

# EXPANDED MAINE DRUG DEATH REPORT FOR 2016

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This report, funded by the Maine Office of Attorney General, provides a summary of statistics regarding drug fatalities in Maine during 2016. Data for the report were collected at the Office of Chief Medical Examiner. A “drug death” is identified when one or more drugs are mentioned on the death certificate as a cause or significant contributing factor for the death. Analysis of these deaths reveals a dramatic increase over 2015 in the total number of fatalities due to drugs, driven by a sharp surge in overdoses due to non-pharmaceutical fentanyl, fentanyl analogs, and heroin/morphine. *Note: There have been minor changes to the preliminary 2016 totals released previously, due updated death certificate information. The revised total number of drug deaths is 376.*

## Overview

- **Total:** In 2016 there were 376 drug-induced deaths statewide, 104 (38%) more than in 2015.
- **Manners of death:** Of these 376, 330 (88%) were accidental overdoses, 38 (10%) were suicides, and 8 (2%) undetermined manner.
- **Overall patterns of note in 2016:**
  - Most (79%) drug deaths were caused by two or more drugs; the average cause of death involved 3 drugs.
  - The vast majority of overdoses (84%) were caused by at least one opioid, including pharmaceutical and illicit (non-pharmaceutical) opioid drugs
  - Fentanyl (or its analogs) and/or heroin/morphine caused 63% of deaths.
  - Cocaine-involved deaths (16% of 2016 deaths) have increased 71% since 2015.
  - Pharmaceutical opioid deaths (33% of 2016 deaths) have remained mostly stable, although the number of deaths caused by hydrocodone has increased substantially, from 2 in 2015 to 18 in 2016.
- **Demographic patterns:** Males outnumber females 2 to 1, and the average age is 41.

	<b>Total</b>	<b>Average Age</b>	<b>Age Range</b>	<b>Percent Male</b>
<b>All drug deaths</b>	376	41	18-86	249 (66%)
<b>Accidents</b>	330	40	18-73	235 (71%)
<b>Suicides</b>	38	52	21-86	26 (68%)

- **Involvement of specific drug categories:**

Specific drug or drug category causing the death (alone or in combination with other drugs and/or alcohol)	Number	Percent of 376 drug deaths
Number of deaths caused by more than one drug	297	79%
Any pharmaceutical drug	231	61%
Any opioid (pharmaceutical or non-pharmaceutical)	317	84%
Naloxone present in the toxicology report*	95	25%
Any illicitly manufactured drug (includes heroin/morphine, non-pharmaceutical fentanyl, fentanyl analogs, other illicitly-manufactured opioids, cocaine, and methamphetamine)	257	68%
Any non-pharmaceutical opioid drugs (heroin/morphine, fentanyl, fentanyl analogs, U-47700, mitragynine).	243	65%
Heroin/morphine and/or fentanyl or fentanyl analogs	238	63%
Fentanyl and/or fentanyl analogs (known pharmaceutical fentanyl removed)	194	51%
Heroin/morphine (known pharmaceutical morphine removed)	119	32%
Any pharmaceutical opioid (most were <u>not</u> prescribed to the decedent)	123	33%
Any benzodiazepine	105	28%
Cocaine	60	16%
Methamphetamine	7	2%

\*Excludes cases with buprenorphine in toxicology.

- **County/City frequencies:** The following table provides totals for the ten counties and five cities that had 10 or more drug deaths in 2016. Five counties had totals below 10 in 2015, but are now above 10: Aroostook, Hancock, Oxford, Somerset, and Washington.

COUNTY CITY	TOTAL NUMBER (PERCENT) OF OVERDOSE DEATHS 2016 N=376	TOTAL NUMBER (PERCENT) OF OPIOID DEATHS 2016 N=317	PERCENT OF MAINE CENSUS POPULATION 2015 (1,329,328)
Androscoggin	37 (10%)	29 (9%)	8%
<i>Lewiston</i>	23 (6%)	18 (6%)	3%
Aroostook	20 (5%)	15 (5%)	5%
Cumberland	78 (21%)	68 (21%)	21%
<i>Portland</i>	42 (11%)	38 (12%)	5%
Hancock	17 (5%)	15 (5%)	4%
Kennebec	30 (8%)	26 (8%)	9%
<i>Augusta</i>	10 (3%)	6 (2%)	1%
Oxford	10 (3%)	10 (3%)	4%
Penobscot	57 (15%)	42 (13%)	12%
<i>Bangor</i>	32 (9%)	22 (7%)	2%
Somerset	10 (3%)	7 (2%)	4%
Washington	20 (5%)	20 (6%)	2%
York	60 (16%)	55 (17%)	15%
<i>Biddeford</i>	15 (4%)	13 (4%)	2%

