Data Report : Accidental Drug Overdose Deaths in Los Angeles County During the COVID-19 Pandemic

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SAPC | Substance Abuse Prevention and Control

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Data Report – Accidental Drug Overdose Deaths in Los Angeles County During the COVID-19 Pandemic

Executive Summary

As the devastating toll of the COVID-19 pandemic has mounted, the Department of Public Health's (DPH) Division of Substance Abuse Prevention and Control (DPH-SAPC) performed an analysis of local death data from the Los Angeles County Medical Examiner-Coroner to determine the impact of the pandemic on accidental drug overdose deaths. This data report includes the findings of various analyses up until July 2020 due to data lag related to the ongoing lab analyses and data processing required beyond this time period. While a detailed analysis (Table 1) was performed to assess the first five months of the pandemic (March to July 2020) compared to the same period in 2019, 10-year trends including a time series analysis, monthly trends from January 2019 to July 2020, and mapping data were also included to provide additional context to the findings.

In total, there has been a 48% increase in accidental drug overdose deaths during the first five months of the pandemic compared to the same time period in 2019, with the highest accidental drug overdose death rate per 100,000 population being associated with methamphetamine and fentanyl. Aside from deaths among Pacific Islanders and American Indians/Alaska Natives (AIAN), all other data categories of gender, age groups, race/ethnicity, drug types and poverty areas demonstrated increases in accidental drug overdose deaths during the beginning months of the pandemic.

More than three out of four (78%) drug overdose deaths occurred among males, and accidental drug overdose death rates per 100,000 population during the first five months of the pandemic increased by 196.1% among Asians, 55.6% among Blacks/African Americans, 48.1% among Latinx, and 41.7% among Whites. People aged 25-34 years had the highest accidental drug overdose death rate per 100,000 population, followed by those aged 45-64 years, 35-44 years, and 18-24 years.

The findings of this data report suggest that pandemic-related drug overdose deaths are a significant and tragic outcome of the pandemic.

Introduction

The COVID-19 pandemic is one of the deadliest tragedies of our generation. In addition to deaths associated with respiratory failure, there has been growing concern that the social isolation and stressors related to lost loved ones and jobs would result in increases in relapse and overdose among those in recovery or struggling with addiction.

To examine this concern locally, DPH-SAPC performed various analyses on accidental drug overdose death data from the Los Angeles County Medical Examiner-Coroner up until July 2020. Data beyond this period was not available due to the extensive lab analysis and data processing needed. As a result, the full impact of the pandemic on drug overdoses in Los Angeles County is not captured in this data report and it is likely that the findings during the first five months of the pandemic will continue and worsen as the duration, scope, and stressors of this public health emergency worsens.

This data report includes a review of 10-year trends of drug overdose deaths from 2010 to 2020, a time series analysis (Figures 1 – 4), a review of monthly trends from January 2019 to July 2020 from the pre- to post-pandemic period (Figures 5 – 19), and a detailed analysis by various data categories during the first five months of the pandemic (March to July 2020) compared to the same period in 2019 (Table 1). Density maps by zip codes are also included to identify concentrated areas of drug overdose deaths and changes in overdose death density from the pre- to post-pandemic period across Los Angeles County (Figure 20).

To ensure that the increases in accidental drug overdose deaths were associated with the pandemic as opposed to trends and variables prior to the pandemic, 10-year overdose trends were examined from January 2010 to July 2020 and an interrupted time series analysis was performed to investigate the increase in accidental drug overdose deaths from 2018. This analysis revealed that drug overdose deaths during the pandemic were significantly higher than anticipated overdose deaths without COVID-19, suggesting a positive association between COVID-19 and rising drug overdose deaths.

Text-based analyses of death certificates were performed to determine accidental drug overdose deaths and the types of drugs that contributed to those deaths. Detected drugs were classified as contributing to overdose deaths if they are listed in one of the causes of death. Drugs involved in overdose deaths are not mutually exclusive as overdose deaths can involve more than one drug. As a result, the sum of deaths of each drug type can be more than the total number of overdose deaths.

This varied and comprehensive data analysis provides context to inform how the pandemic has impacted drug overdose deaths, in particular by examining trends in implicated drug types, gender, age groups, race and ethnicity, poverty level, and geography.

Findings

The findings in this data report are presented and organized as follows:

- 10-year drug overdose death trend data and time series analysis across Los Angeles County (see Figure 1 – 4).
- Overview of findings comparing the pre-pandemic (January to July 2019) and pandemic period (March to July 2020) (see Table 1).
- Detailed analyses of each data category according to: Gender, Age Group, Race and Ethnicity, Drug Category, Area Poverty, and Geography by Supervisorial District and Service Planning Area (see Table 1 and Figures 5 – 19).
- Geographic Information Systems (GIS) mapping data of drug over death locations across the County (see Figure 20).

Longer-Term Trends in Accidental Drug Overdose Deaths in Los Angeles County

To offer longitudinal insight into local drug overdose death trends, data from the past 10 years from 2010 to 2020 was reviewed to evaluate longer-term accidental drug overdose death trends and better assess the true impact of COVID-19 on overdose deaths.

As shown in Figure 1, seven month moving averages from 2010 to 2020 indicate that there was a slight upward trend of accidental drug overdose deaths from 2010 to 2018, at which point there was a more notable increase in drug overdose deaths.

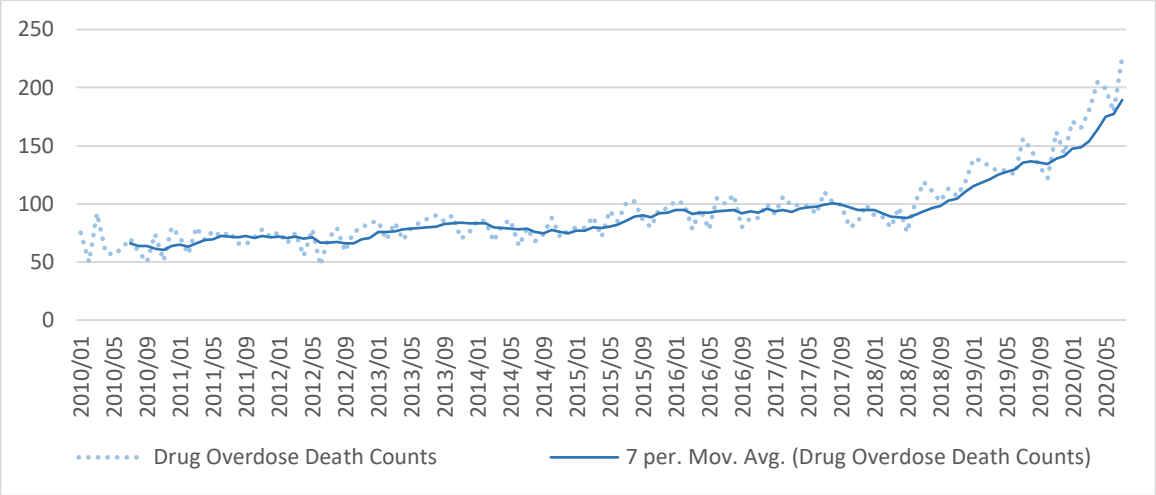
An interrupted time series analysis was subsequently conducted using data from January 2018 to July 2020 to further assess this finding. Interrupted time series analyses involve tracking a long-term period before and after an event or point of intervention to assess the effects. In this case, this analysis was used to model and test the substantive change in accidental drug overdose deaths from the pre- to post-pandemic phase with a notable increase from March 2020. Figure 2 illustrates a significant shift and rise in the time series of accidental drug overdose deaths at the onset of the pandemic and immediately prior to local COVID-19 Stay-at-Home Orders. Comparing the projected numbers of drug overdose deaths (see gray dotted line in Figure 2) with the actual death numbers supports a significant association between COVID-19 and the finding of rising drug overdose deaths.

A similar finding was demonstrated when reviewing the annual numbers of accidental drug overdose deaths from 2010 to 2020, showing a substantial increase in deaths in 2019 and a projected further rise in 2020 (see Figure 3). Based on projections from August to December 2020 and comparing with 2019

overdose numbers, there will be a 41.6% increase in drug overdose deaths in 2020 (688 more deaths in 2020 compared to 2019).

Further breaking down these deaths by the two most common drug types associated with drug overdoses – methamphetamine and fentanyl, respectively – one can see that these two drugs historically account for the majority of overdose deaths across Los Angeles County and will continue to do so in 2020 (see Figure 4). As additional context, local law enforcement agencies have anecdotally reported increased seizures of illicitly manufactured fentanyl, counterfeit pills such as opioids or sedatives that contain fentanyl, and methamphetamine in the Los Angeles region over the past several years. This collective information suggests that these substances are significant drivers of regional increases in drug overdose deaths in Los Angeles County.

