Department of Forensic Pathology

Office of the Medical Examiner

2019 Q4 (October 1 – December 31) Drug Report

Published March 3, 2020

Introduction

Drug-Related Deaths - Defined

We define drug deaths as those which result entirely or partially from the physiologic effects of acute toxicity. Therefore, included here are deaths which resulted from a combination of natural disease and acute intoxication (e.g. lung disease complicated by opioid intoxication). Our definition does not include deaths by violence, in which the violent behavior may have been caused or contributed to by intoxication (e.g. death due to injury from motor vehicle crash in which the at-fault driver was intoxicated). We also do not include deaths related to the effects of chronic substance use (e.g. deaths due to alcoholic liver disease or heart disease which may have been contributed to by chronic cocaine use) if not combined with acute toxicity.

Methods

The majority of the drug deaths reported are due to more than one substance, as you will see in the detailed tables that follow. Often, decedents have even more substances present in their body at the time of death or overdose incident than just the substances listed as having caused or contributed to death. After autopsy and review of records, including toxicology report, the medical examiner assigned to the case determines which of the substances present played a causal role in the death. Thus, there may be substances present in a given case which are not included in the cause of death statement.

Occasionally, intoxicated decedents survive in the hospital for a time prior to death, following acute drug intoxication. In these cases, all efforts are made to obtain and test the earliest blood and urine available from their time in the hospital for the overdose incident, so that the toxicology results reflect what was in the body at the time the overdose occurred.

New information occasionally becomes available after a "final" cause and manner of death was determined, which sometimes, albeit rarely, results in a change to the "final" cause or manner of death. As such, the statistics contained herein may be subject to change at any time.

The extent of toxicology testing is determined by the medical examiner assigned to the case, based upon the circumstances of death. During the period reported, our office used Axis Forensic Toxicology for toxicology testing.[1]

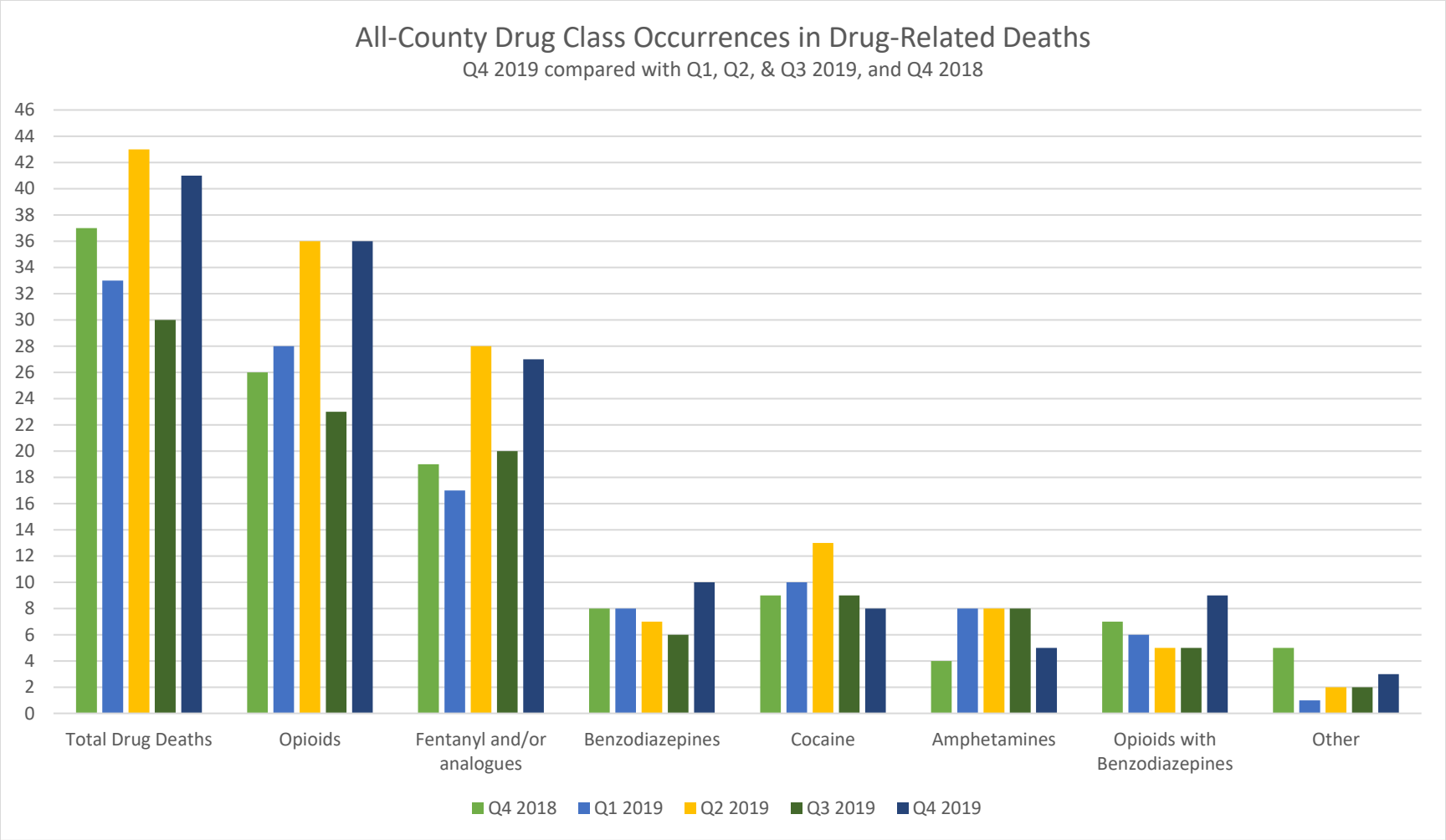
[1] If you have questions about what drugs we are currently capable of detecting, please visit www.axisfortox.com or email luke.vogelsberg@sparrow.org

