | Rockingham | 7 |
| Ashe | 2 | Harnett | 7 | Rowan | 17 |
| Beaufort | 1 | Hertford | 1 | Rutherford | 3 |
| Bertie | 1 | Hoke | 1 | Sampson | 1 |
| Brunswick | 14 | Iredell | 4 | Stanly | 1 |
| Buncombe | 11 | Jackson | 3 | Surry | 1 |
| Burke | 6 | Johnston | 4 | Transylvania | 1 |
| Cabarrus | 18 | Jones | 1 | Tyrrell | 1 |
| Caldwell | 5 | Lee | 3 | Union | 7 |
| Carteret | 7 | Lincoln | 5 | Vance | 3 |
| Catawba | 10 | Martin | 1 | Wake | 42 |
| Chowan | 1 | Mecklenburg | 49 | Washington | 1 |
| Clay | 1 | Montgomery | 1 | Watauga | 1 |
| Cleveland | 1 | Moore | 5 | Wayne | 7 |
| Columbus | 6 | Nash | 11 | Wilkes | 4 |
| Craven | 12 | New Hanover | 20 | Wilson | 1 |
| Cumberland | 23 | Onslow | 14 | Yadkin | 1 |
| Currituck | 1 | Orange | 4 | Subtotal | 458 |
| Dare | 2 | Pamlico | 1 | OUT OF STATE | 19 |
| Davidson | 4 | Pasquotank | 5 | Unknown | 2 |
| Durham | 6 | Pender | 8 | Subtotal | 21 |
| Edgecombe | 1 | Perquimans | 1 | TOTAL | 479 |
| Forsyth | 6 | Person | 1 | | |
| Franklin | 1 | Pitt | 1 | | |
| Gaston | 11 | Polk | 1 | | |
| Gates | 4 | Randolph | 5 | | |
| Granville | 1 | Richmond | 1 | | |



Table 7 Heroin-Related Deaths in North Carolina by County of Death, 2016

| County of Death | Total | County of Death | Total | County of Death | Total |
|-----------------|-------|-----------------|-------|-----------------|------------|
| Alamance | 3 | Haywood | 1 | Sampson | 3 |
| Alexander | 1 | Henderson | 7 | Stanly | 5 |
| Brunswick | 6 | Hertford | 1 | Stokes | 2 |
| Buncombe | 31 | Hoke | 1 | Surry | 2 |
| Burke | 1 | Iredell | 6 | Union | 7 |
| Cabarrus | 15 | Jackson | 3 | Vance | 6 |
| Caldwell | 2 | Johnston | 3 | Wake | 34 |
| Carteret | 2 | Lee | 3 | Wayne | 12 |
| Catawba | 11 | Lenoir | 2 | Wilson | 3 |
| Chatham | 1 | Lincoln | 2 | Yadkin | 1 |
| Cherokee | 2 | Martin | 1 | TOTAL | 521 |
| Cleveland | 1 | Mecklenburg | 53 | | |
| Columbus | 2 | Moore | 1 | | |
| Craven | 9 | Nash | 5 | | |
| Cumberland | 17 | New Hanover | 37 | | |
| Currituck | 1 | Onslow | 3 | | |
| Davidson | 14 | Orange | 6 | | |
| Davie | 3 | Pamlico | 2 | | |
| Duplin | 1 | Pasquotank | 2 | | |
| Durham | 11 | Pender | 7 | | |
| Edgecombe | 3 | Perquimans | 1 | | |
| Forsyth | 34 | Pitt | 11 | | |
| Franklin | 1 | Randolph | 7 | | |
| Gaston | 24 | Richmond | 1 | | |
| Granville | 3 | Robeson | 1 | | |
| Guilford | 49 | Rockingham | 10 | | |
| Halifax | 3 | Rowan | 15 | | |
| Harnett | 2 | Rutherford | 1 | | |