Figure 1. 7-Month Moving Average of Accidental Drug Overdose Death, January 2010 – July 2020



Note: *Moving Averages are used to track and identify trends by reducing normal month-to-month fluctuations and minimizing the amount of "noise" in the monthly data. In this case, Moving Averages provide a visual representation of longer-term accidental drug-related death trends.*

Figure 2. Interrupted Time Series Analysis, January 2018 – July 2020

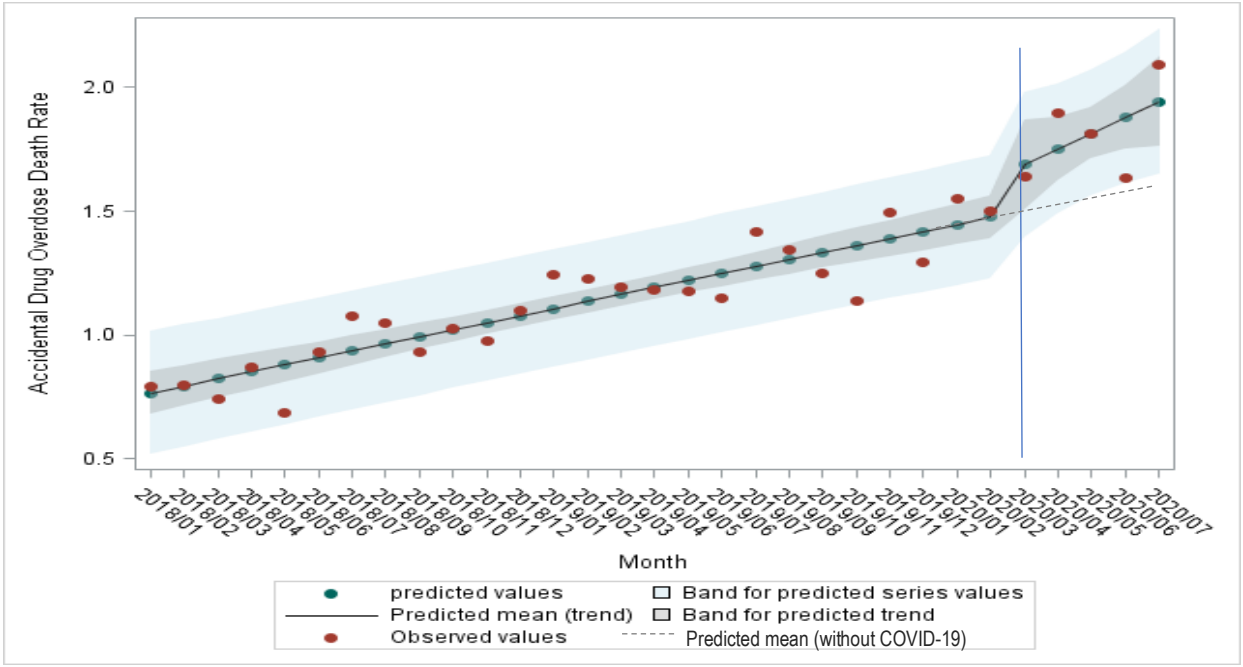
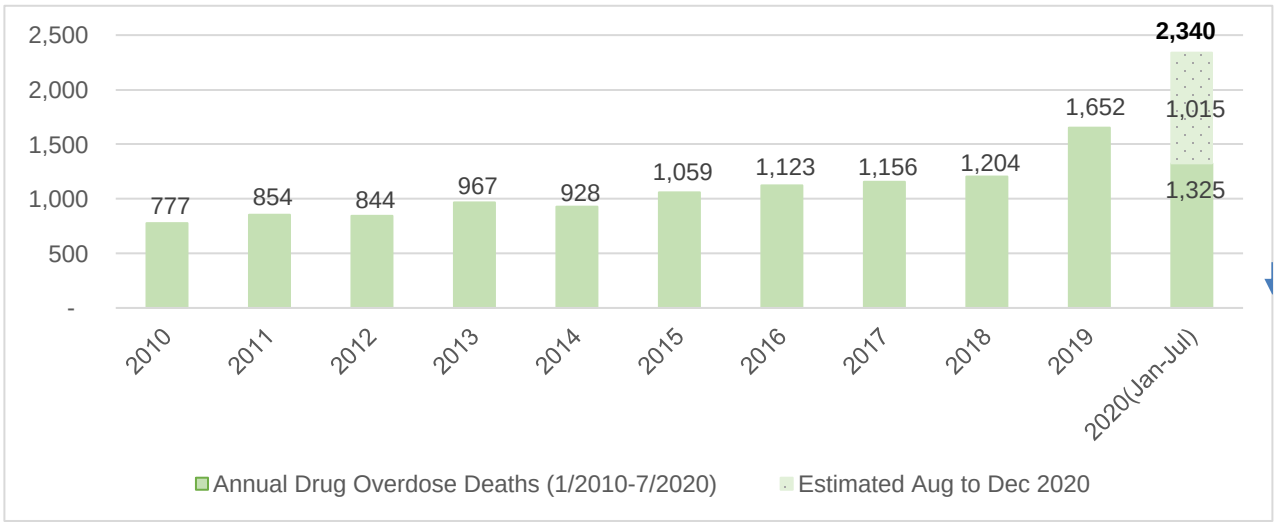
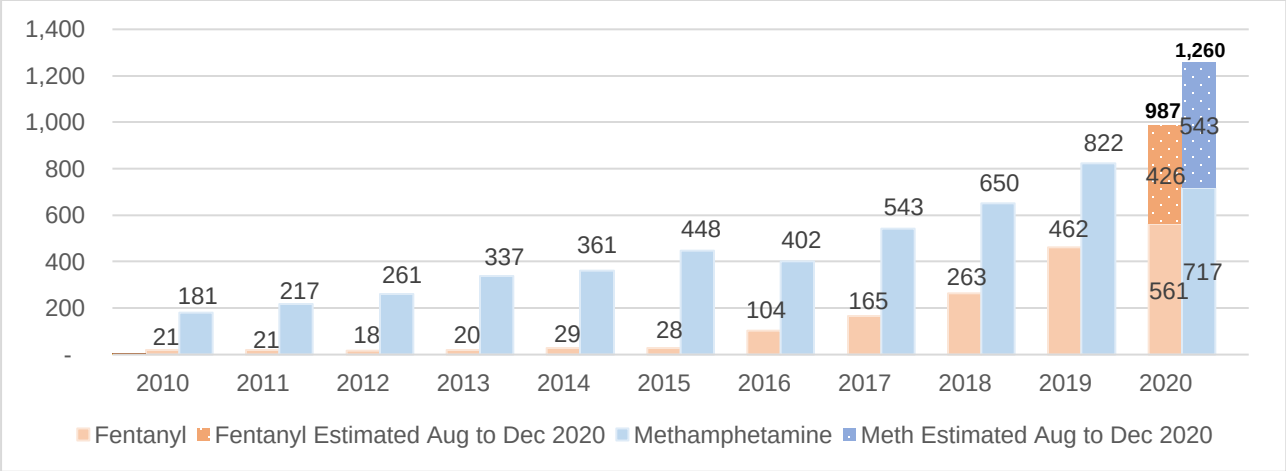


Figure 3. Number of Accidental Drug Overdose Deaths by Year, 2010-2020



***Note**: Predicted values (n=1,015) from August to December 2020 (light green dotted bar graph) were added to project full year drug overdose deaths in 2020 to allow for comparisons with other years.*

Figure 4. Number of Fentanyl and Methamphetamine Overdose Deaths by Year, 2010-2020



Note*: *Predicted values for fentanyl (n=426) and methamphetamine (n=543) from August to December 2020 (dotted bar graph) were added to project full year drug overdose deaths in 2020 to allow for comparisons with other years.

Recent Trends

Table 1 below provides an overview of the findings, comparing the same time periods from the pre-pandemic period in 2019 with the post-pandemic period in 2020, in addition to a summary of the rate changes during this timeframe.

