

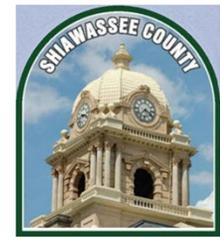


Department of Forensic Pathology
Office of the Medical Examiner

2018 Q1 (January 1-March 31) Drug Report

Published June 26, 2018





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 of death was determined, which sometimes, albeit rarely, results in a change to the “final” cause 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

Highlights²

All comparisons on the Highlights page are made to the data from Q1 (January 1-March 31) of 2017. 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 20% (7 more)
- Opioid-related deaths **increased** by 17.9% (5 more)
- Heroin-related³ deaths **remained constant** at 14
- Fentanyl-related deaths **increased** by 70% (7 more)
- Methadone-related deaths **increased** by 50% (2 more)
- Cocaine-related deaths **increased** by 11.1% (1 more)
- Amphetamine/Methamphetamine-related⁴ deaths **increased** by 100% (2 more)
- Fentanyl analogue-related deaths **decreased** by 25% (1 fewer)
- Benzodiazepine-related deaths **decreased** by 7.1% (1 fewer)
- Fentanyl analogues identified as having caused or contributed to death in Q1 2018 included: acetylfentanyl, methoxyacetylfentanyl
- **76.2%** of all drug-related deaths in Q1 2018 were due to two or more substances
- **33.3%** of all opioid-related deaths in Q1 2018 also involved at least one benzodiazepine
- **12.1%** of all opioid-related deaths in Q1 2018 also involved ethanol (alcohol)

² At date of this report, there is still one “pending” case in Ingham County. The completion of this death investigation is unlikely to affect the numbers in this report.

³ Heroin is rapidly metabolized to morphine. As such, this may result in some under-reporting of heroin, and over-reporting of morphine

⁴ 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)

