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First Quarter Maine Drug Death Report with Estimates for Second Quarter--January–March, 2020

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FIRST QUARTER MAINE DRUG DEATH REPORT WITH ESTIMATES FOR SECOND QUARTER JANUARY – MARCH, 2020

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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 January-March, 2020, as well as preliminary estimates for April-June. 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.

Overview

During the first quarter of 2020, total fatalities due to drugs are 23% higher than the fourth quarter of 2019: 127 compared to 103. The estimated total for the second quarter is 132, with a total of 259 estimated for the first half of 2020. The overall increase, comparing 2019 and the estimate for the first half of 2020, is statistically significant (p=.0039). It is comparable to increases being seen nationally, which are attributed to the effects of the pandemic, including social isolation, economic difficulty, and reluctance to seek medical attention. Interruptions in drug supplies internationally have resulted in substitutions and combinations that may be contributing to additional vulnerabilities to overdose.

Opioids (both pharmaceutical and nonpharmaceutical) were implicated in 82% of first quarter deaths. Nonpharmaceutical fentanyl drugs in particular were implicated in 61% of deaths, and 68% of opioid deaths, which is a reduction since 2019 when fentanyl caused 68% of all drug deaths, and 81% of opioid deaths. Most first quarter deaths, 80%, involved two or more drugs listed as a cause of death. Nonpharmaceutical opioid deaths were very likely to have co-intoxicant stimulants, cocaine or methamphetamine, increasing since 2019. Pharmaceutical opioids caused 27% of deaths, many in combination with nonpharmaceutical opioids. About a third of opioid deaths (35, 34%) had received naloxone, a higher number but the same proportion as in the fourth quarter 2019 (29, 34%).

Using data from April and May as an estimate for the second quarter, the same general patterns continue from the first quarter, but with a higher proportion of deaths involving two or more drugs (87%), a higher proportion of deaths due to opioids (86%), and a higher proportion of deaths due to nonpharmaceutical fentanyl and its analogs (71%). There is a rise in the proportion of deaths including cocaine as a cause of death (36% compared to 30% in the first quarter), but a lower proportion caused by methamphetamine (12% compared to 16%). Pharmaceutical opioids were implicated in 24% of deaths, slightly lower than 27% in the first quarter; they were frequently in combination with nonpharmaceutical opioids. Naloxone was present in 35% of the opioid deaths, approximately the same proportion as the first quarter.

First Quarter Statistics

Manners of death: Of these 127 deaths, 114 (90%) were accidental overdoses and 10 (8%) were suicides.

Overall patterns of note:

- Most (101, 80%) drug deaths were caused by two or more drugs, which is greater in number and less in proportion than the fourth quarter 2019 (94, 91%). The average cause of death involved 3 drugs.
- The vast majority of overdoses (104, 82%) were caused by at least one opioid, including both pharmaceutical and illicit (nonpharmaceutical) opioid drugs. This is greater in number and nearly the same proportion as in the fourth quarter 2019 (85, 83%).
- Nonpharmaceutical fentanyl (and/or its analogs) caused 77 (61%) deaths, alone or in combination with other drugs, which is higher in number but much lower in proportion than the fourth quarter of 2019 (72, 70%).
- Heroin/morphine caused 18 (14%) deaths, in combination with other drugs, which is about the same in number but lower in proportion than fourth quarter 2019 (17, 17%).
- Cocaine or crack caused 38 (30%) deaths, in combination with other drugs, which is higher in number but about the same proportion compared to fourth quarter 2019 (30, 29%).
- Methamphetamine caused 20 (16%) deaths, in combination with other drugs, which is slightly higher in number and slightly lower in proportion compared to fourth quarter 2019 (18, 17%).
- Pharmaceutical opioid deaths caused 34 (27%) deaths, alone or in combination with other drugs, which is higher in number and about the same proportion as in fourth quarter 2019 (27, 26%).
- Naloxone was given in 35 (28%) opioid deaths, which is higher in number and the same proportion as in fourth quarter 2019 (29, 28%).[1]
- There has been an increase in the involvement of mitragynine[2] ("Kratom") in Maine deaths, 5 in this quarter, compared with 1 in the fourth quarter 2019, and 10 in 2019 as a whole.