## Heroin/Morphine Deaths

- Heroin/morphine deaths include any death in which the cause of death identifies “heroin” or “morphine.” We have removed all cases involving known pharmaceutical morphine, so the heroin/morphine deaths are all suspected heroin overdoses. In 2016 there were 119 deaths due to (non-pharmaceutical) heroin/morphine alone or in combination with other drugs. This is an 11% increase over the 107 heroin/morphine deaths identified in 2015.
  - 87 (73%) are male and 32 (27%) are female.
  - Average age of heroin/morphine deaths is 39 (age range 18-67).
  
- **Involvement of co-intoxicant drugs in heroin/morphine deaths:**

<b>Specific co-intoxicants in addition to heroin/morphine identified on the death certificate as a cause of death</b>	<b>Number</b>	<b>Percent of Heroin/Morphine Deaths N=119</b>
One or more drugs (or alcohol) in addition to heroin/morphine	109	92%
At least one pharmaceutical opioid in addition to heroin/morphine	29	24%
Non-pharmaceutical fentanyl and/or at least one fentanyl analog in addition to heroin/morphine	75	63%
Alcohol in addition to heroin/morphine	27	23%
At least one benzodiazepine in addition to heroin/morphine	32	27%
Cocaine was mentioned in addition to heroin/morphine	32	27%

## Non-Pharmaceutical (“Illicit”) Fentanyl and/or Fentanyl Analog Deaths

- This category includes deaths caused by non-pharmaceutical (illicitly manufactured) fentanyl or fentanyl analogs. We removed all cases that involved known pharmaceutical fentanyl from these totals. There were 194 overdoses due to non-pharmaceutical fentanyl and/or fentanyl analogs in 2016. This is an 126% increase over the 86 deaths in 2015.
  - 137 (71%) are male and 57 (29%) are female.
  - The average age in illicit fentanyl/fentanyl analog deaths is 37 (age range 18-67).
- **Involvement of co-intoxicant drugs in non-pharmaceutical fentanyl deaths:**

Specific co-intoxicants in addition to fentanyl and/or fentanyl analogs identified as a cause of death	Number	Percent of Fentanyl/Fentanyl Analog Deaths N=194
<b>FENTANYL and FENTANYL ANALOG COMBINATIONS</b>		
• Fentanyl (with or without fentanyl analogs)	161	83%
• Fentanyl analogs (with or without fentanyl)	75	39%
• <u>Both</u> non-pharmaceutical fentanyl and at least one fentanyl analog	38	20%
<b>CO-INTOXICANTS IDENTIFIED IN FENTANYL and/or FENTANYL ANALOG DEATHS</b>		
• One or more drugs (or alcohol) in addition to fentanyl and/or fentanyl analogs	157	81%
• One or more pharmaceutical opioids in addition to fentanyl and/or fentanyl analogs	40	21%
• Heroin/morphine in addition to fentanyl and/or fentanyl analogs	75	39%
• Alcohol in addition to fentanyl and/or fentanyl analogs	47	24%
• One or more benzodiazepines in addition to fentanyl and/or fentanyl analogs	50	26%
• Cocaine in addition to fentanyl and/or fentanyl analogs	34	18%

- **Fentanyl analogs identified:**

Fentanyl Analog Identified	Total Number of Cases*	Percent of Fentanyl Analog-Involved Deaths N=75
Acetyl fentanyl	35	47%
Furanyl fentanyl	31	41%
4-ANPP (despropionyl fentanyl)	3	4%
Fluoro-fentanyl	1	1%
Para-fluoro-isobutyryl	2	3%
Para-fluorobutyryl	1	1%
Acryl fentanyl	1	1%

