



Department of Forensic Pathology  
Office of the Medical Examiner

2021 Q4 (October 1 – December 31) Drug Report

Published March 16, 2022





## 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.<sup>1</sup>

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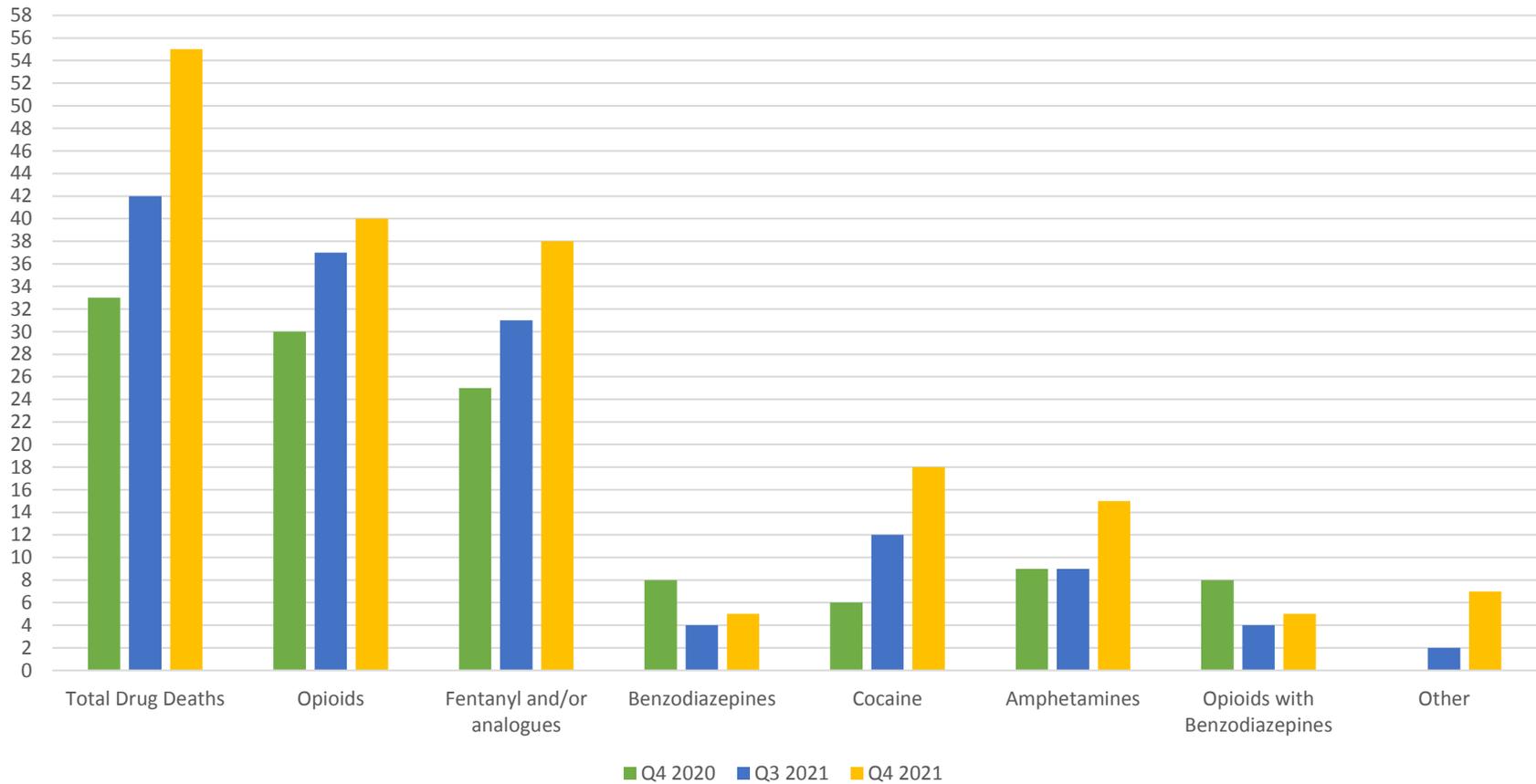
<sup>1</sup> If you have questions about what drugs we are currently capable of detecting, please visit [www.axisfortox.com](http://www.axisfortox.com) or email [michelle.fox@sparrow.org](mailto:michelle.fox@sparrow.org)

## Highlights

All comparisons on the Highlights page are made to the data from Q4 (October 1 to December 31) of 2020. 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).