Highlights

Unless otherwise indicated, all comparisons on the Highlights page are made to the data from the same quarter as the previous year (Q4 2018). As stated above, most drug-related deaths are due to a combination of more than one substance. As such, numerous deaths fall into multiple of the below statistical categories (i.e. *all* heroin, fentanyl, methadone, and fentanyl analogue-related deaths are included in the opioid-related deaths category, and many deaths involved both heroin and fentanyl, and are included in both specific categories).

- Total drug-related deaths **increased** by **11**% (4 more)
- Opioid-related deaths **increased** by **38%** (10 more)
- Fentanyl and/or fentanyl analogue-related deaths **increased** by **42%** (8 more)
- Fentanyl and/or fentanyl analogue(s) were involved in 27 of 41 drug-related deaths (**66%**) in Q4 2019
- Cocaine-related deaths **decreased** by **11%** (1 fewer)
- Amphetamine/Methamphetamine-related[2] deaths **increased** by **25%** (1 more)
- **88%** of all drug-related deaths in Q4 2019 involved at least one opioid
- **78%** of all drug-related deaths in Q4 2019 involved two or more substances
- **28%** of all opioid related deaths in Q4 2019 involved at least one benzodiazepine
- **~15%** of all drug related deaths in Q4 2019 involved ethanol (alcohol)

[2] Methamphetamine is metabolized to amphetamine in the body, thus, it is not always clear what the presence of amphetamine indicates (illicit methamphetamine use vs. prescription amphetamine use).



This chart describes occurrences in one death of a given class of drug. As most drug-related deaths are due to two or more substances, the same death may fall into multiple categories (e.g. death due to fentanyl and alprazolam intoxication falls into the opioids, benzodiazepines, fentanyl and/or analogues, and opioids with benzodiazepines categories). Multiple of the same class of drug in the same death counts as only one occurrence of that class of drugs (e.g. death due to heroin and hydrocodone intoxication – both of these are opioids so this death falls only in the opioids category, as one occurrence). The "other" category is for occurrences of drug-related deaths due *solely* to drugs which do not fall into the other listed categories.