\*Some cases had more than one analog

### Total Drug Deaths, Comparing the Totals for Deaths Caused by Pharmaceutical and Illicit (Non-Pharmaceutical) Drugs

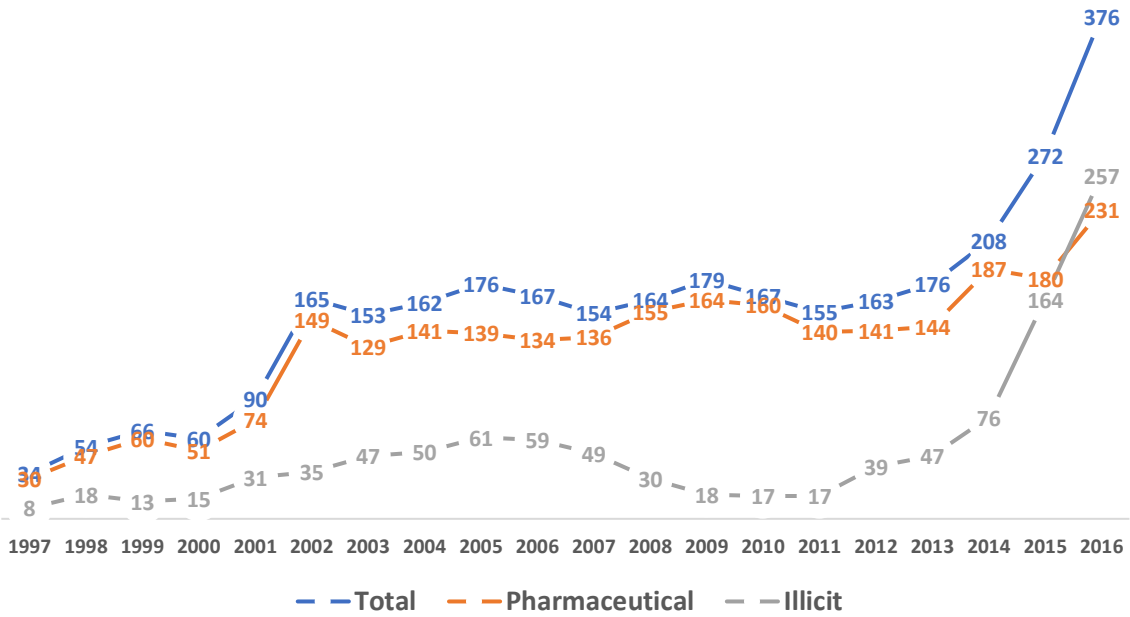


Figure 1. Number of drug-induced deaths in Maine, with subtotals for deaths caused by any pharmaceutical drugs and for deaths caused by any illicit (non-pharmaceutical) drugs. Most deaths are caused by more than one drug. Pharmaceutical and illicit drugs may be combined to cause death.

### Total Deaths due to Pharmaceutical Opioids Compared to Non-Pharmaceutical (Illicit) Opioids, Alone or in Combination

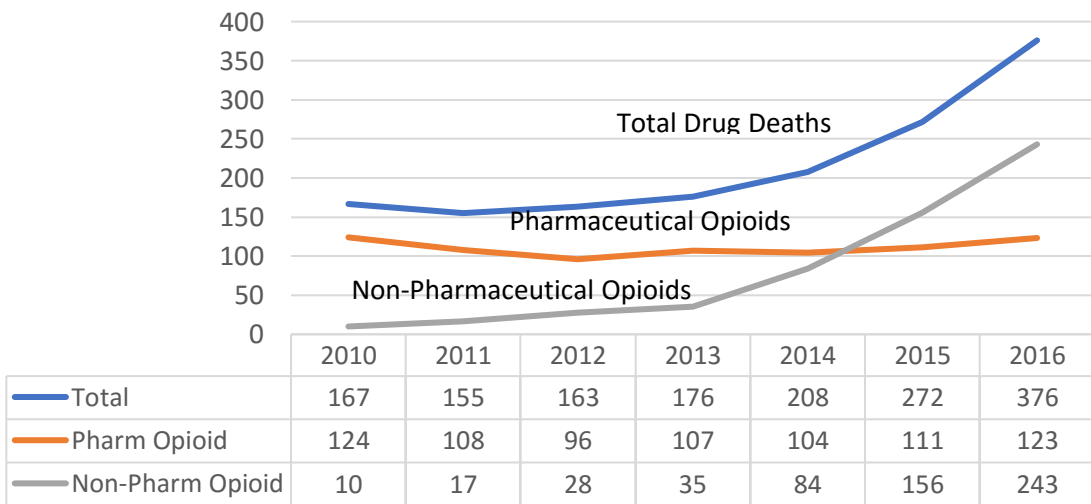


Figure 2. Comparison of the number deaths due to pharmaceutical versus non-pharmaceutical opioids, alone or in combination with other drugs or alcohol.