- Total drug-related deaths **increased** by 66.7% (22 more)
- Opioid-related deaths **increased** by 33.3% (10 more)
- Fentanyl and/or fentanyl analogue-related deaths **increased** by 52.0% (13 more)
- Cocaine-related deaths **increased** by 200% (12 more)
- Amphetamine/Methamphetamine-related deaths **increased** by 66.7% (6 more)
- Benzodiazepine-related deaths **decreased** by 37.5% (3 fewer)
- 12.5% of all opioid-related deaths in Q4 2021 also involved at least one benzodiazepine
- 63.4% of all drug-related deaths in Q4 2021 were due to two or more substances (significantly lower than in previous quarters)
- 25.0% of all opioid-related deaths in Q4 2021 also involved ethanol (alcohol)
- 23.7% of all drug related deaths in Q4 2021 involved ethanol (alcohol)

### All-County Drug Class Occurrences in Drug-Related Deaths Q4 2021 compared with Q3 2021 and Q4 2020



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.

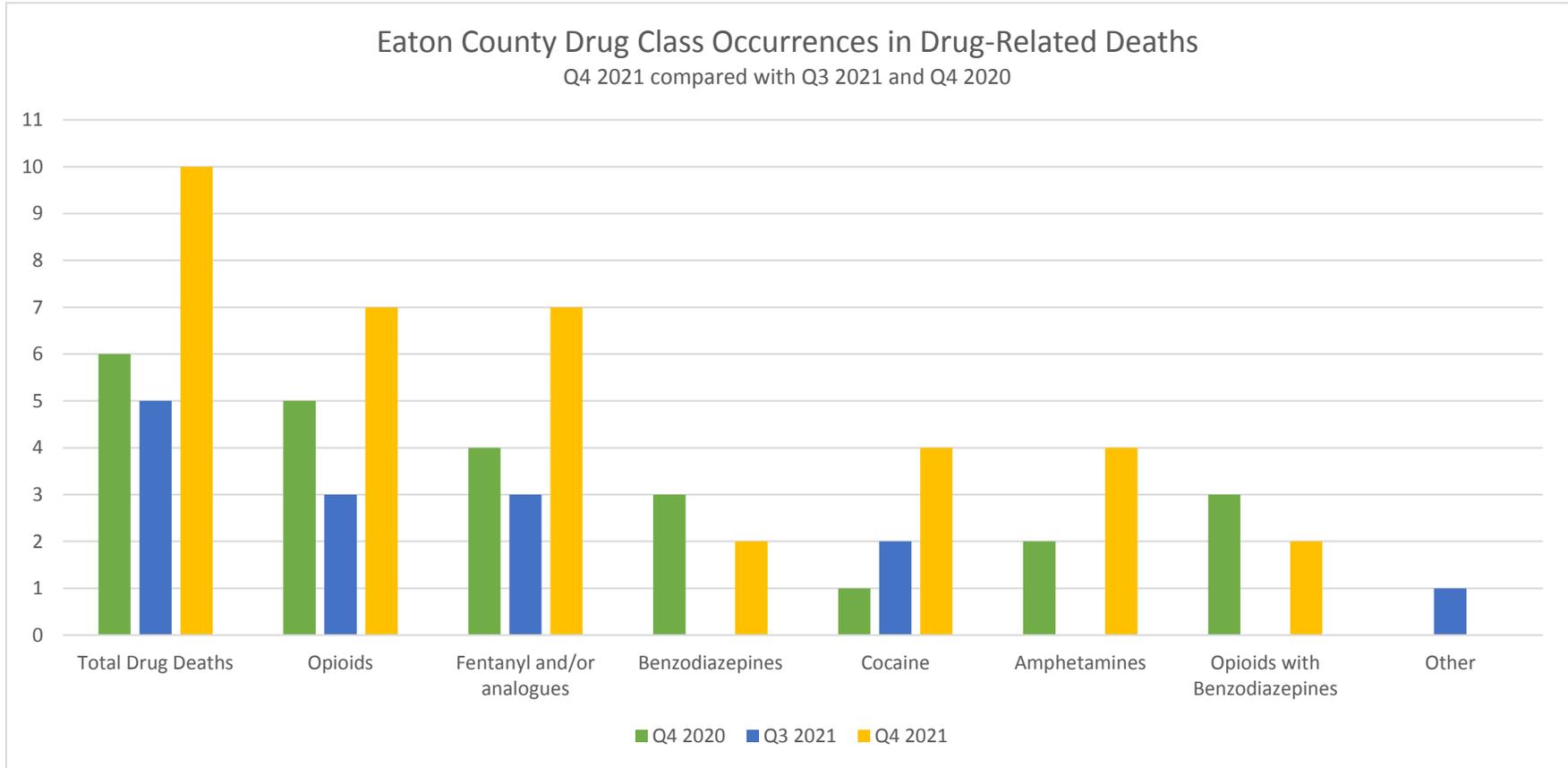
# Eaton County

## Drug-Related Deaths

2021 Q4 Eaton County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of Death
Female	32	fentanyl, methamphetamine	Accident
Female	43	cocaine, cyclobenzaprine	Accident
Female	45	cocaine	Accident
Female	47	ethanol, fentanyl, methamphetamine	Accident
Male	50	amphetamine	Accident
Male	51	alprazolam, ethanol, fentanyl	Accident
Male	56	fentanyl, methamphetamine	Accident
Male	57	cocaine, ethanol, fentanyl	Accident
Female	58	fentanyl, methadone	Accident
Male	58	acetylfentanyl, alprazolam, cocaine, fentanyl	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, 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.