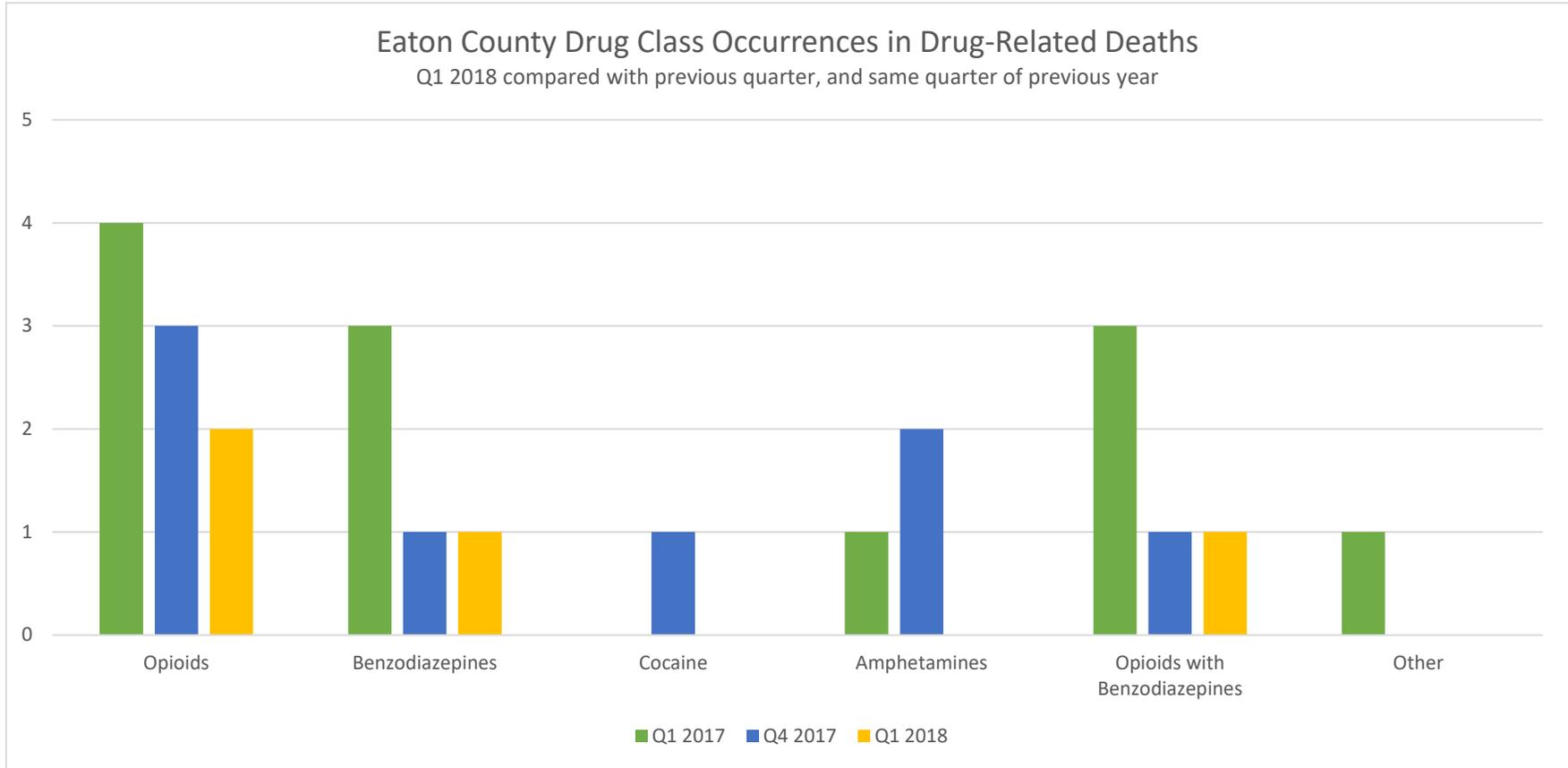
Eaton County

Drug-Related Deaths

2018 Q1 Eaton County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of death
Female	56	heroin, methadone, alprazolam	Accident
Male	62	fentanyl, methadone, morphine	Accident

Eaton County

Drug-Related Deaths



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, 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 fentanyl 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.