### Deaths due to Heroin/Morphine and Non-Pharmaceutical Fentanyl and/or its Analogs

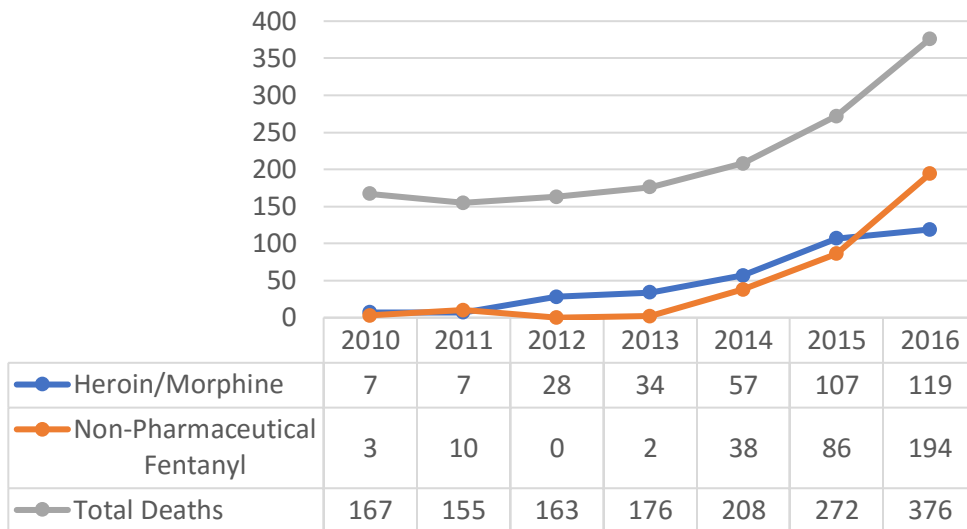


Figure 3. Total drug deaths with subtotals for the number of deaths due to heroin/morphine and non-pharmaceutical fentanyl and/or its analogs. Although separate totals are provided for heroin/morphine and fentanyl/fentanyl analog fatalities, many deaths include both drug categories.

### Deaths Due to Heroin/Morphine (HM) and Non-Pharmaceutical Fentanyl and/or its Analogs, Alone or in Combination with Each Other

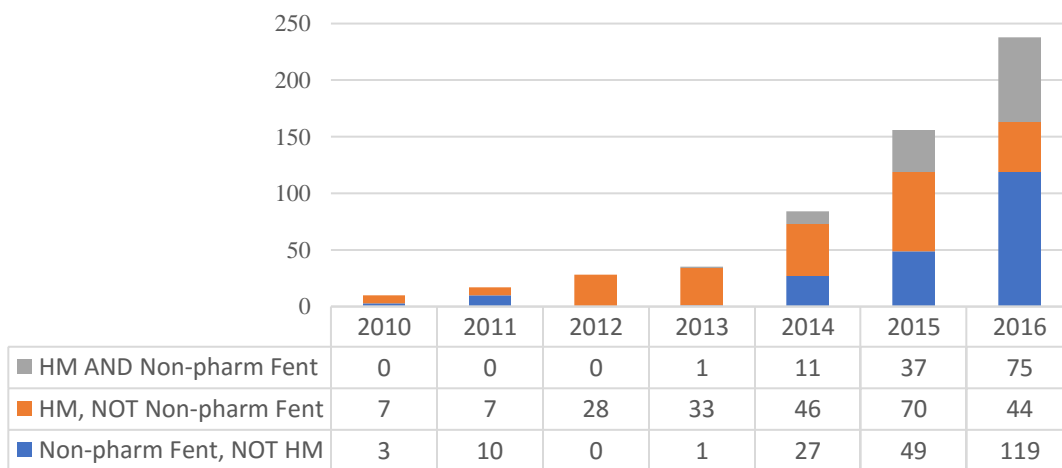


Figure 4. Total deaths due to heroin/morphine (“HM”) with non-pharmaceutical fentanyl (Non-pharm Fent”) and/or its analogs, alone or in combination with each other.