# Ingham County

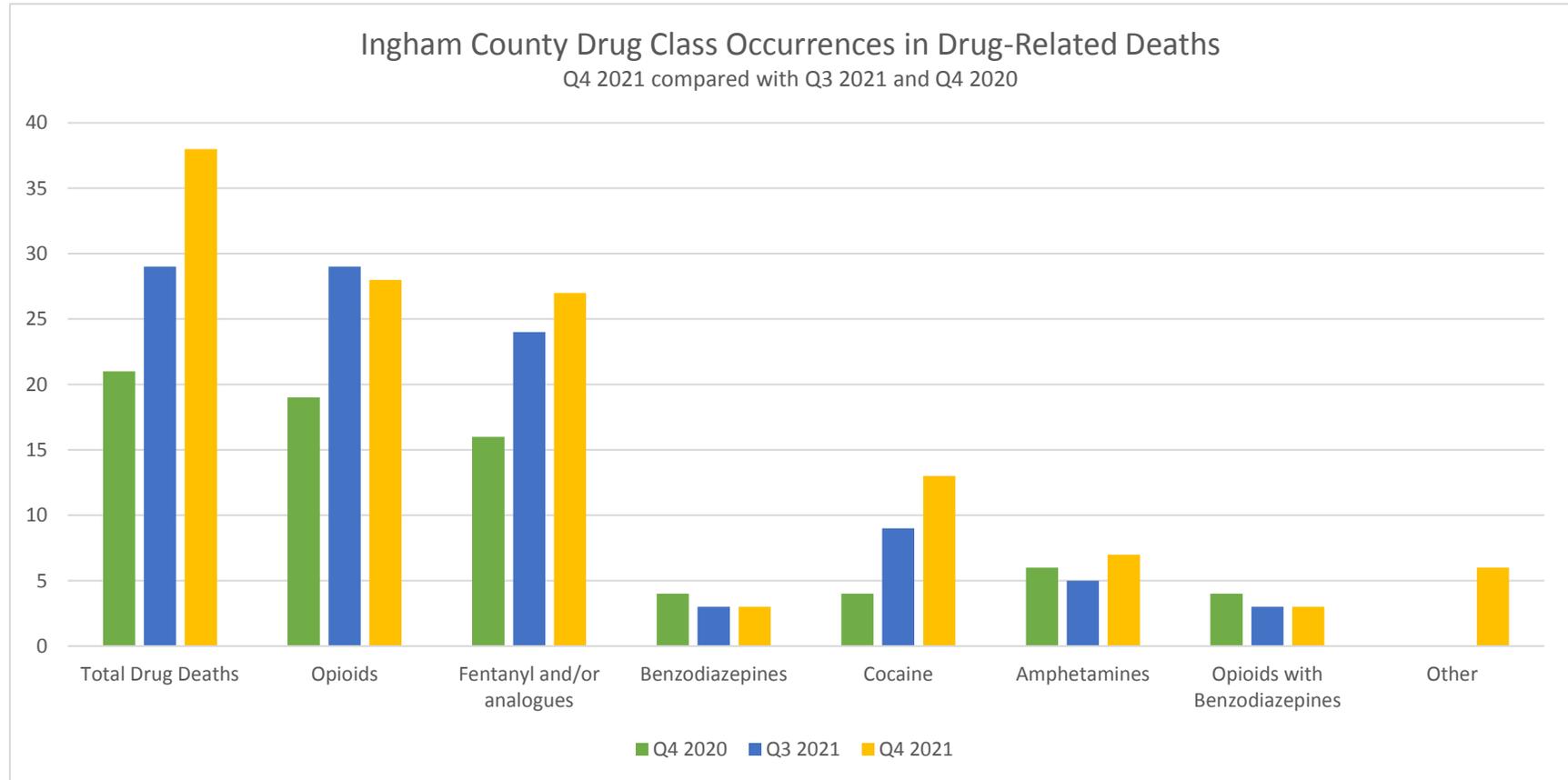
## Drug-Related Deaths

2021 Q4 Ingham County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of Death
Female	14	propranolol	Suicide
Male	21	ethanol	Accident
Male	22	benzodiazepine, probable fentanyl	Indeterminate
Male	22	alprazolam, fentanyl, oxycodone	Indeterminate
Male	25	alprazolam, fentanyl	Accident
Male	27	fentanyl	Accident
Female	28	fentanyl	Accident
Male	28	cocaine, cyclobenzaprine, ethanol, fentanyl	Accident
Female	29	cocaine, ethanol, fentanyl	Accident
Male	29	cocaine, ethanol, fentanyl	Accident
Male	31	fentanyl	Accident
Female	33	fentanyl, methamphetamine	Accident
Male	34	fentanyl	Accident
Male	34	fentanyl	Accident
Male	36	fentanyl, methamphetamine	Accident
Male	36	methamphetamine	Accident
Male	38	cocaine, fentanyl	Accident
Female	39	cocaine, fentanyl	Accident
Male	39	fentanyl, methamphetamine	Accident
Male	41	fentanyl, methamphetamine	Accident
Female	42	cocaine, fentanyl	Accident
Male	43	cocaine, fentanyl	Accident
Female	44	cocaine, cyclobenzaprine, fentanyl	Accident

Female	45	cocaine	Accident
Female	46	methamphetamine	Accident
Male	46	ethanol	Accident
Female	47	acetaminophen	Accident
Female	47	fentanyl, cocaine	Accident
Male	51	ethanol, fentanyl	Accident
Male	51	ethanol	Accident
Male	56	fentanyl, methamphetamine	Accident
Female	58	cocaine, pseudoephedrine	Accident
Female	58	cocaine, opioids	Indeterminate
Male	59	dextromethorphan, diphenhydramine, doxylamine, fentanyl, methadone	Accident
Male	61	cocaine, fentanyl	Accident
Female	63	diphenhydramine	Suicide
Male	64	fentanyl	Accident
Male	65	fentanyl	Accident