Table 1. Demographic patterns

	Total	Average Age	Age Range	Percent Male
All drug deaths	127	43	16-96	90 (71%)
Accidents	114	42	16-96	81 (71%)
Suicides	10	49	22-64	7 (70%)

[1] Naloxone may be given by family or friends at the scene, by police or emergency medical services who respond, or by the emergency department for those brought to the hospital. Unfortunately, most decedents are alone in their residence when they ingest opioids and are not discovered in time for naloxone administration.

[2] Mitragynine is not an opioid, but is an alkaloid derived from a Southeast Asian plant, Kratom. It is attracted to the opioid receptors in the brain, and is opioid-like in its effects.

Table 2. 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 127 drug deaths
Number of deaths caused by more than one drug	92	72%
Any pharmaceutical drug	84	66%
Any pharmaceutical opioid drug	34	27%
Any opioid (pharmaceutical or nonpharmaceutical) 35 (34%) of 104 opioid deaths had received Naloxone*	104	82%
Any illicitly manufactured drug (includes heroin/morphine, nonpharmaceutical fentanyl, fentanyl analogs, other illicitly-manufactured opioids, cocaine, and methamphetamine)	94	74%
Any nonpharmaceutical opioid drugs (heroin/morphine, fentanyl, fentanyl analogs, U-47700).	79	62%
Heroin/morphine and/or fentanyl or fentanyl analogs	79	62%
Fentanyl and/or fentanyl analogs (known pharmaceutical fentanyl removed)	77	61%
Heroin/morphine (known pharmaceutical morphine removed)	18	14%
Any benzodiazepine	28	22%
Cocaine	38	30%
Methamphetamine	20	16%
Mitragynine ("Kratom")	5	4%

**Excludes cases with buprenorphine in toxicology.*

Nonpharmaceutical Fentanyl and/or Fentanyl Analog Deaths

This category includes deaths caused by nonpharmaceutical (illicitly manufactured) fentanyl or fentanyl analogs. We removed all cases that involved known pharmaceutical fentanyl from these totals. There were 77 overdoses due to nonpharmaceutical fentanyl and/or fentanyl analogs in the first quarter of 2020. The total has risen sharply beginning in the fourth quarter of 2013 (Figure 2). The gender distribution for first quarter 2020 is 59 (77%) male and 18 (23%) female. The average age is 40 (age range 21-65).

Table 3. Involvement of co-intoxicant drugs in nonpharmaceutical 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=77
FENTANYL and FENTANYL ANALOG COMBINATIONS		
• Fentanyl (alone or combined with fentanyl analogs)	76	99%

• Fentanyl analogs (alone or combined with fentanyl)	11	14%
• Both nonpharmaceutical fentanyl and at least one fentanyl analog	10	13%
CO-INTOXICANTS IDENTIFIED IN FENTANYL and/or FENTANYL ANALOG DEATHS		
• One or more drugs (or alcohol) in addition to fentanyl and/or fentanyl analogs	62	81%
• One or more pharmaceutical opioids in addition to fentanyl and/or fentanyl analogs	11	14%
• Heroin/morphine in addition to fentanyl and/or fentanyl analogs	16	21%
• Alcohol in addition to fentanyl and/or fentanyl analogs	16	21%
• One or more benzodiazepines in addition to fentanyl and/or fentanyl analogs	11	14%
• Cocaine in addition to fentanyl and/or fentanyl analogs	29	38%
• Methamphetamine in addition to fentanyl and/or fentanyl analogs	16	21%