Table 8 Heroin-Related Deaths in North Carolina by County of Residence, 2016

| County of Residence | Total | County of Residence | Total | County of Residence | Total |
|---------------------|-------|---------------------|-------|---------------------|------------|
| Alamance | 1 | Harnett | 4 | Rowan | 16 |
| Alexander | 1 | Haywood | 1 | Rutherford | 1 |
| Beaufort | 1 | Henderson | 5 | Sampson | 3 |
| Brunswick | 6 | Hertford | 1 | Stanly | 4 |
| Buncombe | 24 | Hoke | 1 | Stokes | 5 |
| Burke | 2 | Iredell | 7 | Union | 8 |
| Cabarrus | 13 | Jackson | 3 | Vance | 5 |
| Caldwell | 3 | Johnston | 4 | Wake | 30 |
| Carteret | 3 | Lee | 3 | Warren | 1 |
| Catawba | 10 | Lenoir | 2 | Washington | 1 |
| Chatham | 1 | Lincoln | 4 | Watauga | 1 |
| Cherokee | 2 | Martin | 1 | Wayne | 11 |
| Cleveland | 1 | Mecklenburg | 41 | Wilson | 5 |
| Columbus | 2 | Montgomery | 1 | Yadkin | 2 |
| Craven | 9 | Moore | 1 | Subtotal | 491 |
| Cumberland | 17 | Nash | 10 | OUT OF STATE | 29 |
| Dare | 1 | New Hanover | 33 | Unknown | 1 |
| Davidson | 14 | Onslow | 5 | Subtotal | 30 |
| Davie | 4 | Orange | 4 | TOTAL | 521 |
| Duplin | 1 | Pamlico | 1 | | |
| Durham | 9 | Pasquotank | 2 | | |
| Edgecombe | 3 | Pender | 6 | | |
| Forsyth | 27 | Perquimans | 1 | | |
| Franklin | 3 | Pitt | 5 | | |
| Gaston | 24 | Randolph | 12 | | |
| Granville | 4 | Richmond | 1 | | |
| Guilford | 38 | Robeson | 1 | | |
| Halifax | 4 | Rockingham | 10 | | |



Table 9 Fentanyl and/or Analogue-Related Deaths in North Carolina by Age Group, 2016

| Age Group | Total | % Total |
|--------------|------------|-------------|
| 15-19 | 5 | 1.0% |
| 20-24 | 54 | 11.3% |
| 25-34 | 199 | 41.5% |
| 35-44 | 114 | 23.8% |
| 45-54 | 75 | 15.7% |
| 55-64 | 29 | 6.1% |
| 65-74 | 3 | 0.6% |
| TOTAL | 479 | 100% |

Table 10 Fentanyl and/or Analogue-Related Deaths in North Carolina by Gender, Age Group, and Race, 2016

| Gender | Age Group | White | Black | American Indian | Asian | Other | Total |
|--------------|-----------------|------------|------------|-----------------|----------|----------|------------|
| Female | 15-19 | 1 | | | | | 1 |
| | 20-24 | 18 | | | | 1 | 19 |
| | 25-34 | 52 | 5 | | 1 | 1 | 59 |
| | 35-44 | 30 | 3 | | | 1 | 34 |
| | 45-54 | 29 | 2 | | | | 31 |
| | 55-64 | 7 | 3 | | | 1 | 11 |
| | 65-74 | 1 | | | | | 1 |
| | <i>Subtotal</i> | | 138 | 13 | 0 | 1 | 4 |
| Male | 15-19 | 3 | 1 | | | | 4 |
| | 20-24 | 32 | 1 | | 1 | 1 | 35 |
| | 25-34 | 121 | 14 | 2 | 1 | 2 | 140 |
| | 35-44 | 70 | 9 | | | 1 | 80 |
| | 45-54 | 34 | 9 | | | 1 | 44 |
| | 55-64 | 12 | 6 | | | | 18 |
| | 65-74 | 2 | | | | | 2 |
| | <i>Subtotal</i> | | 274 | 40 | 2 | 2 | 5 |
| TOTAL | | 412 | 53 | 2 | 3 | 9 | 479 |