The numbers and rates of accidental drug overdose deaths increased from the pre- to post-pandemic period in every data category except for among Pacific Islanders and American Indians/Alaska Natives (AIAN), which were excluded from the subsequent monthly analysis due to very small numbers

Table 1. Number and Rate of Accidental Drug Overdose Deaths from Pre-Pandemic to Pandemic Period, March to July (2019 vs. 2020)

	2019 (March to July)		2020 (March to July)		Rate change from 2019 to 2020[6]	
Decedent Characteristic	**Number**	**Rate[5]**	**Number**	**Rate**	**Absolute change**	**Relative change**
All	670	6.1	989	9.1	3.0*	48.3%*
	2019 (March to July)		**2020 (March to July)**		**Rate change from 2019 to 2020[6]**	

Decedent Characteristic	Number	Rate[5]	Number	Decedent Characteristic	Number	Rate[5]
Gender						
- Male	540	10.0	768	14.2	4.2*	42.0%*
- Female	130	2.3	221	4.0	1.7*	73.9%*
Age Group (years)						
- 0 to 11	2	0.1	6	0.4	0.3	200.0%
- 12 to 17	3	0.4	13	1.7	1.3	333.3%
- 18 to 24	58	5.6	98	9.5	3.9*	69.0%*
- 25 to 34	139	9.2	227	15.0	5.8*	63.3%*
- 35 to 44	137	9.5	192	13.4	3.9*	40.1%*
- 45 to 64	285	10.5	398	14.6	8.0*	39.6%*
- 65+	46	3.3	55	4.0	0.7	19.6%
Race/Ethnicity[1]						
- American Indian/Alaska Native†	4	14.0	3	12.9	-1.1	-8.1%
- Black/African American	125	13.1	194	20.4	7.3*	55.6%*
- Latinx/Hispanic	218	4.3	330	6.4	2.1*	48.1%*
- White	309	10.1	423	14.3	4.2*	41.7%*
- Asian	8	0.6	27	1.8	1.2*	196.1%*
- Pacific Islander†	3	10.6	1	3.3	-7.3	-68.9%
Drug Category[2]						
Alcohol	79	0.8	118	1.1	0.3*	43.9%*
Opioid	347	3.2	611	5.7	2.5*	76.7%*
- Heroin	142	1.3	189	1.7	0.4*	31.5%*
- Fentanyl	201	1.9	437	4.1	2.2*	117.4%*
- Rx Opioid (excluding fentanyl)	107	1.0	126	1.1	0.1	14.3%
- Other Opioid	3	0.0	2	0.0	0.0	-8.5%
Sedative	35	0.3	85	0.8	0.5*	140.3%*
- Benzodiazepines	28	0.3	75	0.7	0.4*	164.6%*
- Other Sedative	7	0.1	10	0.1	0.0	41.9%
Stimulant	461	4.2	715	6.5	2.4*	56.8%*
- Cocaine	169	1.5	224	2.0	0.5*	30.8%*
- Methamphetamine	325	2.9	551	5.1	1.0*	68.9%*
- Other Stimulant	8	0.1	8	0.1	0.0	4.8%
	2019 (March to July)		**2020 (March to July)**		**Rate change from 2019 to 2020[6]**	

Decedent Characteristic	Number	Rate[5]	Number	Decedent Characteristic	Number	Rate[5]
Area Poverty[3]						
- < 10% area poverty	249	22.3	362	32.4	10.1*	45.4%*
- 10% to 20% area poverty	199	30.3	267	40.7	10.4*	34.2%*
- 20% to 30% area poverty	103	34.4	169	56.4	22.0*	64.1%*
- 30% to 100% area poverty	80	60.2	142	106.9	46.7*	77.5%*
Supervisorial District (SD)[4]						
- SD 1	129	5.7	217	9.5	3.8*	67.6%*
- SD 2	154	6.9	247	11.0	4.1*	59.8%*
- SD 3	137	6.1	180	8.0	1.9*	32.0%*
- SD 4	127	6.1	167	8.2	2.1*	33.4%*
- SD 5	95	4.8	140	6.9	2.1*	43.9%*
Service Planning Area (SPA)[4]						
- SPA 1	34	8.9	52	13.8	4.8	54.1%
- SPA 2	117	4.9	141	5.9	1.0	21.0%
- SPA 3	62	3.3	102	5.4	2.2*	66.3%*
- SPA 4	152	11.4	224	16.7	5.3*	46.5%*
- SPA 5	41	5.6	71	9.8	4.2*	74.2%*
- SPA 6	80	7.9	113	10.5	2.6	32.5%
- SPA 7	45	3.3	86	6.5	3.2*	98.7%*
- SPA 8	111	6.6	161	9.6	3.1*	46.6%*

Notes:

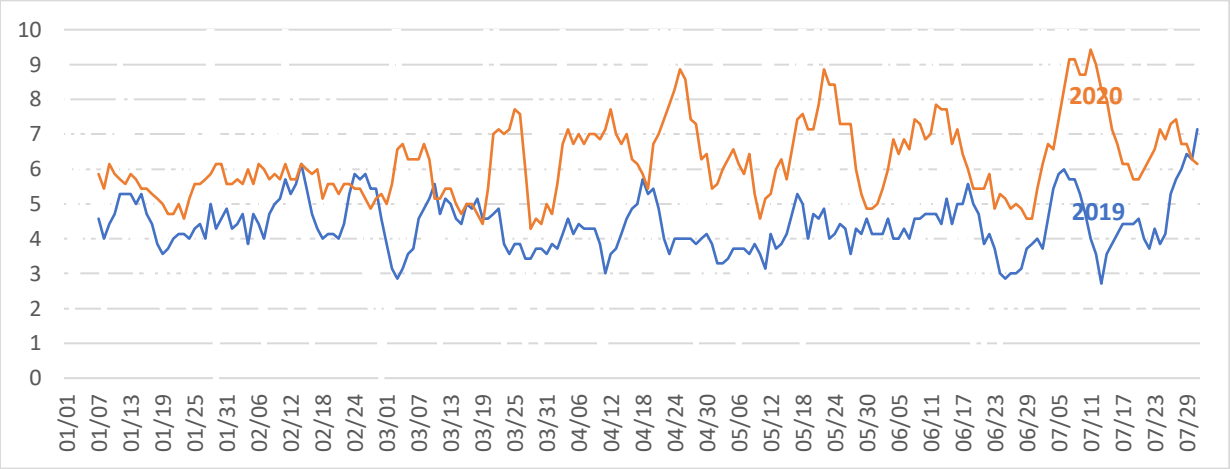
1. *Data for Latinx/Hispanic origin should be interpreted with caution; studies comparing Latinx/Hispanic origin on death certificates and on Census surveys have shown inconsistent reporting on Latinx/Hispanic ethnicity. Potential race misclassification might lead to underestimates for certain categories, primarily American Indian/Alaska Native and Asian/Pacific Islander decedents.*
2. *Drugs involved in overdose deaths are not exclusive as each overdose death often involve more than one drug. Summation of drug types will result in more than the total number of overdose deaths; Rx opioids refers to deaths that includes Rx opioids but do not mention fentanyl as one of the causes or drug name; when a death involves both Rx opioids and fentanyl as causes of death, then the death was included in the fentanyl counts.*
3. *Area Poverty reflects the percentage of households living at or below the federal poverty line. Area poverty estimates are derived from the US Census 5-year (2014-2018) American Community Survey at the census tract level.*
4. *SD/SPA were based on residential address; if residential address was missing, death location or event address (about 10%) was used.*
5. *Rates are age-adjusted using the direct method and the 2000 U.S. standard population, except for age-specific and area poverty crude rates. All rates are per 100,000 population.*
6. *Absolute rate change is the difference between 2019 and 2020 rates. Relative rate change is the absolute rate change divided by the 2019 rate, multiplied by 100. Non-overlapping confidence intervals based on the gamma method were used if the number of deaths was <100 in 2019 or 2020, and z-tests were used if the number of deaths was ≥100 in both 2019 and 2020.*

† The number of accidental drug overdose deaths were less than 10 and thus excluded from further analysis
** Statistically significant findings (p-value <0.05)*

Data Source: *Accidental drug overdose death data was extracted by the Los Angeles County Medical Examiner-Coroner's Office and prepared by the Health Outcomes and Data Analytics (HODA) Unit within the Los Angeles County Department of Public Health's Division of Substance Abuse Prevention and Control (SAPC).*

Figure 5. below presents the number of accidental drug overdose deaths as a 7-day moving average from January to July to compare between the pre-pandemic time period of 2019 with the post-pandemic time period of 2020. As demonstrated, the 7-day moving average for drug overdose deaths was consistently found to be higher in 2020 compared to 2019.

Figure 5. Number of Accidental Drug Overdose Deaths (7-day moving average), January to July (2019 vs. 2020)



Note: *Moving Averages are used to track and identify trends by reducing normal day-to-day fluctuations and minimizing the amount of "noise" in the daily data. In this case, Moving Averages provide a visual representation of longer-term accidental drug-related death trends. Please note that the decrease in the last few days of the month of July may be due to data lag and will be updated when more updated data is available.*

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1. Gender

During the first five months of the pandemic, accidental overdose death rates per 100,000 population increased by 42% (from 10.0 to 14.2) among males and 73.9% (from 2.3 to 4.0) among females, compared to the same time period in 2019 (see Table 1 and Figure 6 for monthly trend).

For total accidental drug overdose deaths, 78% of deaths were among males in 2020 (n=768), representing a 42% increase compared to the same time period in 2019 (n=540). Meanwhile, 22% of total accidental drug overdose deaths were among females in 2020 (n=221), representing a 70% increase compared to the same time period in 2019 (n=130). The number of overdose death among males had been consistently increasing up until April 2020, dropped significantly in June, and increased in July 2020 (see Table 1 and Figure 7 for monthly trend).