# Ingham County

## Drug-Related Deaths



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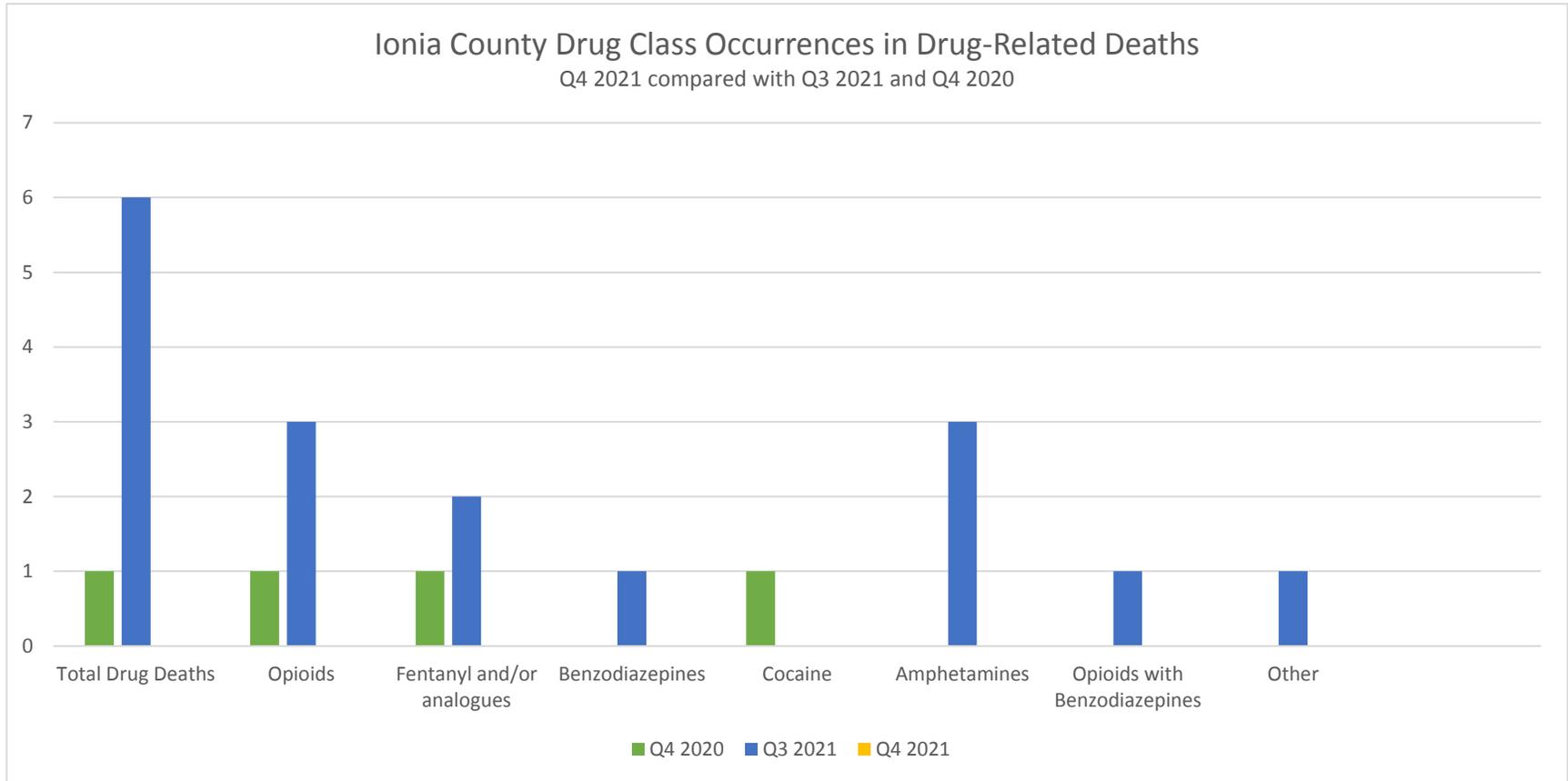
# Ionia County