Ingham County

Drug-Related Deaths⁵

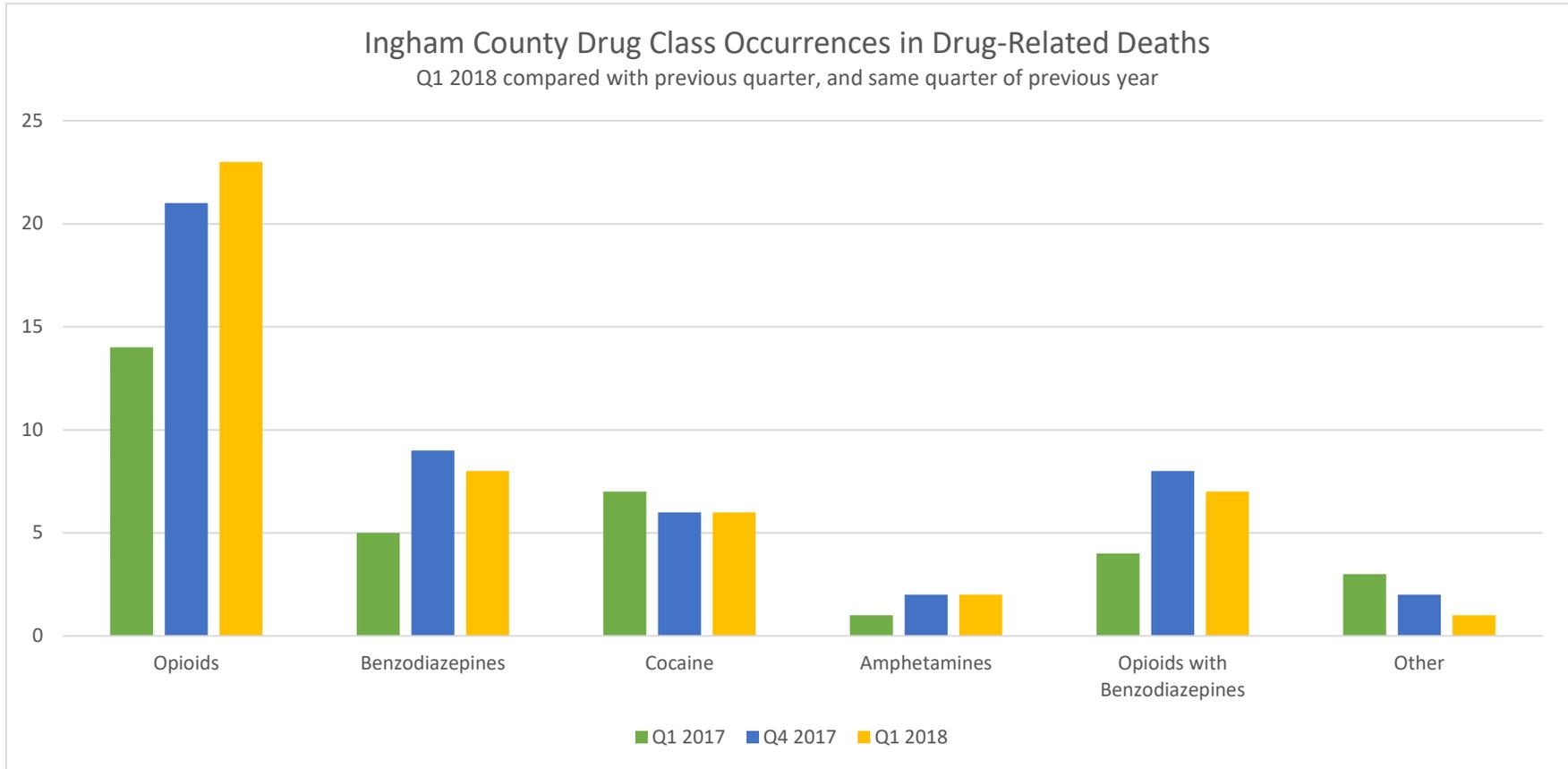
2018 Q1 Ingham County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of death
Female	19	ethanol, fentanyl	Accident
Male	24	heroin	Accident
Male	28	clonazepam, ethanol, fentanyl, gabapentin, morphine	Accident
Male	28	heroin, clonazepam	Accident
Male	29	ethanol	Accident
Male	29	benzodiazepine	Accident
Female	32	cocaine, cyclobenzaprine, ethanol, heroin	Accident
Male	32	acetylfentanyl, fentanyl, methamphetamine	Accident
Female	33	doxepin, methadone, alprazolam, clonazepam, gabapentin, citalopram	Indeterminate
Male	33	fentanyl	Accident
Male	34	acetylfentanyl, fentanyl	Accident
Male	36	fentanyl	Accident
Female	37	heroin, cocaine, ethanol	Accident
Male	38	fentanyl, heroin	Accident
Female	38	clonazepam, cocaine, dextromethorphan, duloxetine, fentanyl, heroin	Accident
Male	38	cocaine	Accident
Female	39	cocaine, opiates	Accident
Male	40	despropionyl fentanyl, fentanyl, heroin, methoxyacetylfentanyl	Accident
Male	41	heroin, topiramate, venlafaxine	Accident
Male	43	cocaine, ethanol	Accident
Male	45	alprazolam, amitriptyline, methadone, pregabalin	Accident

⁵ At date of this report, there is still one “pending” case in Ingham County. The completion of this death investigation is unlikely to affect the numbers in this report.

Female	47	heroin	Accident
Female	50	alprazolam, amitriptyline, carbamazepine, carisoprodol, escitalopram, metoprolol, morphine, temazepam	Accident
Male	52	fentanyl, oxycodone	Accident
Male	53	methamphetamine	Accident
Female	60	amlodipine, diazepam, pregabalin, tramadol	Accident
Male	62	fentanyl, heroin, hydrocodone	Accident
Male	69	heroin, fentanyl	Accident