### Deaths due to Key Pharmaceutical Opioids, Alone or in Combination

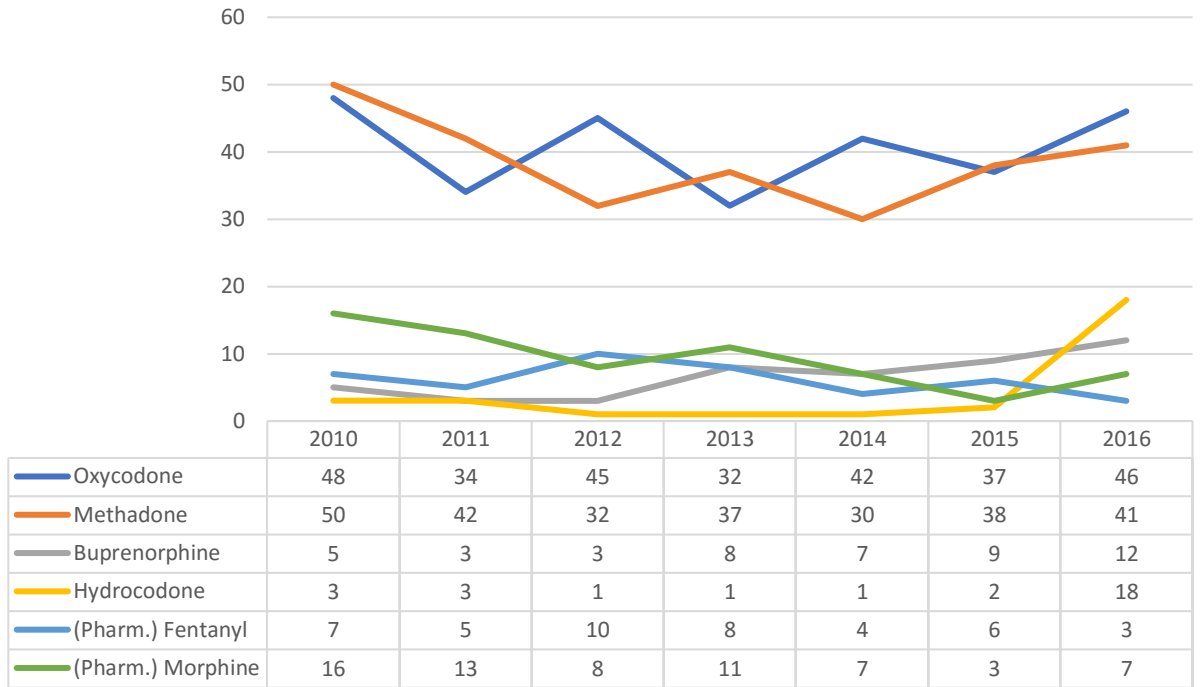


Figure 5. Number of deaths caused by key pharmaceutical opioids, alone or in combination with other drugs. Note that these fentanyl cases are caused by pharmaceutical fentanyl.

### Deaths due to Cocaine, Alone or in Combination with Other Drugs or Alcohol

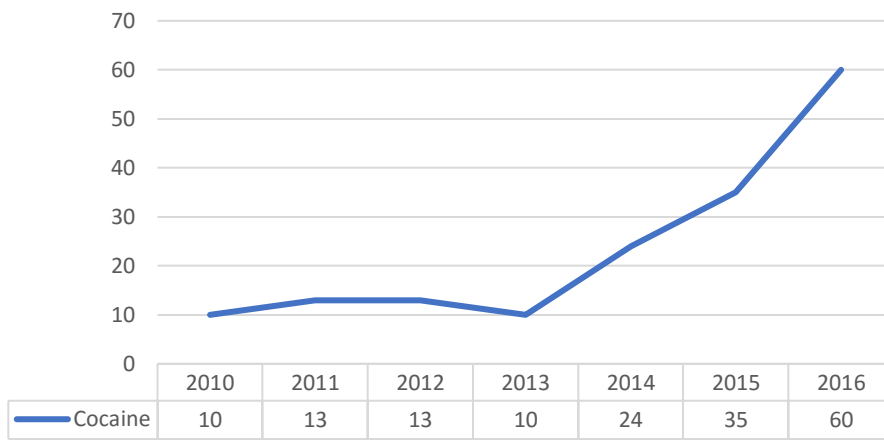


Figure 6. Number of deaths caused by cocaine, alone or in combination with other drugs