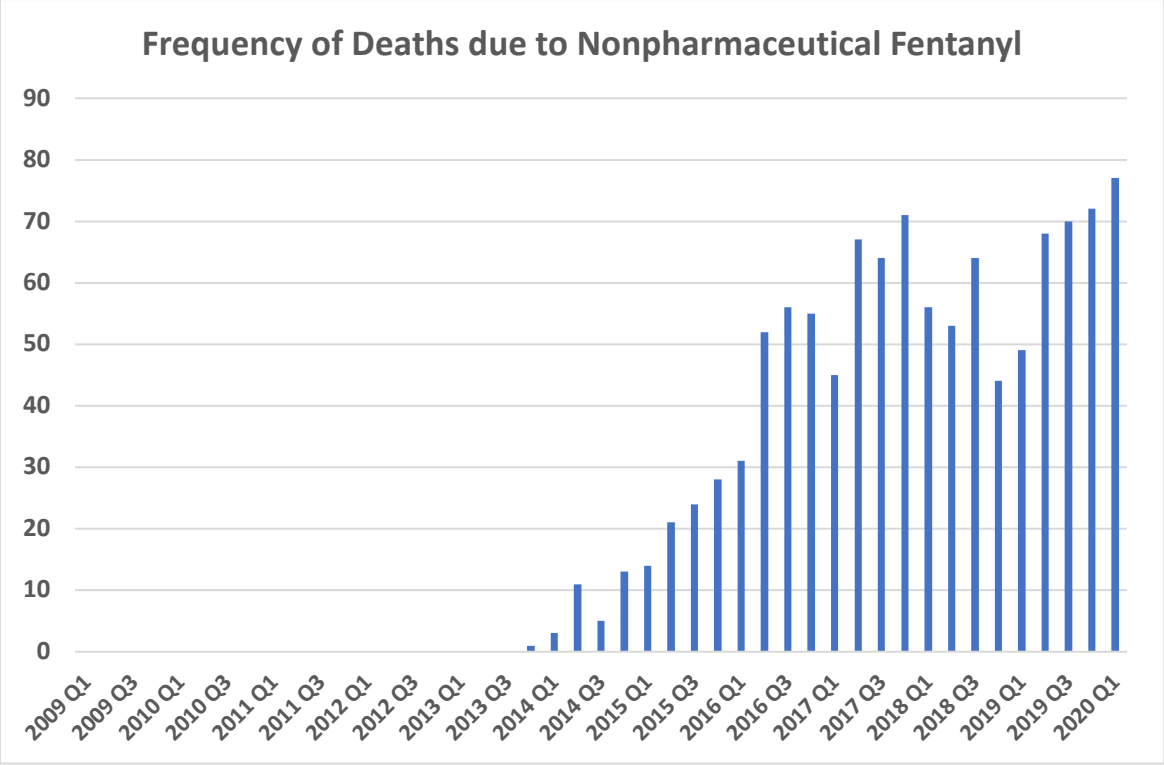

Figure 1. Quarterly frequency of deaths due to nonpharmaceutical fentanyl, alone or in combination with other drugs or alcohol.

Table 4. Fentanyl analogs identified as a cause of death January-March 2020

Fentanyl Analog Identified	Total Number of Cases	Percent of Fentanyl Analog-Involved Deaths N=11
4-ANPP Fentanyl	2	18%
Acetyl Fentanyl	7	64%
Parafluoroisobutyryl Fentanyl	1	1%
Valeryl Fentanyl	1	1%

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 the first quarter of 2020 there were 18 deaths due to (nonpharmaceutical) heroin/morphine alone or in combination with other drugs, 14% of all drug deaths. In the fourth quarter of 2019 there were 17 heroin deaths, 16% of all drug deaths.

Table 5. Involvement of co-intoxicant drugs in heroin/morphine deaths

Specific co-intoxicants in addition to heroin/morphine identified on the death certificate as a cause of death	Number	Percent of Heroin/Morphine Deaths N=18
One or more drugs (or alcohol) in addition to heroin/morphine	18	100%
At least one pharmaceutical opioid in addition to heroin/morphine	4	22%
Nonpharmaceutical fentanyl and/or at least one fentanyl analog in addition to heroin/morphine	16	89%
Alcohol in addition to heroin/morphine	3	17%
At least one benzodiazepine in addition to heroin/morphine	3	17%
Cocaine was mentioned in addition to heroin/morphine	5	28%

Stimulants Cocaine and Methamphetamine

Deaths involving the illicit stimulants cocaine and methamphetamine have been increasing in the past few years (Figure 3). The vast majority of these deaths also include co-intoxicant nonpharmaceutical opioids fentanyl, fentanyl analogs, or heroin. In the first quarter of 2020 there were 38 cocaine deaths; of these, 29 (76%) were caused by cocaine in combination with nonpharmaceutical fentanyl. Likewise, during the first quarter of 2020, there were 34 methamphetamine deaths; of these, 16 (80%) were caused by methamphetamine in combination with nonpharmaceutical fentanyl.