Ingham County

Drug-Related Deaths



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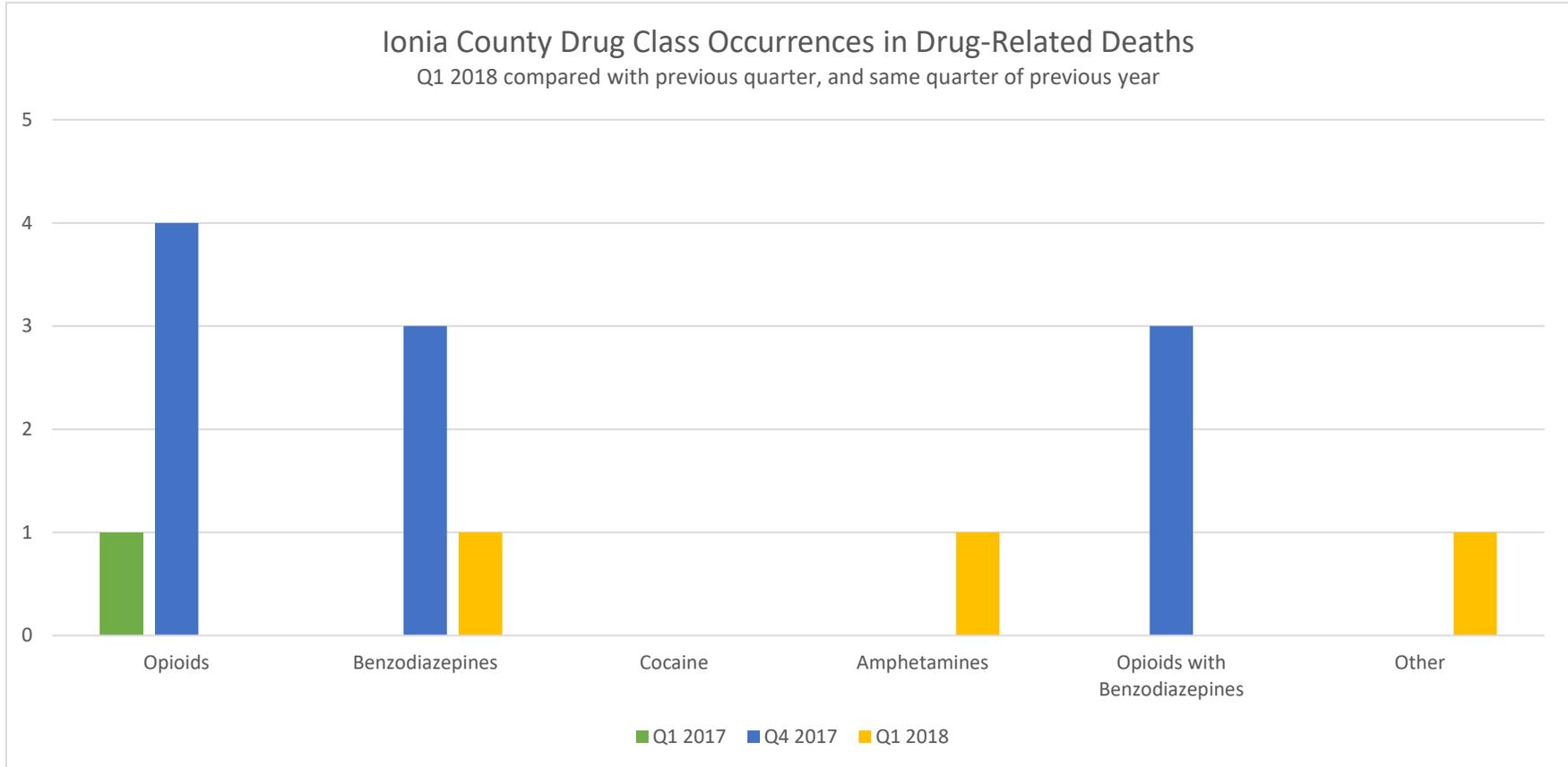
Ionia County

Drug-Related Deaths

2018 Q1 Ionia County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of death
Male	29	ethanol, methamphetamine	Accident
Male	48	diphenhydramine, doxylamine, ephedrine, lorazepam, promethazine	Accident
Male	64	1,1-difluoroethane	Accident