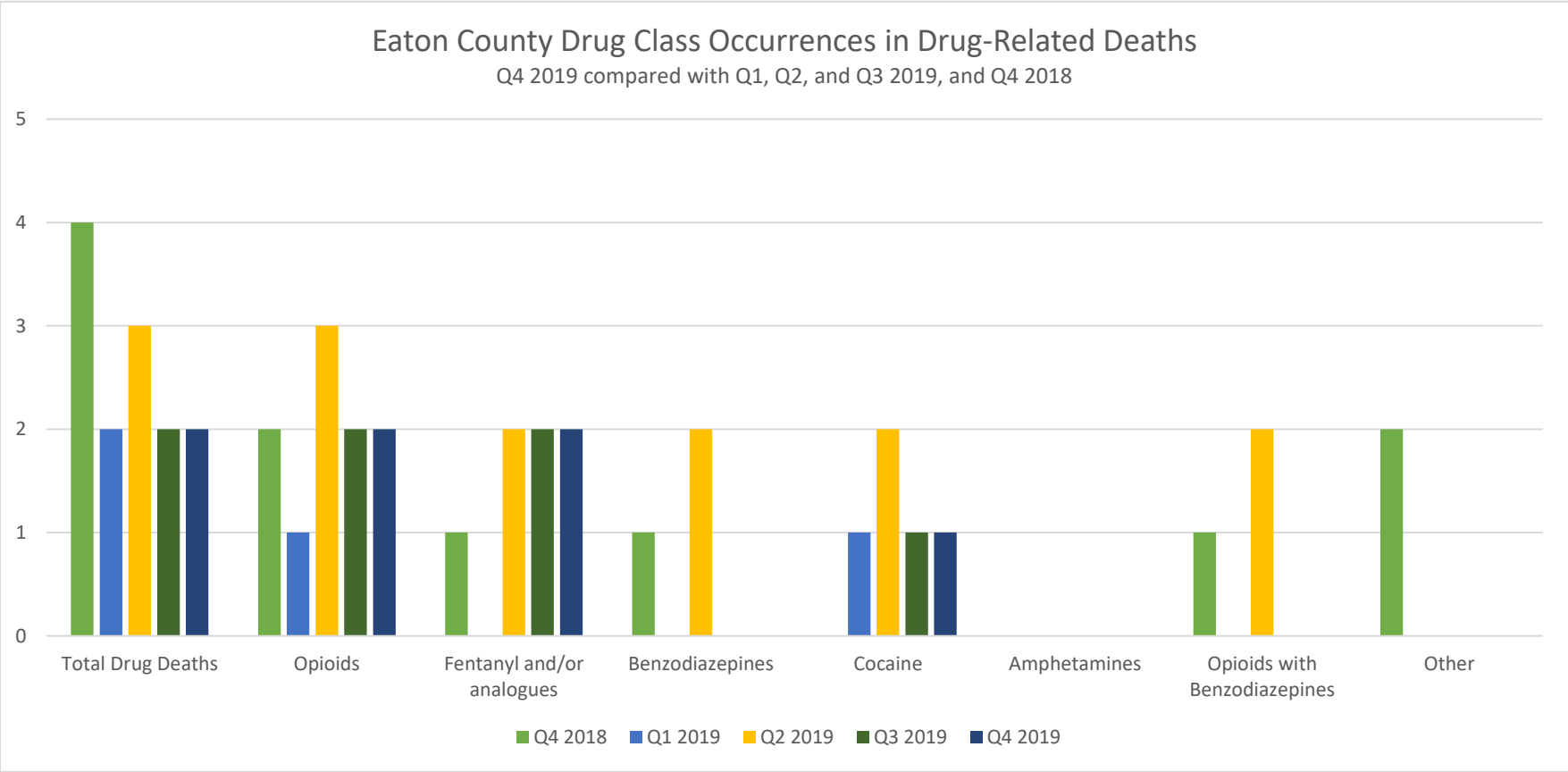
Eaton County

Drug-Related Deaths

2019 Q4 Eaton County Drug-Related Deaths			
Sex	**Age**	**Substance(s) Causing Death**	**Manner of death**
Female	31	Acetylfentanyl, Diphenhydramine, Fentanyl, Morphine	Accident
Male	41	Fentanyl, Acetylfentanyl, Cocaine, Diphenhydramine	Accident