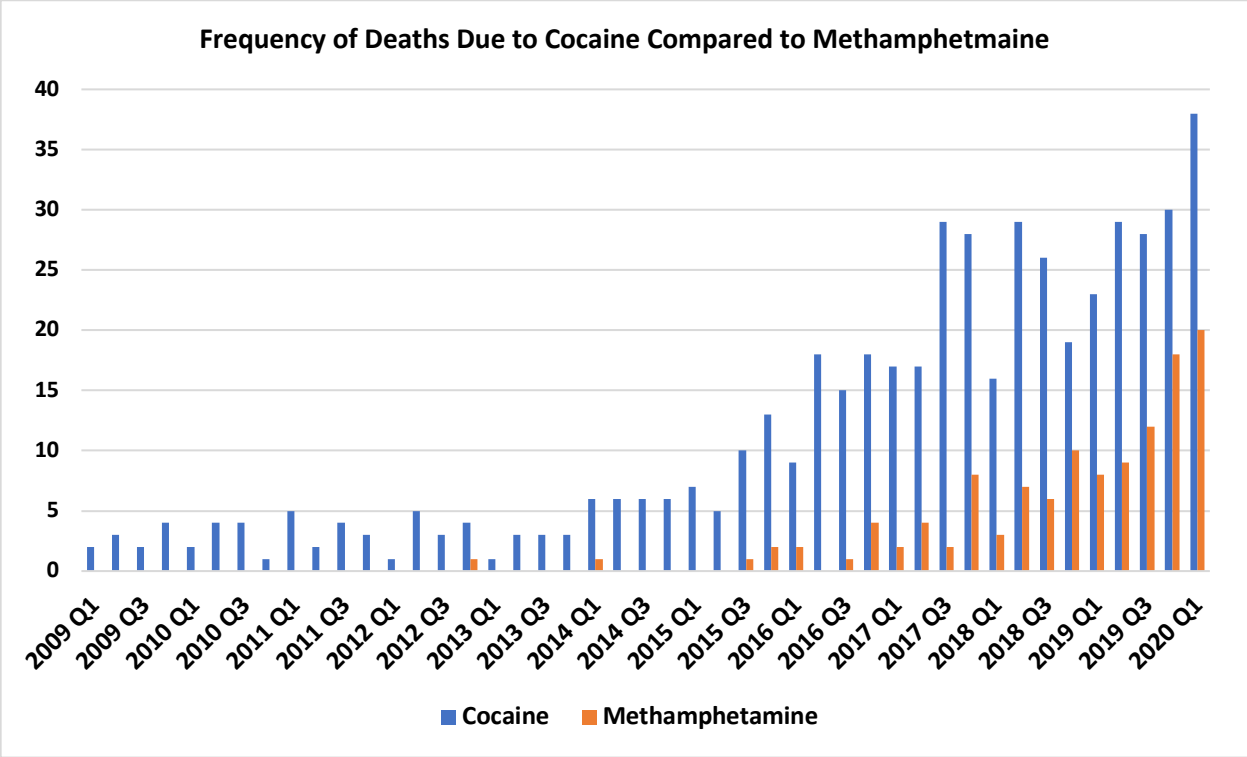

Figure 2. Quarterly frequency of deaths due to cocaine or methamphetamine, alone or in combination with other drugs or alcohol

Pharmaceutical Opioids

The frequency of deaths in which at least one pharmaceutical opioid is mentioned on the death certificate as a cause of death has declined slightly over the past decade, although there was a slight increase between fourth quarter 2019 and first quarter 2020, from 27 to 34 (see Figure 4). Of the 34 pharmaceutical opioid death cases, 18 (53%) had a current prescription for one of the opioids listed as a cause of death. Key pharmaceutical opioids included buprenorphine (11, 32%), oxycodone (10, 29%), and methadone (6, 18%).