Table 11 Heroin-Related Deaths in North Carolina by Age Group, 2016

| Age Group | Total | % Total |
|--------------|------------|-------------|
| 15-19 | 7 | 1.3% |
| 20-24 | 54 | 10.4% |
| 25-34 | 204 | 39.2% |
| 35-44 | 135 | 25.9% |
| 45-54 | 83 | 15.9% |
| 55-64 | 33 | 6.3% |
| 65-74 | 5 | 1.0% |
| TOTAL | 521 | 100% |

Table 12 Heroin-Related Deaths in North Carolina by Gender, Age Group, and Race, 2016

| Gender | Age Group | White | Black | American Indian | Asian | Other | Total |
|--------------|-----------------|------------|------------|-----------------|----------|-----------|------------|
| Female | 15-19 | 3 | | | | | 3 |
| | 20-24 | 21 | 1 | | | | 22 |
| | 25-34 | 52 | 6 | | | 3 | 61 |
| | 35-44 | 37 | 1 | | | 1 | 39 |
| | 45-54 | 26 | | | | | 26 |
| | 55-64 | 4 | 2 | | | | 6 |
| | 65-74 | 1 | | | | | 1 |
| | Subtotal | | 144 | 10 | 0 | 0 | 4 |
| Male | 15-19 | 4 | | | | | 4 |
| | 20-24 | 25 | 6 | | | 1 | 32 |
| | 25-34 | 134 | 9 | | | | 143 |
| | 35-44 | 86 | 6 | 1 | | 3 | 96 |
| | 45-54 | 52 | 4 | | | 1 | 57 |
| | 55-64 | 19 | 7 | | | 1 | 27 |
| | 65-74 | 1 | 3 | | | | 4 |
| | Subtotal | | 321 | 35 | 1 | 0 | 6 |
| TOTAL | | 465 | 45 | 1 | 0 | 10 | 521 |



APPENDIX

Table 13 Counties Without Deaths Involving Fentanyl, Fentanyl Analogues, and/or Heroin in North Carolina, 2016

| Table 5 | Table 6 | Table 7 | Table 8 |
|----------------|----------------|----------------|----------------|
| Alleghany | Alleghany | Alleghany | Alleghany |
| Anson | Anson | Anson | Anson |
| Avery | Avery | Ashe | Ashe |
| Beaufort | Bladen | Avery | Avery |
| Bladen | Camden | Beaufort | Bertie |
| Camden | Caswell | Bertie | Bladen |
| Caswell | Chatham | Bladen | Camden |
| Cherokee | Cherokee | Camden | Caswell |
| Davie | Davie | Caswell | Chowan |
| Duplin | Duplin | Chowan | Clay |
| Graham | Graham | Clay | Currituck |
| Greene | Greene | Dare | Gates |
| Haywood | Haywood | Gates | Graham |
| Henderson | Henderson | Graham | Greene |
| Hyde | Hyde | Greene | Hyde |
| Lenoir | Lenoir | Hyde | Jones |
| Macon | Macon | Jones | Macon |
| Madison | Madison | Macon | Madison |
| McDowell | McDowell | Madison | McDowell |
| Mitchell | Mitchell | McDowell | Mitchell |
| Northampton | Northampton | Mitchell | Northampton |
| Person | Scotland | Montgomery | Person |
| Scotland | Stokes | Northampton | Polk |
| Stokes | Swain | Person | Scotland |
| Warren | Warren | Polk | Surry |
| Washington | Yancey | Scotland | Swain |
| Yancey | | Swain | Transylvania |
| | | Transylvania | Tyrrell |
| | | Tyrrell | Wilkes |
| | | Warren | Yancey |
| | | Washington | |
| | | Watauga | |
| | | Wilkes | |
| | | Yancey | |