Figure 6. Age-Adjusted Accidental Drug Overdose Death Rate by Gender (per 100K population), Jan 2019 - July 2020

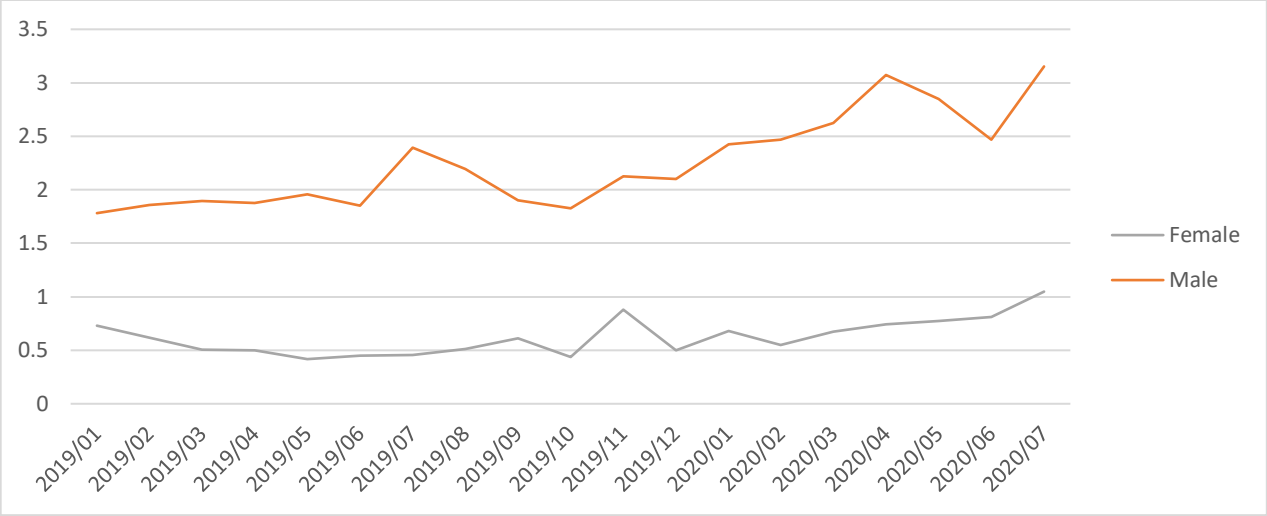
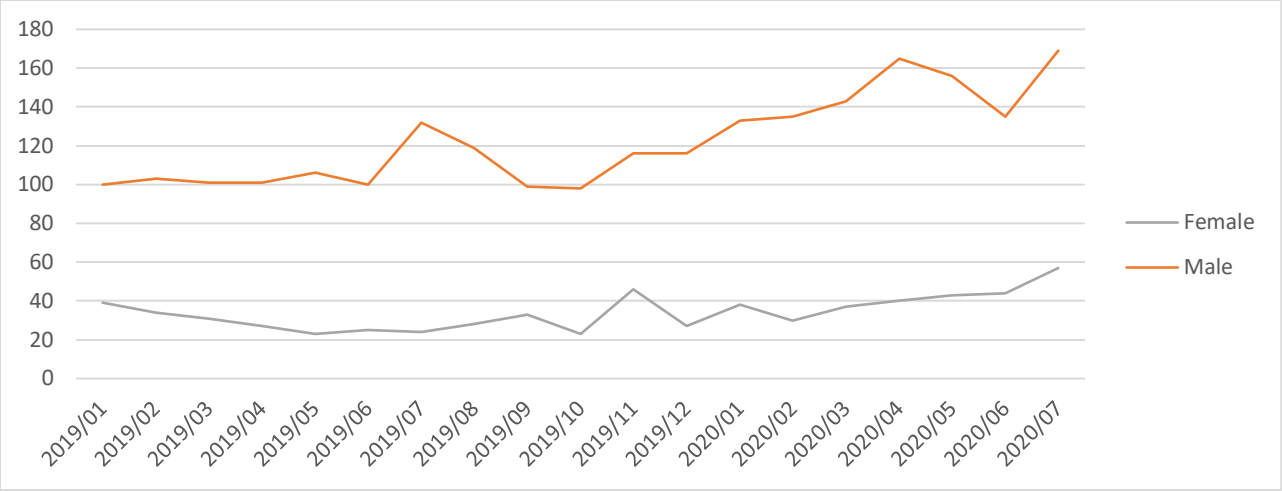


Figure 7. Number of Accidental Drug Overdose Deaths by Gender, Jan 2019 - July 2020



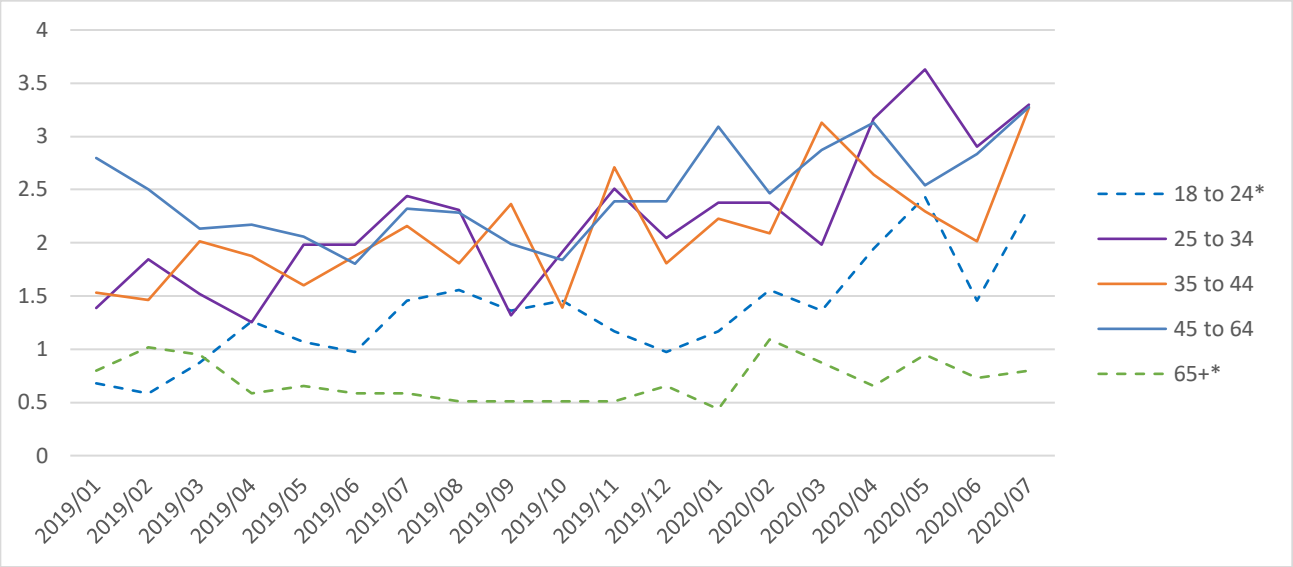
2. Age Group

During the first five months of the pandemic, people aged 25-34 years had the highest accidental drug overdose death rate per 100,000 population (15.0), followed by those aged 45-64 years (14.6), 35-44 years (13.4), and 18-24 years (9.5).

Compared to the same period in 2019, accidental drug overdose death rates per 100,000 population increased by 333% (from 0.4 to 1.7) among people aged 12-17 years, 200% (from 0.1 to 0.4) among the 0-11 age group, 69% (from 5.6 to 9.5) among the 18-24 age group, 63% (from 9.2 to 15.0) among the 25-34 age group, 40% (from 9.5 to 13.4) among the 35-44 age group, 40% (from 10.5 to 14.6) among the 45-64 age group, and 20% (from 3.3 to 4.0) among the 65+ age group (see Table 1 and Figure 8 for monthly trend).

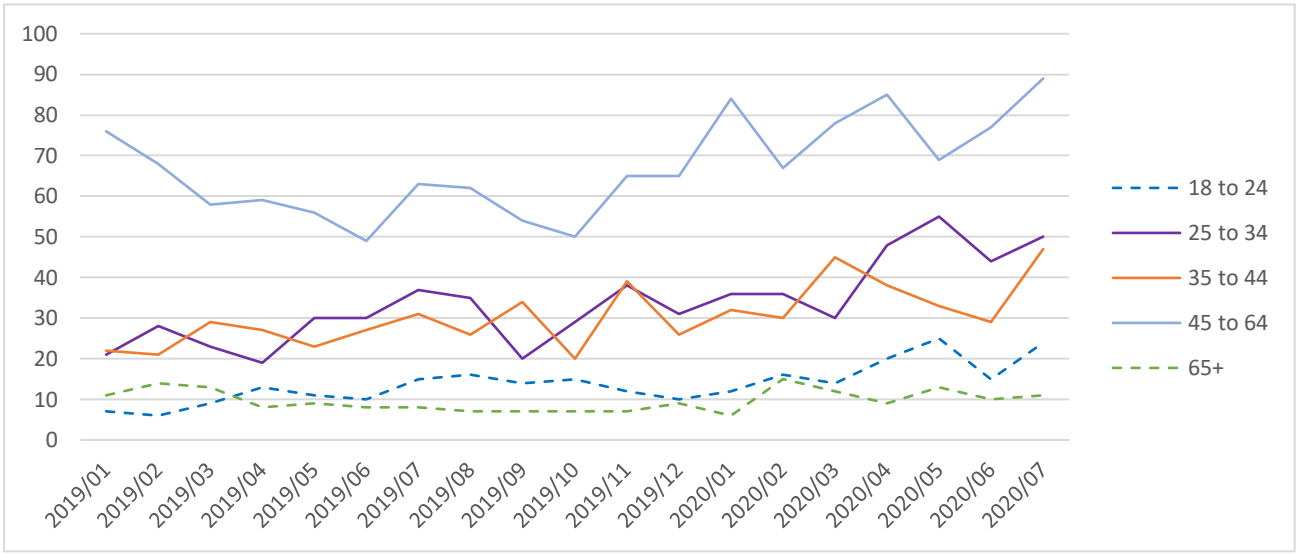
People aged 45-64 had the highest number of accidental drug overdose deaths during the first five months of the pandemic (n=398), followed by those aged 25-34 (n=227), aged 35-44 (n=192), aged 18-24 (n=98), aged 65+ (n=55), aged 12-17 (n=13), and aged 0-11 (n=6). The number of accidental drug overdose death rates dropped significantly in June 2020 across all age groups during the pandemic, except among those aged 45-64 (see Table 1 and Figure 9 for monthly trend).