## Drug-Related Deaths

2021 Q4 Ionia County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of Death
No Drug Related Deaths in Q4			

# Ionia County

## Drug-Related Deaths



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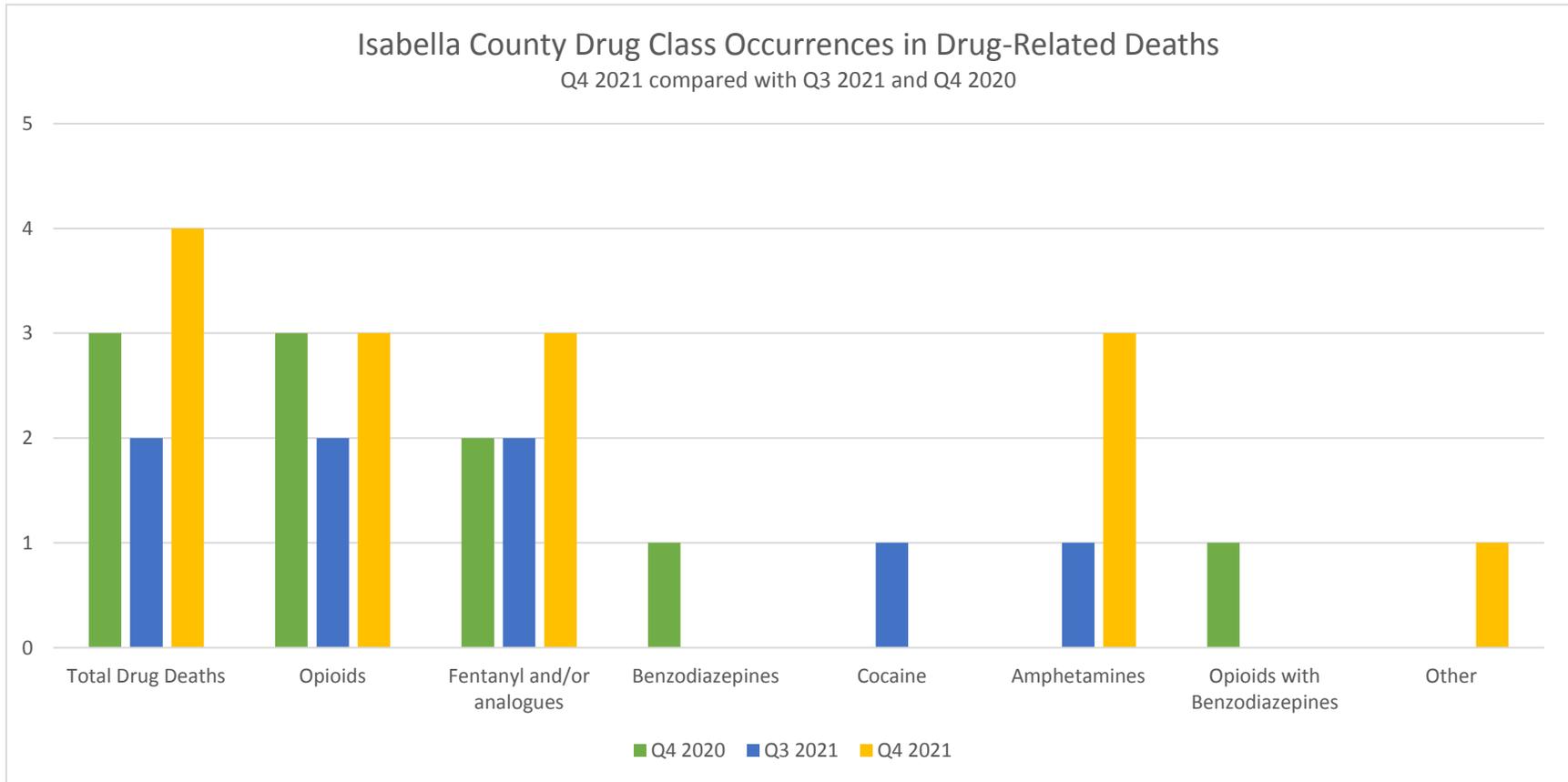
# Isabella County

## Drug-Related Deaths

2021 Q4 Isabella County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of Death
Male	41	ethanol, fentanyl, methamphetamine	Accident
Female	49	ethanol, fentanyl, methamphetamine	Accident
Male	63	fentanyl, methamphetamine	Accident
Female	63	acetaminophen	Accident