Eaton County

Drug-Related Deaths



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Ingham County

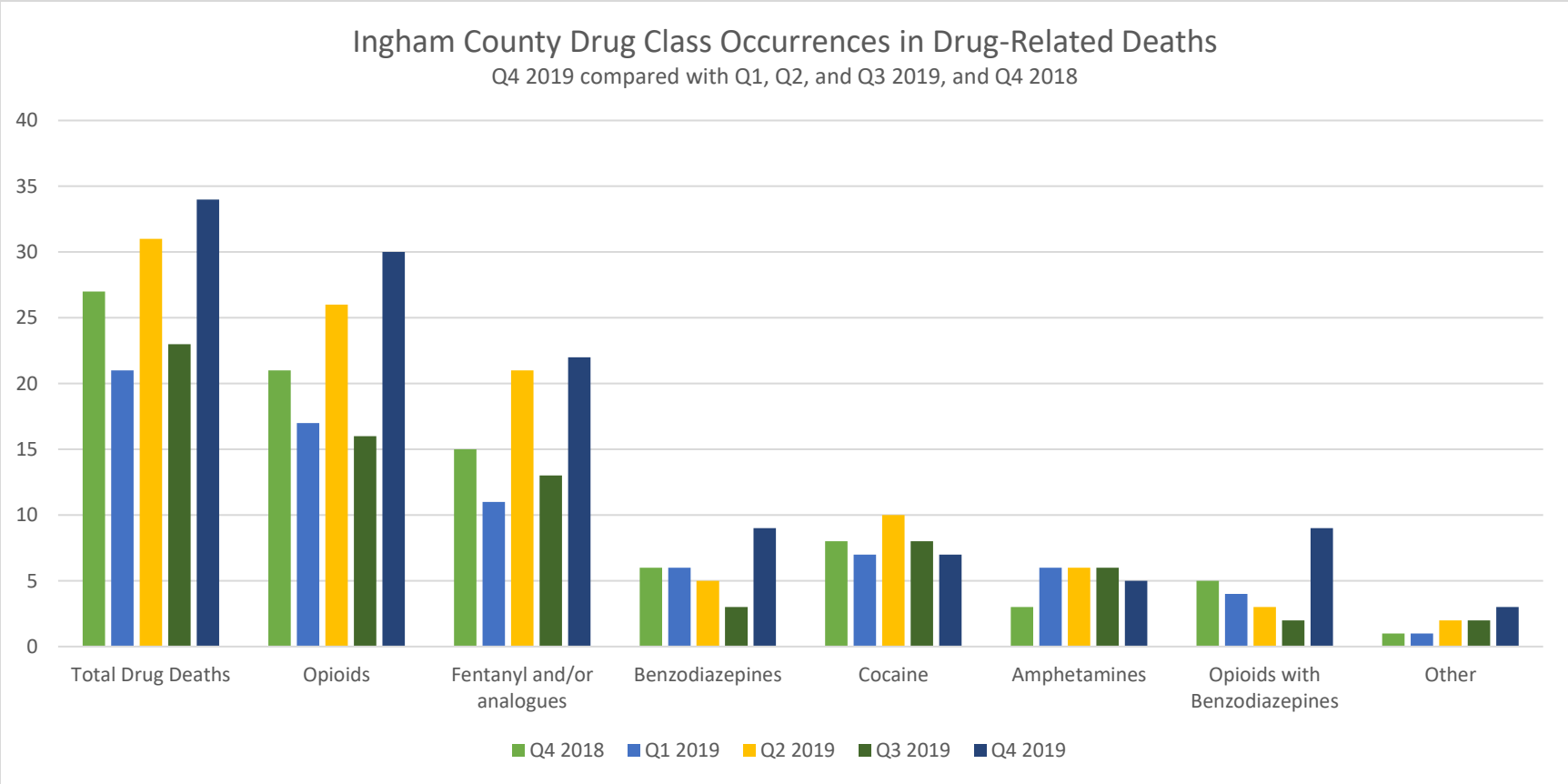
Drug-Related Deaths

2019 Q4 Ingham County Drug-Related Deaths			
Sex	**Age**	**Substance(s) Causing Death**	**Manner of Death**
Female	22	Venlafaxine	Suicide
Male	26	Fentanyl, Acetylfentanyl, Mitragynine, Etizolam	Accident
Male	28	Heroin	Accident
Male	29	Acetylfentanyl, Fentanyl, Heroin	Accident
Male	30	Fentanyl, Acetylfentanyl, Heroin, Alprazolam	Accident
Male	32	Fentanyl	Accident
Male	33	Mitragynine	Accident
Male	34	Heroin, Cocaine, Diphenhydramine, Oxcarbazepine	Accident
Female	34	Methamphetamine, Cocaine, MDMA, Fentanyl, Heroin	Accident
Female	36	Acetylfentanyl, Alprazolam, Dextromethorphan, Diphenhydramine, Fentanyl, Codeine	Accident
Male	39	Pentobarbital	Suicide
Male	39	Cyclobenzaprine, Fentanyl, Heroin, Methadone, Orphenadrine	Accident
Male	40	Clonazepam, Cyclobenzaprine, Fentanyl, probable heroin	Indeterminate
Male	41	Fentanyl	Accident