Figure 8. Accidental Drug Overdose Death Rate (per 100K population) by Age Group, Jan 2019 - July 2020



***Note**: *The majority of monthly death counts used to calculate age-specific rates were 20 or less and statistically unstable. Rate should be interpreted with caution. Age groups 0-11 and 12-17 were not included due to very small numbers (<10).*

Figure 9. Number of Accidental Drug Overdose Deaths by Age Group, Jan 2019 - July 2020



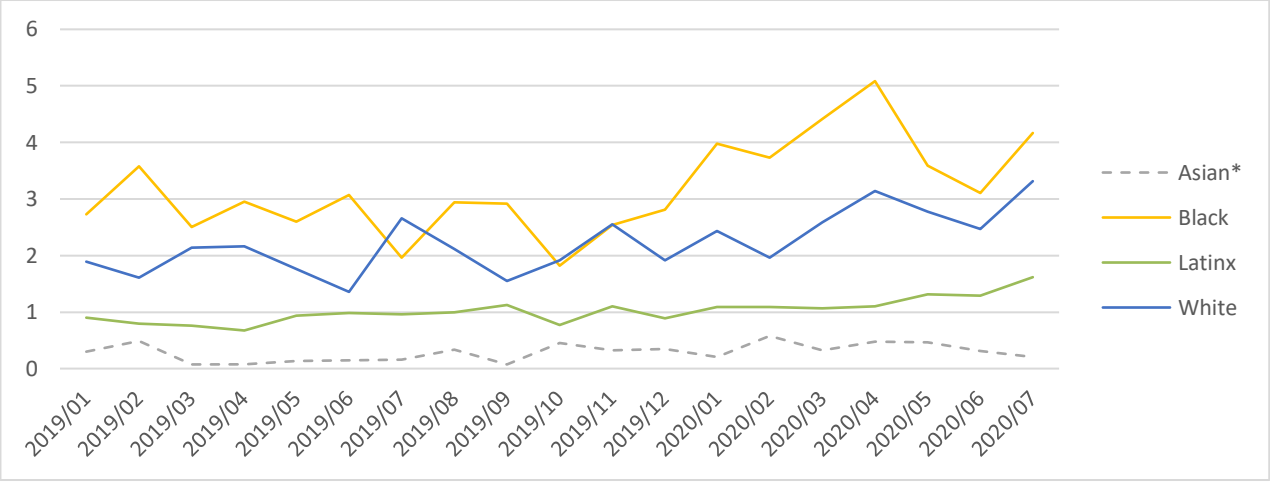
3. Race & Ethnicity

While the total number of accidental drug overdose deaths was highest among Whites during the first five months of the pandemic, Blacks/African Americans had the highest accidental drug overdose death rate per 100,000 population (20.4), followed by Whites (14.3), American Indians/Alaska Natives (12.9), Latinx (6.4), Pacific Islanders (3.3) and Asians (1.8).

With respect to statistically significant findings and compared to the same period in 2019, accidental drug overdose death rates per 100,000 population increased most significantly for Asians and Blacks/African Americans. Accidental drug overdose death rates per 100,000 population increased by 196% from 0.6 to 1.8 among Asians, 56% from 13.1 to 20.4 among Blacks/African Americans, 48% from 4.3 to 6.4 among Latinx, and 42% from 10.1 to 14.3 among Whites (see Table 1 and Figure 10 for monthly trend).

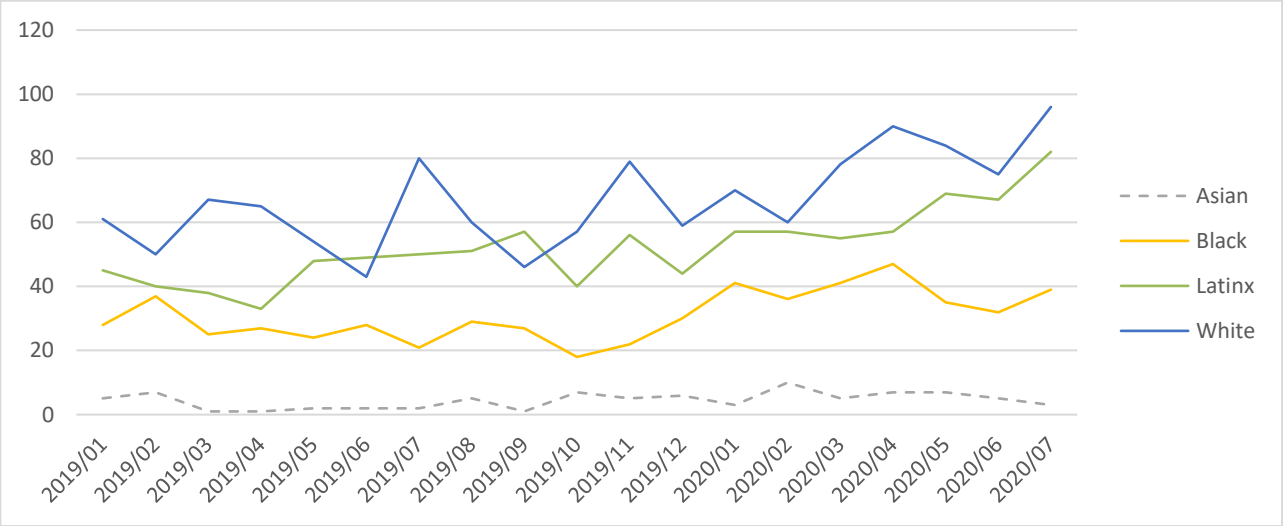
Compared to the same period in 2019, the number of accidental drug overdose deaths increased by 238% (from 8 to 27) among Asians, 55% (from 125 to 194) among Blacks/African Americans, 51% (from 218 to 330) among Latinx, and 37% (from 309 to 423) among Whites. The number of accidental drug overdose deaths dropped significantly in June 2020 among Blacks/African Americans while there was a steady increase among Latinx during the same time period (see Table 1 and Figure 11 for monthly trend).

Figure 10. Age-Adjusted Accidental Drug Overdose Death Rate (per 100K population) by Race/Ethnicity, Jan 2019 - July 2020



Note: **The majority of monthly death counts used to calculate age-adjusted rates were 20 or less and statistically unstable. Rate should be interpreted with caution. Other races were not included due to very small numbers.*

Figure 11. Number of Accidental Drug Overdose Deaths by Race/Ethnicity, Jan 2019 - July 2020



4. Drug Type

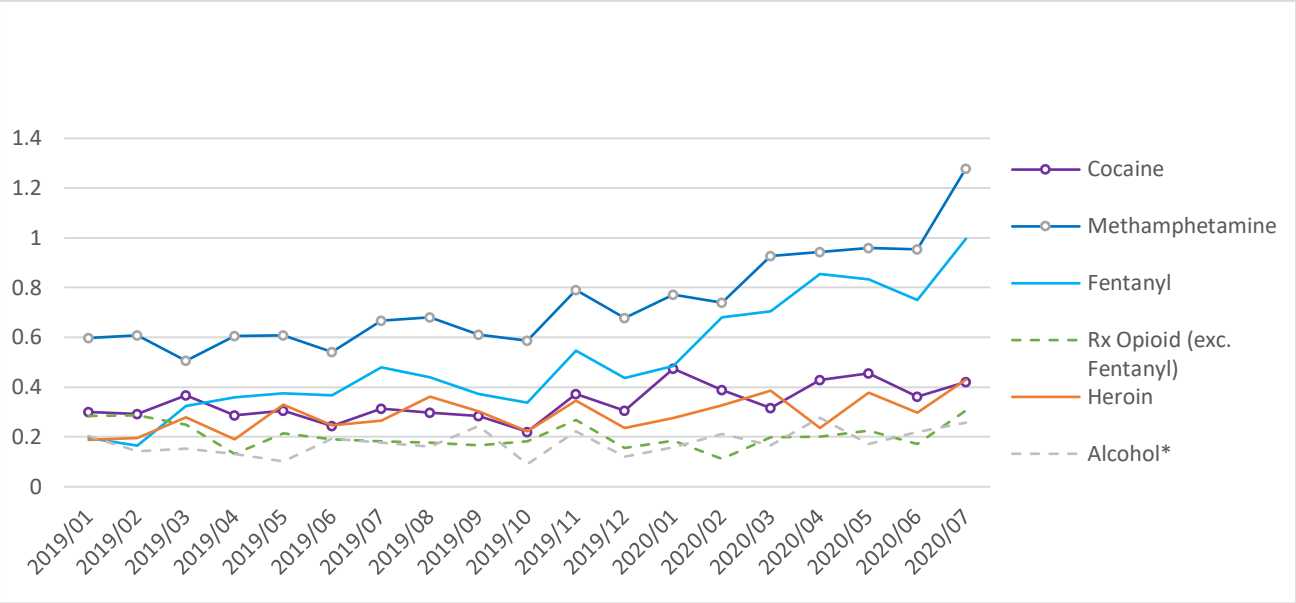
During the first five months of the pandemic, methamphetamine was associated with the highest accidental drug overdose death rate per 100,000 population (5.1), followed by fentanyl (4.1), cocaine (2.0), heroin (1.7), and prescription (Rx) opioids (1.1) (see Table 1 and Figure 12).