# Isabella County

## Drug-Related Deaths



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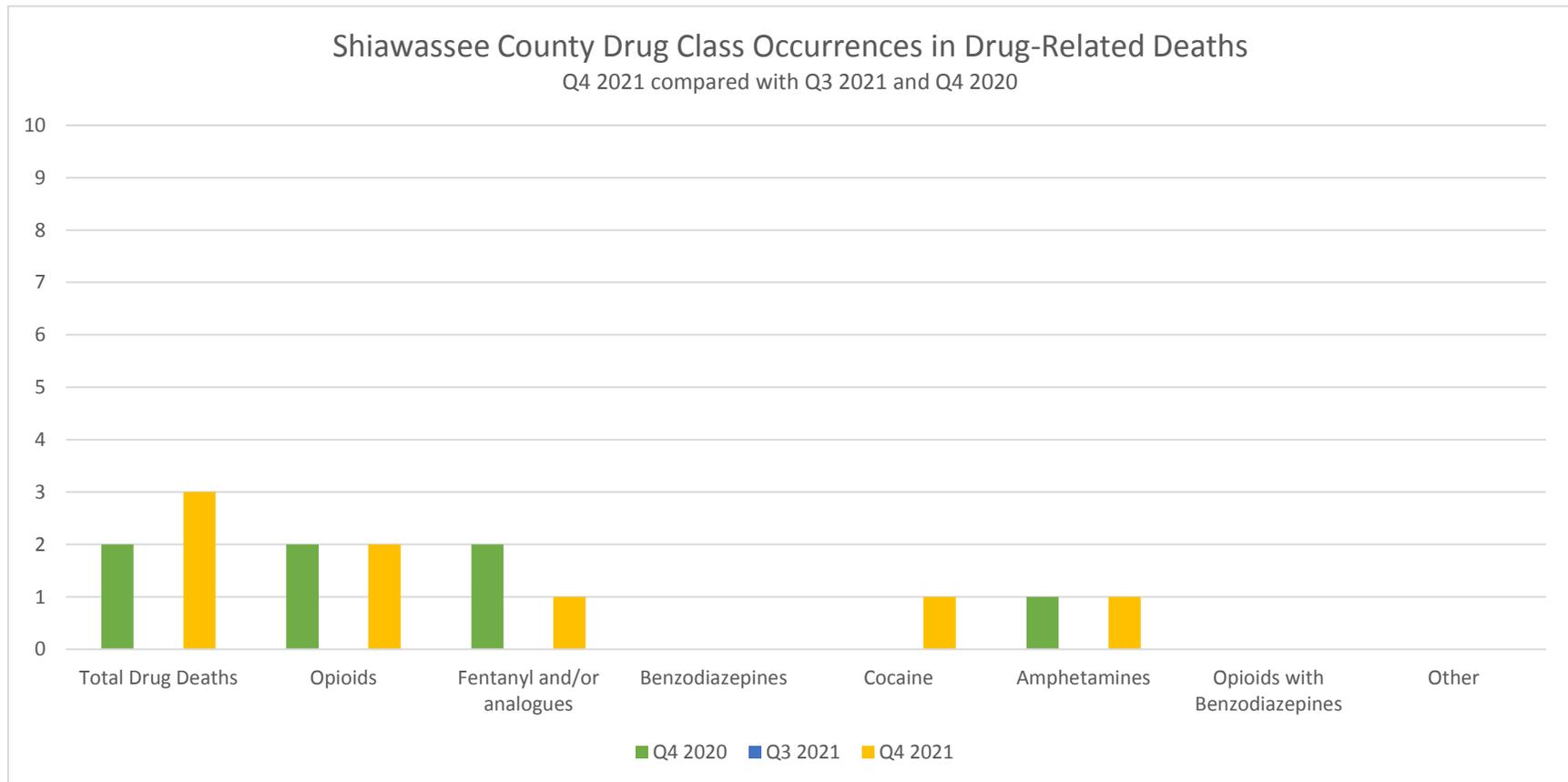
# Shiawassee County

## Drug-Related Deaths

2021 Q4 Shiawassee County Drug-Related Deaths			
Sex	Age	Substance(s) Causing Death	Manner of Death
Female	28	cyclobenzaprine, ethanol, fentanyl, mitragynine	Accident
Female	52	cocaine, methamphetamine	Accident
Female	74	tramadol	Indeterminate

# Shiawassee County

## Drug-Related Deaths



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# Historical Data