Ionia County

Drug-Related Deaths



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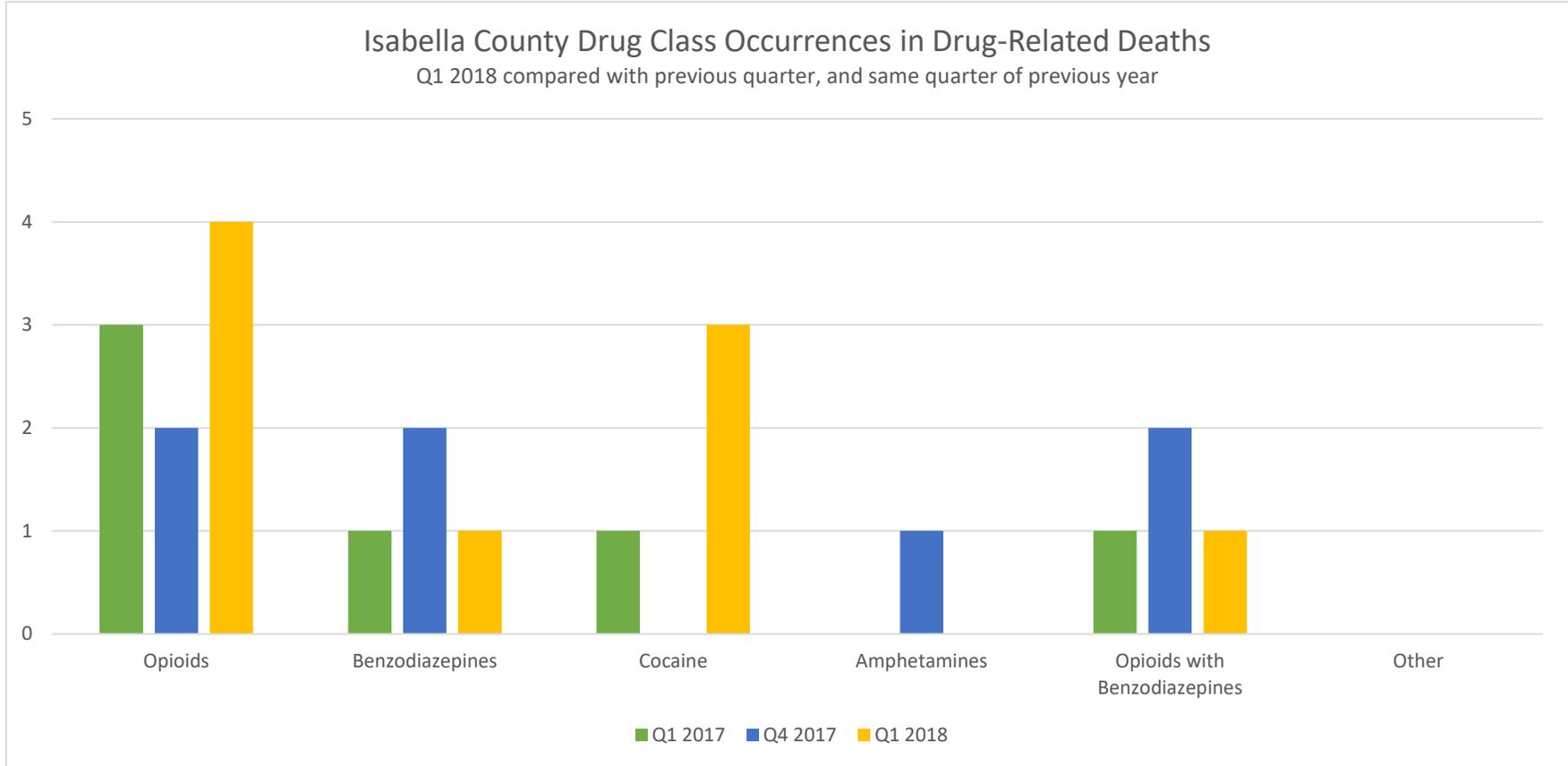
Isabella County

Drug-Related Deaths

2018 Q1 Isabella County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of death
Male	19	alprazolam, tramadol	Indeterminate
Male	27	fentanyl	Accident
Female	35	cocaine	Accident
Female	44	cocaine, heroin	Accident
Male	51	cocaine, methadone, pregabalin, amitriptyline	Accident