Male	43	Cocaine	Accident
Female	44	Cocaine, Fentanyl, Morphine, Ethanol	Accident
Male	48	Fentanyl, Acetylfentanyl	Accident
Female	50	Morphine, Fentanyl, Clonazepam	Accident
Female	52	Ephedrine, Lorazepam, Methadone	Accident
Female	52	Methamphetamine, Fentanyl	Accident
Male	52	Fentanyl, Acetylfentanyl, Cocaine, Ethanol	Accident
Male	52	Fentanyl, Ethanol	Accident
Female	52	Methamphetamine, Methadone	Accident

Male	52	Ethanol, Fentanyl	Accident
Female	58	Fentanyl, Acetylfentanyl, Methamphetamine, Cocaine, Dextromethorphan, Amitriptyline, Nordiazepam	Accident
Male	59	Fentanyl, Heroin, Hydrocodone	Accident
Female	62	Amphetamine, Diazepam, Diphenhydramine, Hydroxychloroquine, Oxycodone	Accident
Male	64	Acetylfentanyl, Fentanyl, Morphine	Accident
Female	64	Acetaminophen, Oxycodone, Hydrocodone, Morphine	Suicide
Male	65	Fentanyl, Methadone	Accident
Male	66	Methadone, Hydrocodone	Accident
Female	68	Cocaine, Fentanyl, Heroin	Accident
Male	70	Fentanyl	Accident
Male	73	Heroin, Methadone, Alprazolam	Accident