Compared to the same period in 2019, fentanyl overdose deaths increased by 117.4%, (from 201 to 437; see Figure 13) and fentanyl-related death rates increased by 115.8% (from 1.9 to 4.1) per 100,000 population.

Meanwhile, methamphetamine overdose deaths increased by 70% (from 325 to 551; see Figure 9) and methamphetamine-related death rates increased by 73% (from 2.9 to 5.1) per 100,000 population (see Table 1 and Figures 12 and 13 for monthly trend).

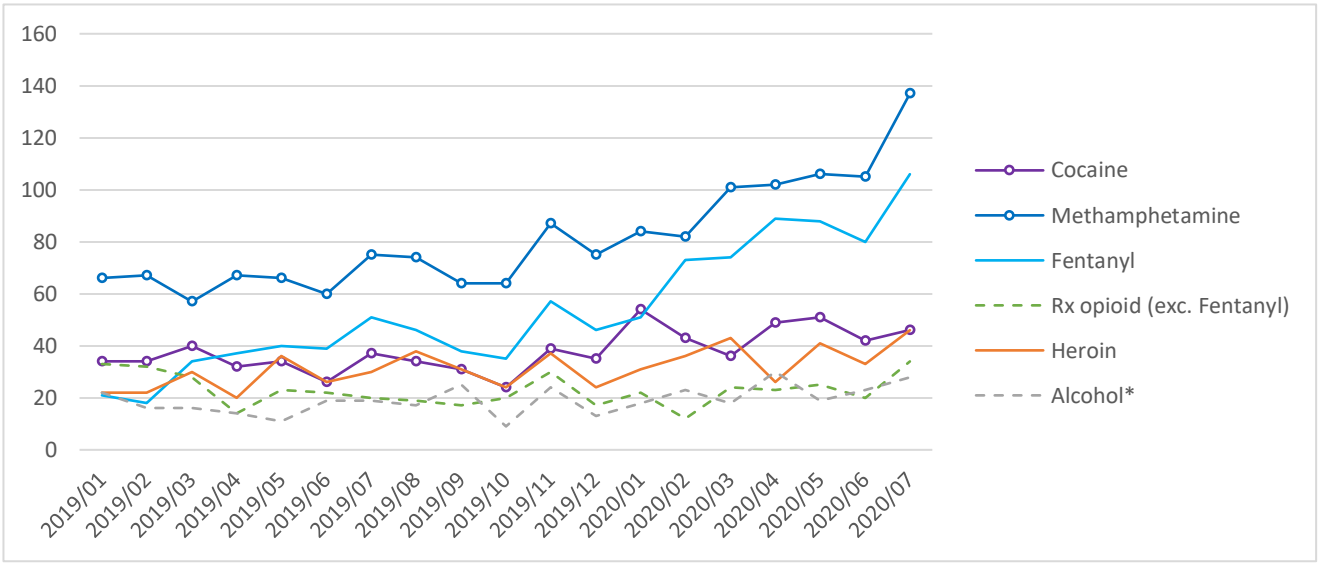
The trend of methamphetamine overdose deaths closely mirrors that of fentanyl, raising the concern that many of these deaths may be due to methamphetamine tainted with fentanyl.

Figure 12. Age-Adjusted Accidental Drug Death Rate (per 100K population), Jan 2019 - July 2020



***Note**: *The majority of monthly death counts used to calculate age-adjusted rates were 20 or less and statistically unstable. Rate should be interpreted with caution.*

Figure 13. Number of Accidental Drug Overdose Deaths by Drug Category, Jan 2019 - July 2020



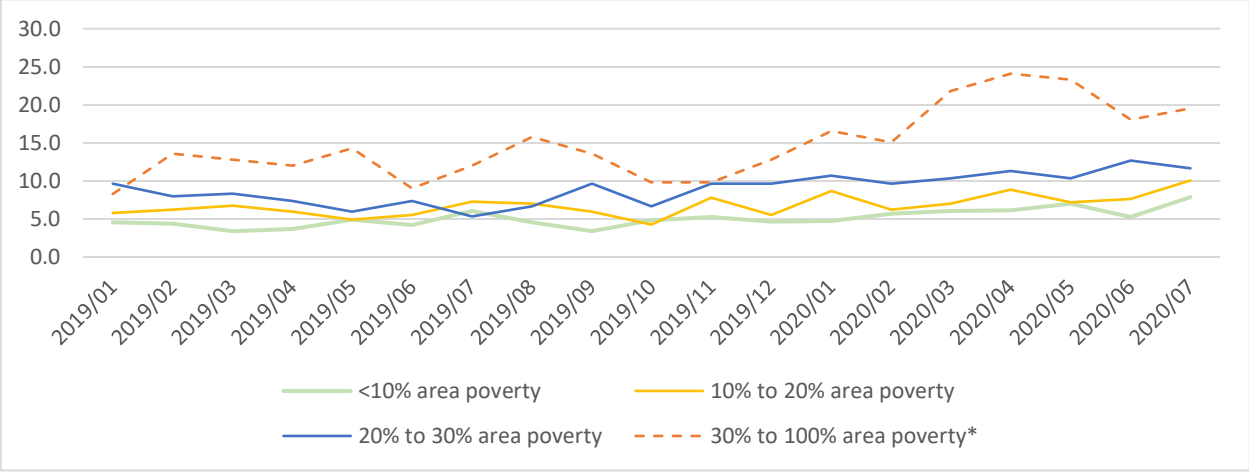
5. Area Poverty

During the first five months of the pandemic, areas with 30% or more of households living in poverty had the highest death rate per 100,000 population (106.9), followed by areas with 20% to 30% of households living in poverty (56.4), areas with 10% to 20% of households living in poverty (40.7), and areas with less than 10% of households living in poverty (32.4).

Compared to the same period in 2019, accidental drug overdose death rates per 100,000 population increased by 77.5% (from 60.2 to 106.9) in areas with 30% or more households living in poverty, 64.1% (from 34.4 to 56.4) in areas with 20% to 30% of households living in poverty, 34.2% (from 30.3 to 40.7) in areas with 10% to 20% of households living in poverty, and 45.4% from (22.3 to 32.4) in areas with less than 10% of households living in poverty (see Table 1 and Figure 14 for monthly trend).

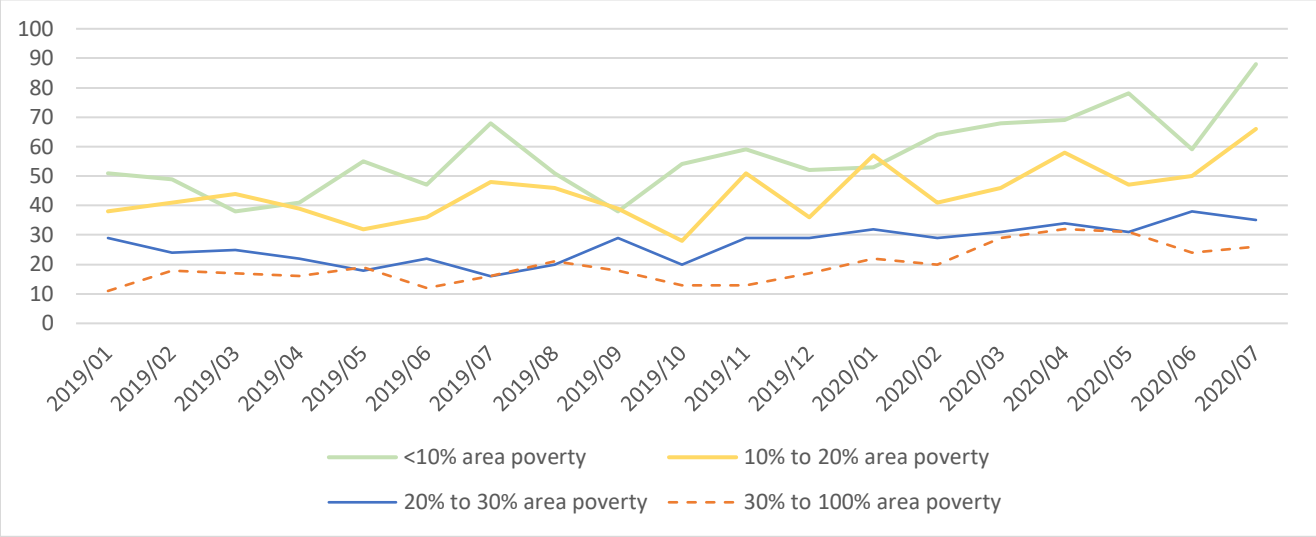
As shown in Figure 15 below, while higher rates of area poverty were associated with higher accidental drug overdose death rates per 100,000 population. The impact of this trend was greater during the pandemic period, and the opposite association was found for overall drug overdose death numbers. In other words, lower rates of area poverty were associated with higher numbers of total drug overdose deaths. This may be due to potential interactions among race/ethnicity, poverty areas, and the lethality of drug types used, health disparities that may have led to greater access to prescription opioids in more affluent areas and subsequent increases in use of counterfeit pills once prescription opioids could no longer be obtained, in addition to higher densities of Blacks/African Americans and Latinx – who as highlighted above have experienced higher accidental drug overdose death rates during the pandemic – in higher poverty areas.