Isabella County

Drug-Related Deaths



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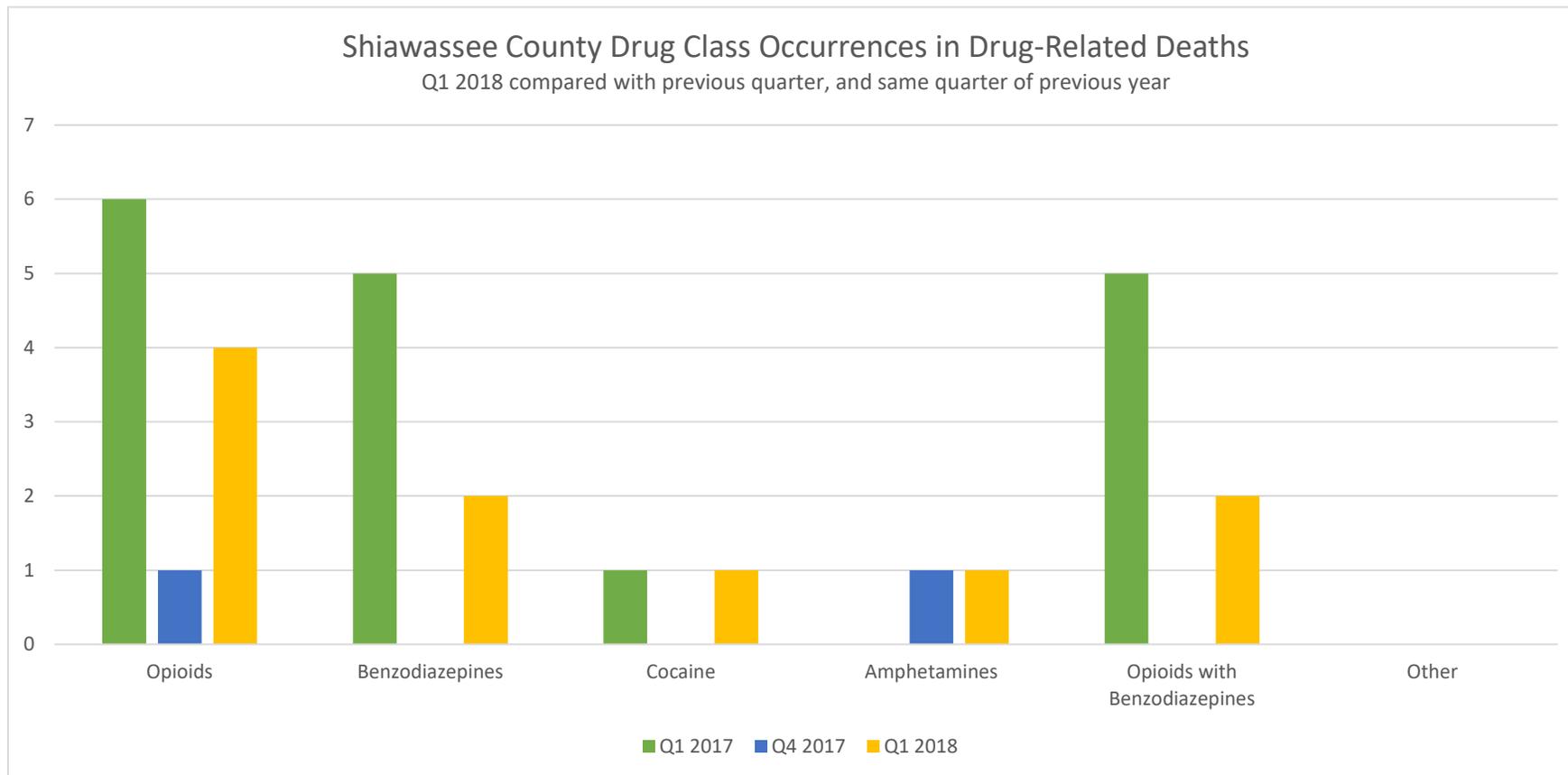
Shiawassee County

Drug-Related Deaths

2018 Q1 Shiawassee County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of death
Male	31	fentanyl, methamphetamine, clonazepam	Accident
Male	42	fentanyl, methadone, cocaine	Accident
Male	48	fentanyl, heroin, alprazolam	Accident
Male	63	tramadol, gabapentin	Accident

Shiawassee County

Drug-Related Deaths



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, 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 fentanyl 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.