Ingham County

Drug-Related Deaths



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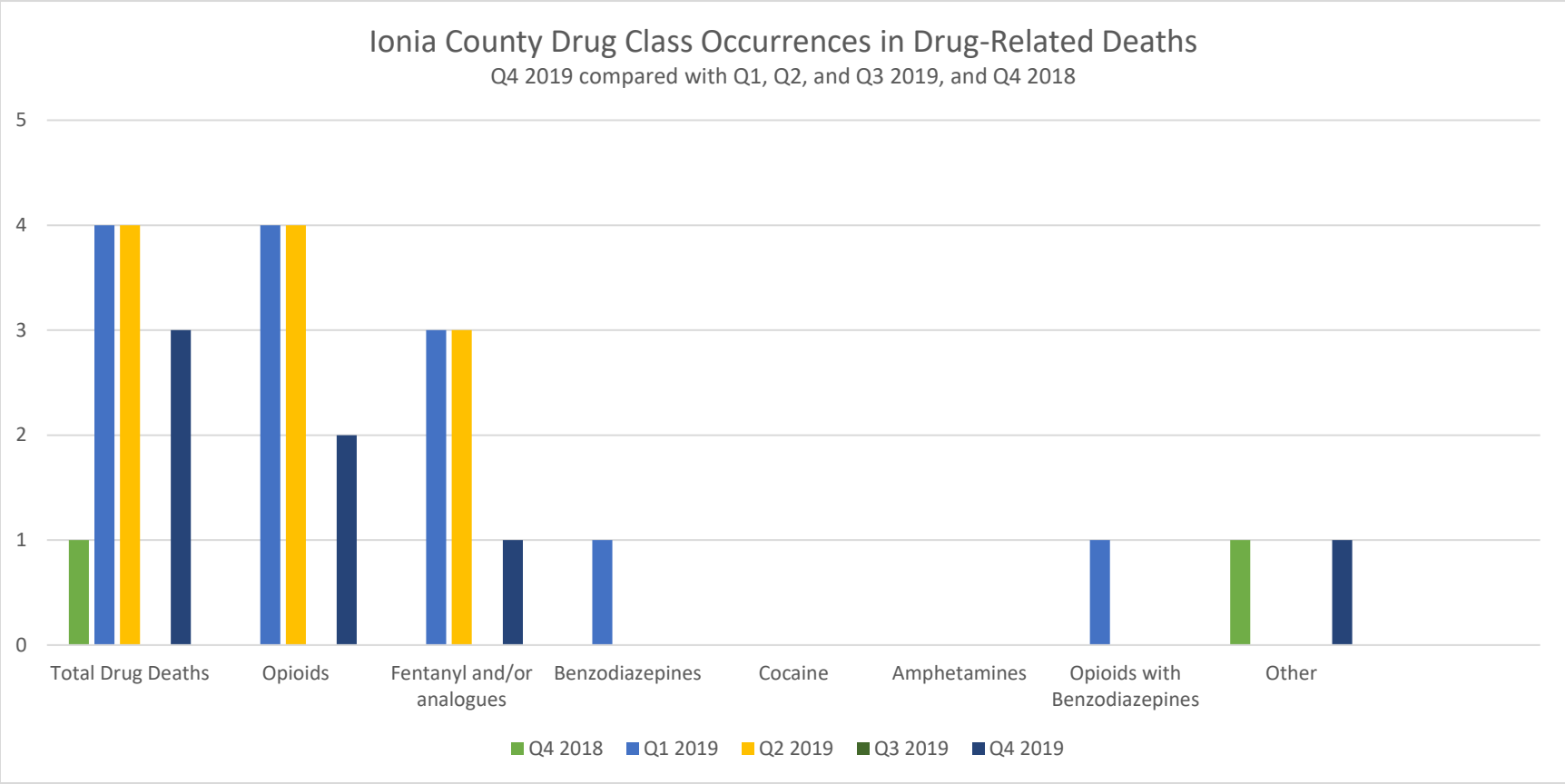
Ionia County

Drug-Related Deaths

2019 Q4 Ionia County Drug-Related Deaths			
Sex	**Age**	**Substance(s) Causing Death**	**Manner of death**
Male	33	Ethanol, Heroin	Accident
Male	40	Fentanyl, Acetylfentanyl	Accident
Female	40	Bupropion	Suicide