Figure 14. Accidental Drug Overdose Death Rate by Area Poverty (per 100K household), Jan 2019 - July 2020



Note: ** The majority of monthly death counts used to calculate crude rates were 20 or less and statistically unstable. Rate should be interpreted with caution.*

Figure 15. Number of Accidental Drug Overdose Death by Area Poverty, Jan 2019 - July 2020



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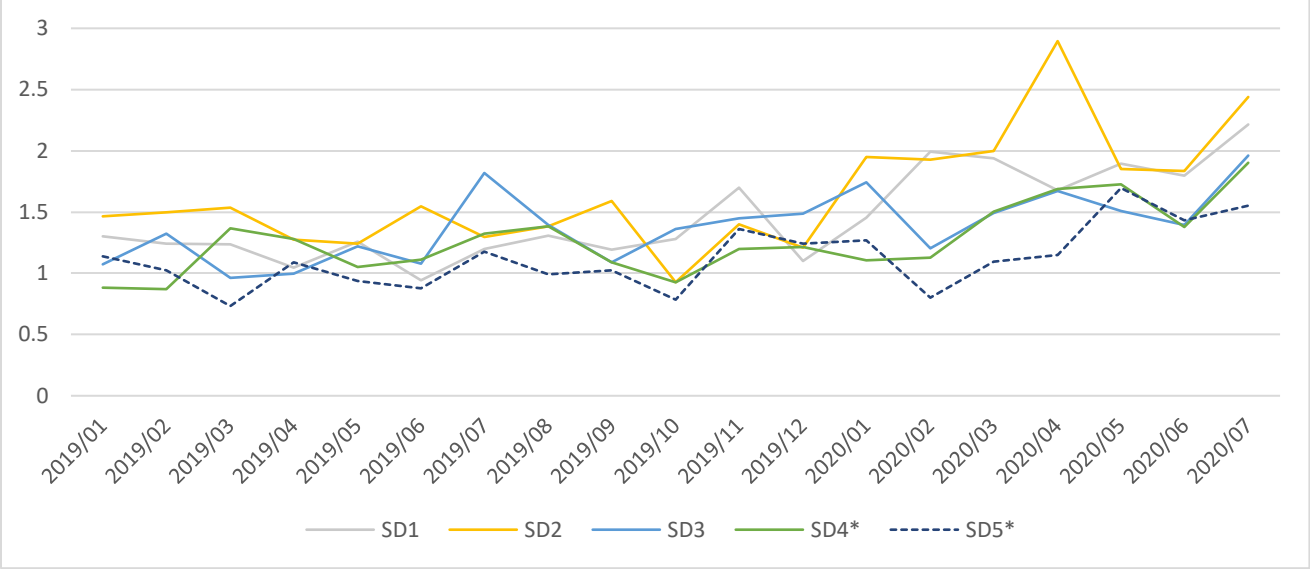
6. Supervisorial District (SD)

During the first five months of the pandemic, the accidental drug overdose death rates per 100,000 population in SDs were as follows (from highest to lowest): SD 2 (11.0), SD 1 (9.5), SD 4 (8.2), SD 3 (8.0), and SD 5 (6.9). Notably, accidental drug overdose death rates in SD 2 peaked in April 2020, dropped significantly in both May and June, and increased in July 2020 (see Table 1 and Figure 16 for monthly trend).

Compared to the same period in 2019, accidental drug overdose death rates per 100,000 population increased by 67.6% (from 5.7 to 9.5) in SD 1, 59.8% (from 6.9 to 11.0) in SD 2, 43.9% (from 4.8 to 6.9) in SD 5, 33.4% (from 6.1 to 8.2) in SD 4, and 32% (from 6.1 to 8.0) in SD 3.

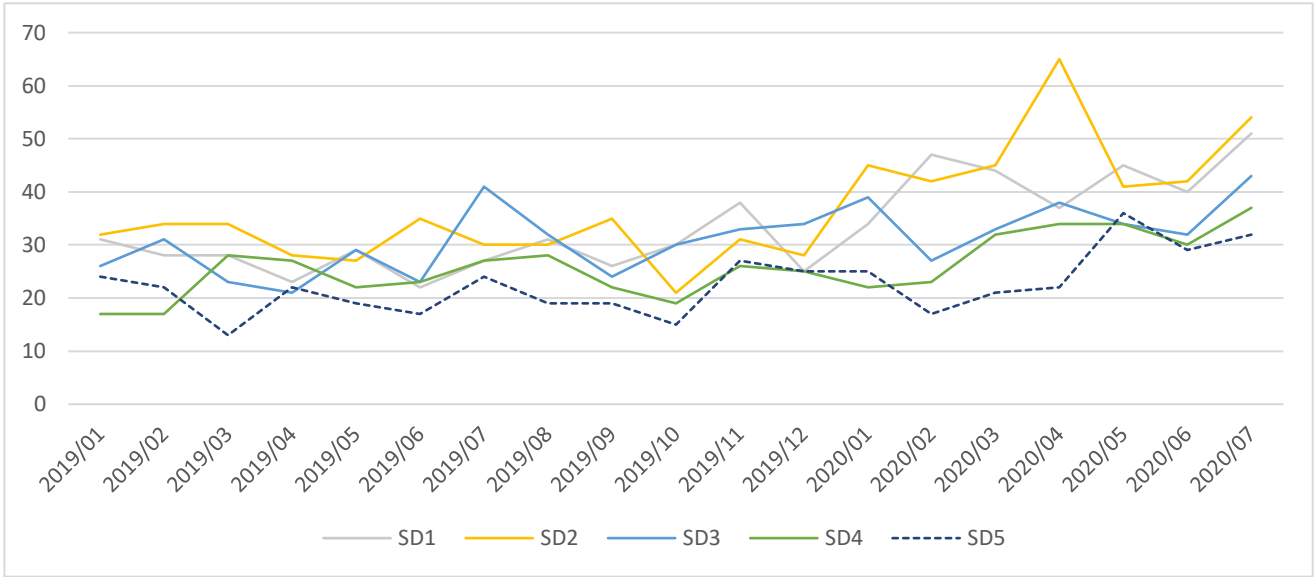
Total accidental drug overdose death numbers followed the same trend as the death rates by SD (see Figure 17).

Figure 16. Age-Adjusted Accidental Drug Overdose Death Rate (per 100K population) by Supervisorial District, Jan 2019 - July 2020



Note: **Some of the monthly death counts used to calculate age-adjusted rates were 20 or less and statistically unstable. Rate should be interpreted with caution.*

Figure 17. Number of Accidental Drug Deaths by Supervisorial District, Jan 2019 - July 2020