All of the pharmaceutical opioid deaths included other drugs or alcohol listed as a co-intoxicant cause of death. Most had three or more. Half (17, 50%) had at least one illicit drug listed as a cause of death. About one third (11, 32%) included nonpharmaceutical fentanyl, and about a fifth (7, 21%) included cocaine.

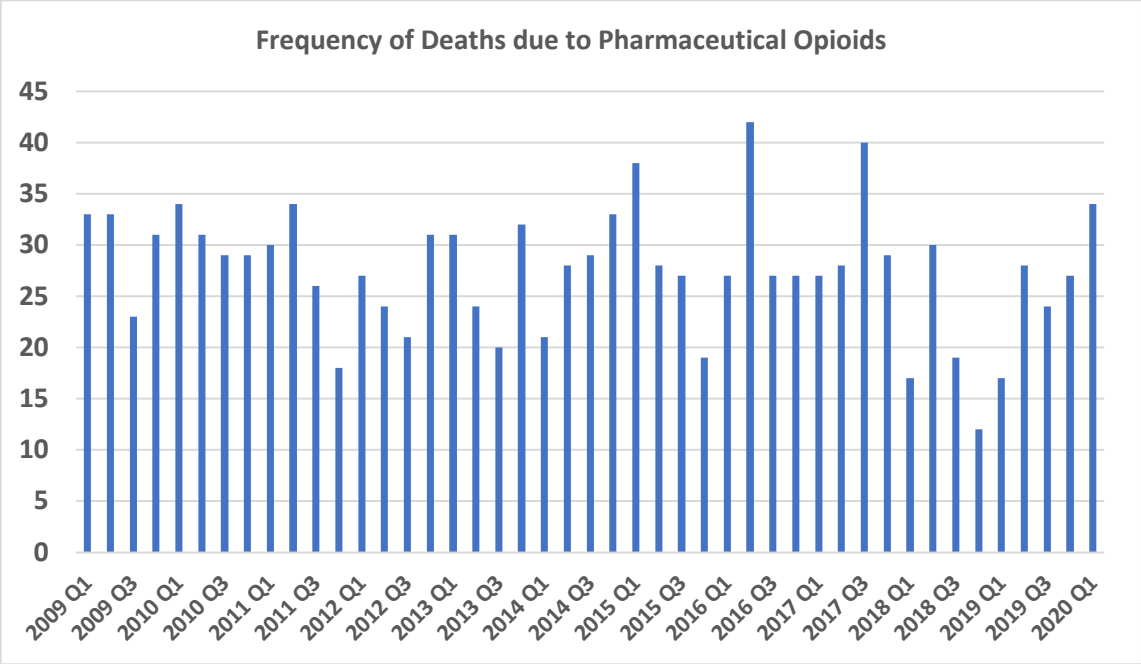

Figure 3. Quarterly frequency of deaths due to pharmaceutical opioids, alone or in combination with other drugs or alcohol.

County Totals

This table provides totals for counties during the first three months of 2019. The reader is cautioned that, because the numbers for individual counties are relatively small, fluctuations are likely to be due more to random fluctuations than to actual changes in underlying epidemiological trends.

Table 6. Total drug deaths by county for 2019 and first quarter 2020, compared to the county's percent of Maine census population

County	2019 N = 380	1st Quarter 2020 N = 127	Percent of Maine Estimated Census Population, 2019
Androscoggin	33 (9%)	10 (8)%	8%
Aroostook	14 (4%)	5 (4)%	5%
Cumberland	100 (26%)	24 (19)%	22%
Franklin	5 (1%)	5 (4)%	2%
Hancock	9 (2%)	4 (3)%	4%
Kennebec	42 (11%)	13 (10)%	9%
Knox	7 (2%)	5 (4)%	3%
Lincoln	11 (3%)	2 (2)%	3%
Oxford	9 (2%)	2 (2)%	4%
Penobscot	53 (14%)	20 (16)%	11%
Piscataquis	3 (1%)	4 (3)%	1%
Sagadahoc	8 (2%)	1 (1)%	3%
Somerset	16 (4%)	4 (3)%	4%
Waldo	3 (1%)	1 (1)%	3%
Washington	10 (3%)	7 (6)%	2%
York	57 (15%)	20 (16)%	15%