Ionia County

Drug-Related Deaths



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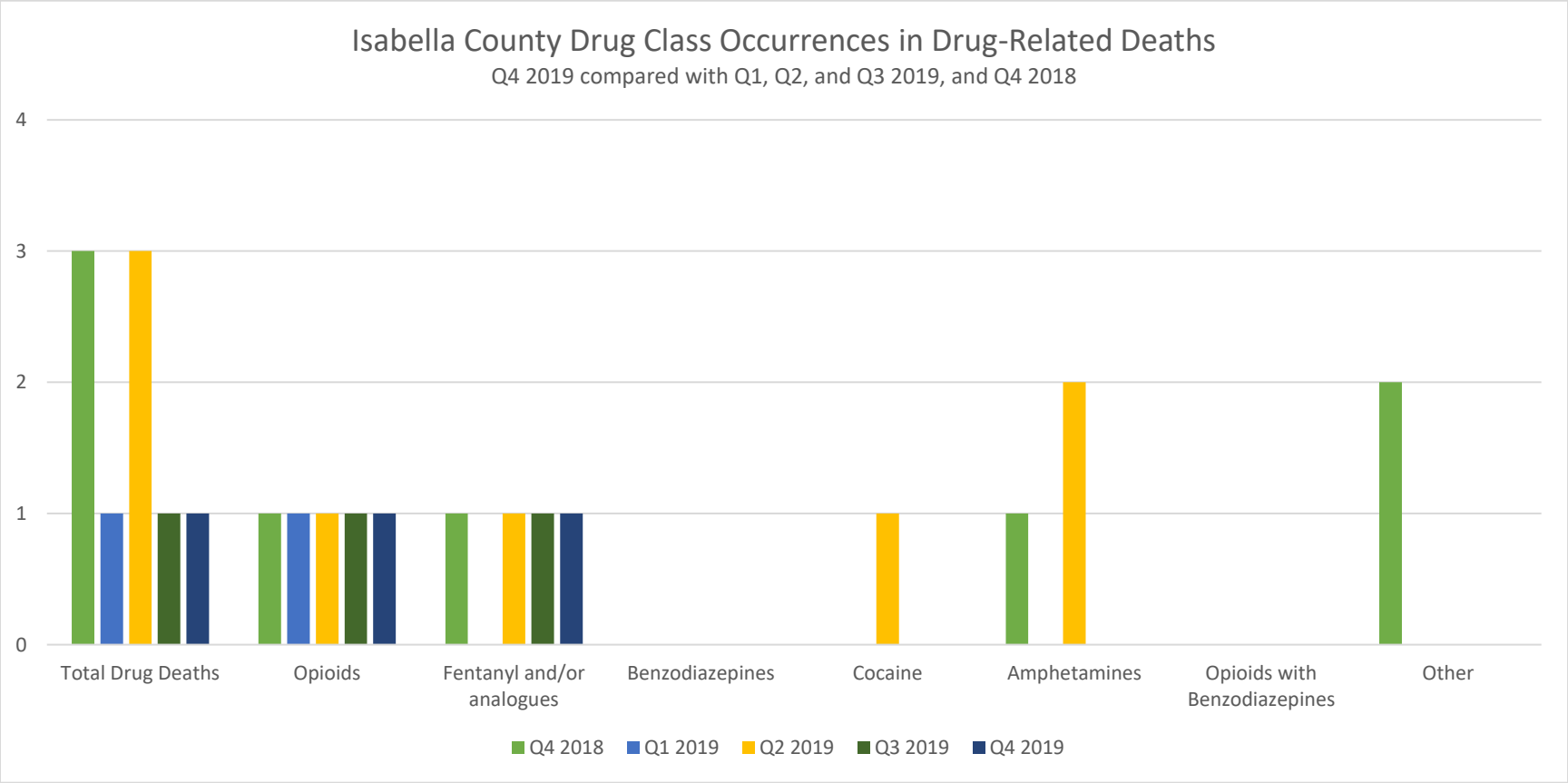
Isabella County

Drug-Related Deaths

2019 Q4 Isabella County Drug-Related Deaths			
Sex	**Age**	**Substance(s) Causing Death**	**Manner of death**
Male	33	Fentanyl, Ethanol	Accident

Isabella County

Drug-Related Deaths



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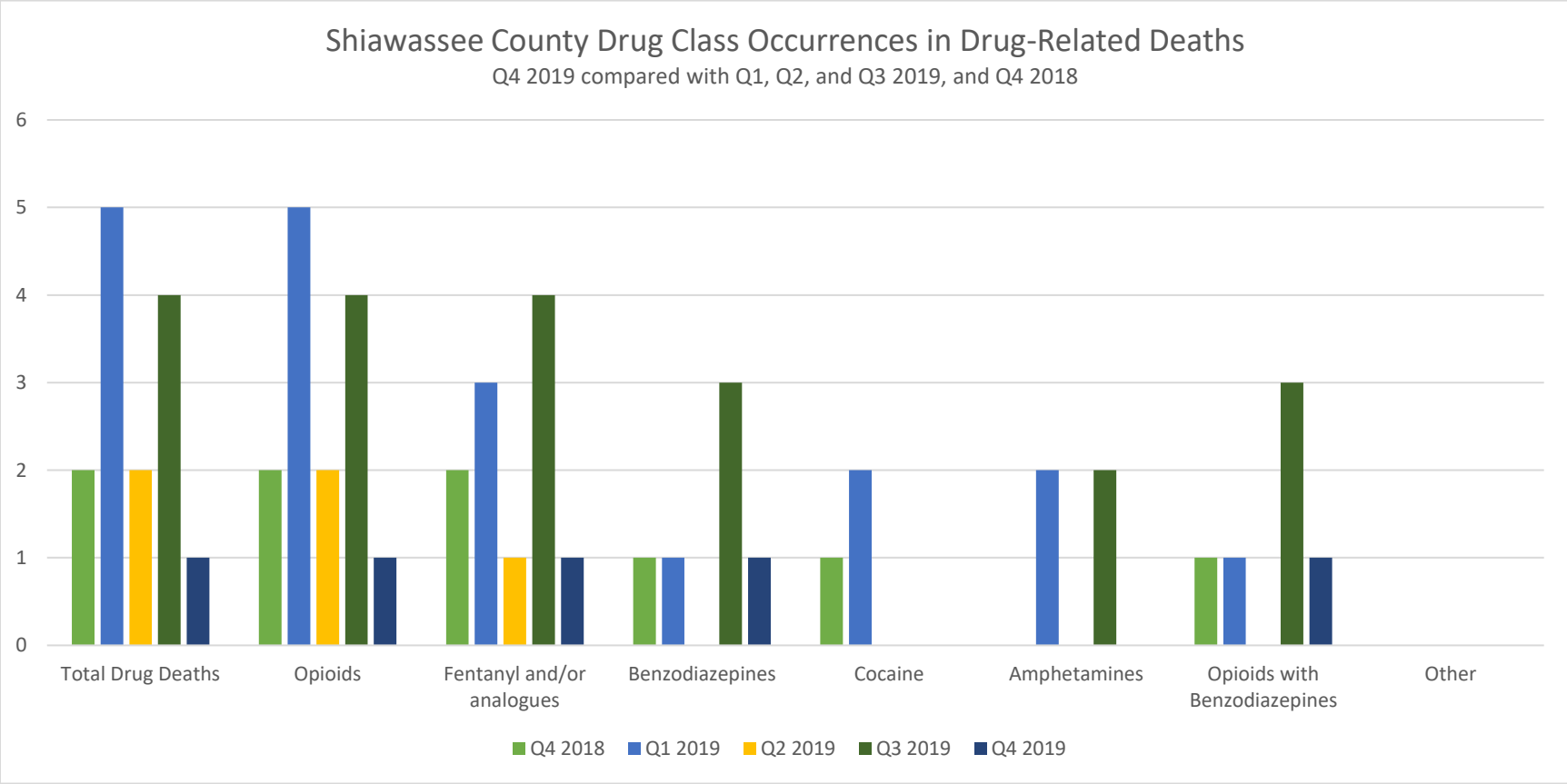
Shiawassee County

Drug-Related Deaths

2019 Q4 Shiawassee County Drug-Related Deaths			
Sex	**Age**	**Substance(s) Causing Death**	**Manner of death**
Female	51	Fentanyl, Methadone, Hydromorphone, Codeine, Cyclobenzaprine, Alprazolam	Accident

Shiawassee County

Drug-Related Deaths



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