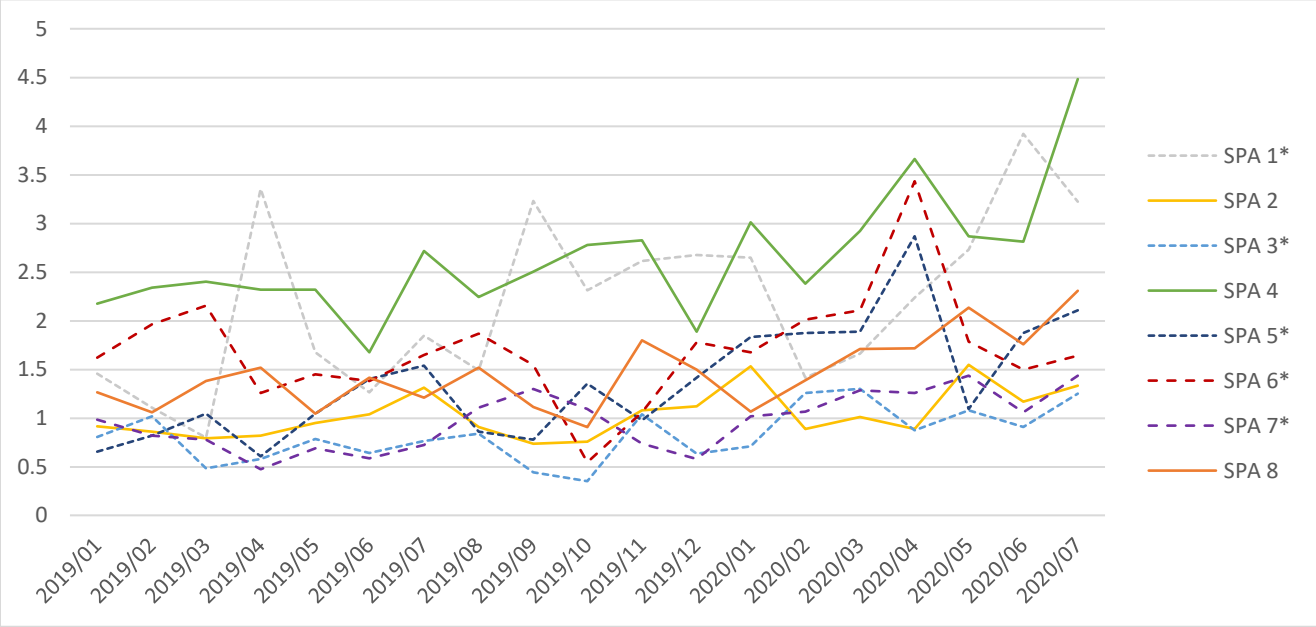


7. Service Planning Area (SPA)

During the first five months of the pandemic, the accidental drug overdose death rates per 100,000 population in SPAs were as follows (from highest to lowest): SPA 4 (16.7), SPA 1 (13.8), SPA 6 (10.5), SPA 5 (9.8), SPA 8 (9.6), SPA 7 (6.5), SPA 2 (5.9), and SPA 3 (5.4) (see Table 1 and Figure 18 for monthly trend).

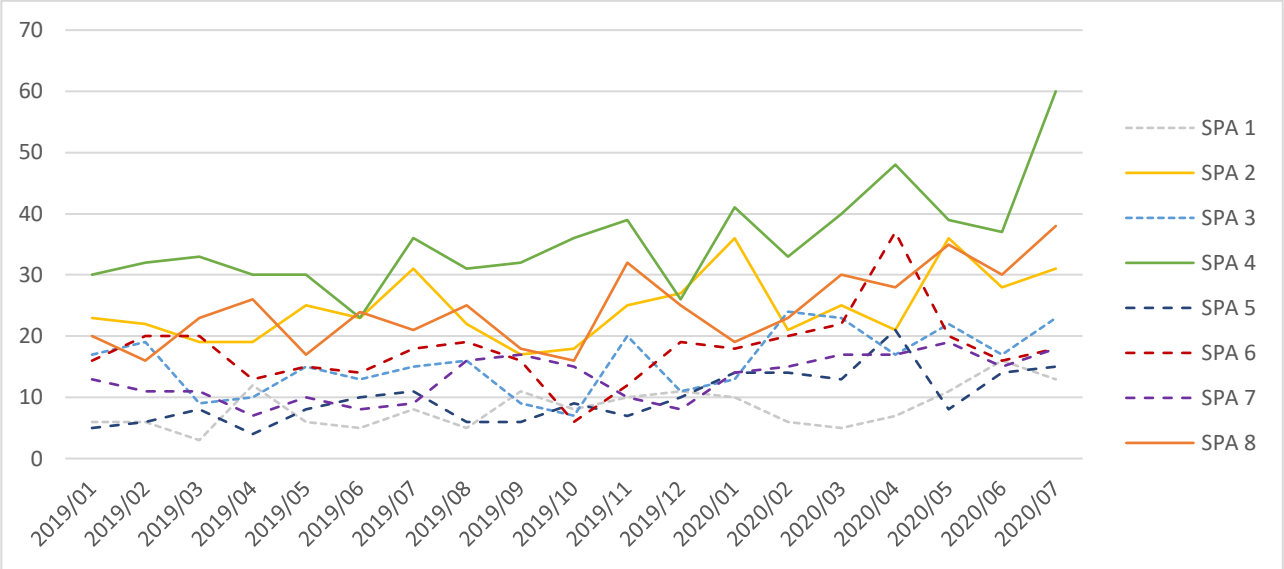
Compared to the same time period in 2019, the SPA's with the highest increase in accidental drug overdose death rates per 100,000 population were: SPA 7 (98.7%), SPA 5 (74.2%), SPA 3 (66.3%), SPA 1 (54.1%), SPA 8 (46.6%), SPA 4 (46.5%), SPA 6 (32.5%), and SPA 2 (21.0%).

Figure 18. Age-Adjusted Accidental Drug Overdose Death Rate (per 100K population) by SPA, Jan 2019 - July 2020



***Note**: *The majority of monthly death counts used to calculate age-adjusted rates were 20 or less and statistically unstable. Rate should be interpreted with caution.*

Figure 19. Number of Accidental Drug Overdose Deaths by SPA, Jan 2019 - July 2020

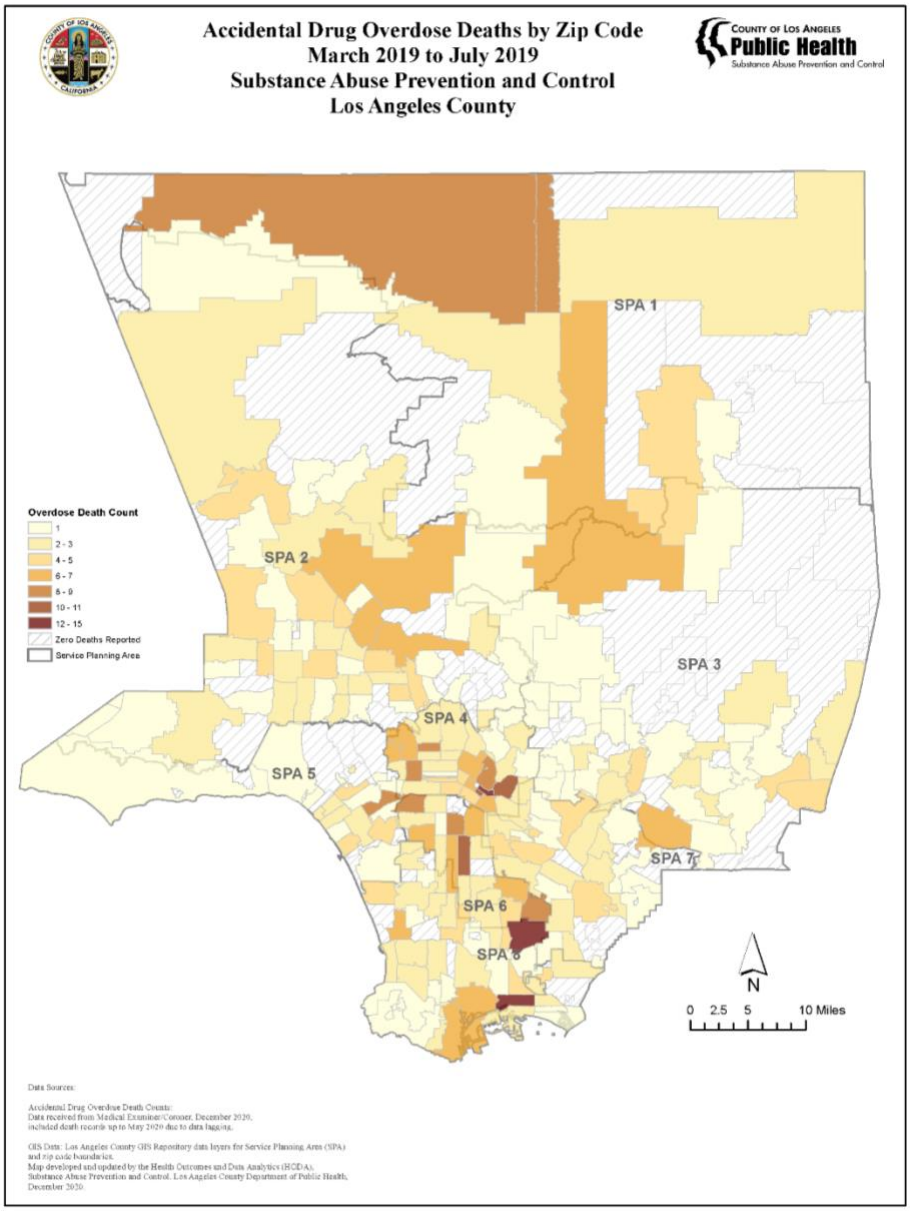


8. Accidental Drug Overdose Deaths by Zip Code

To supplement the analysis of COVID-19 impact on accidental drug overdose deaths by SD and SPA, drug overdose death data by zip codes were also analyzed, using residential addresses or death/event locations to examine concentrations of drug overdose deaths throughout Los Angeles County.

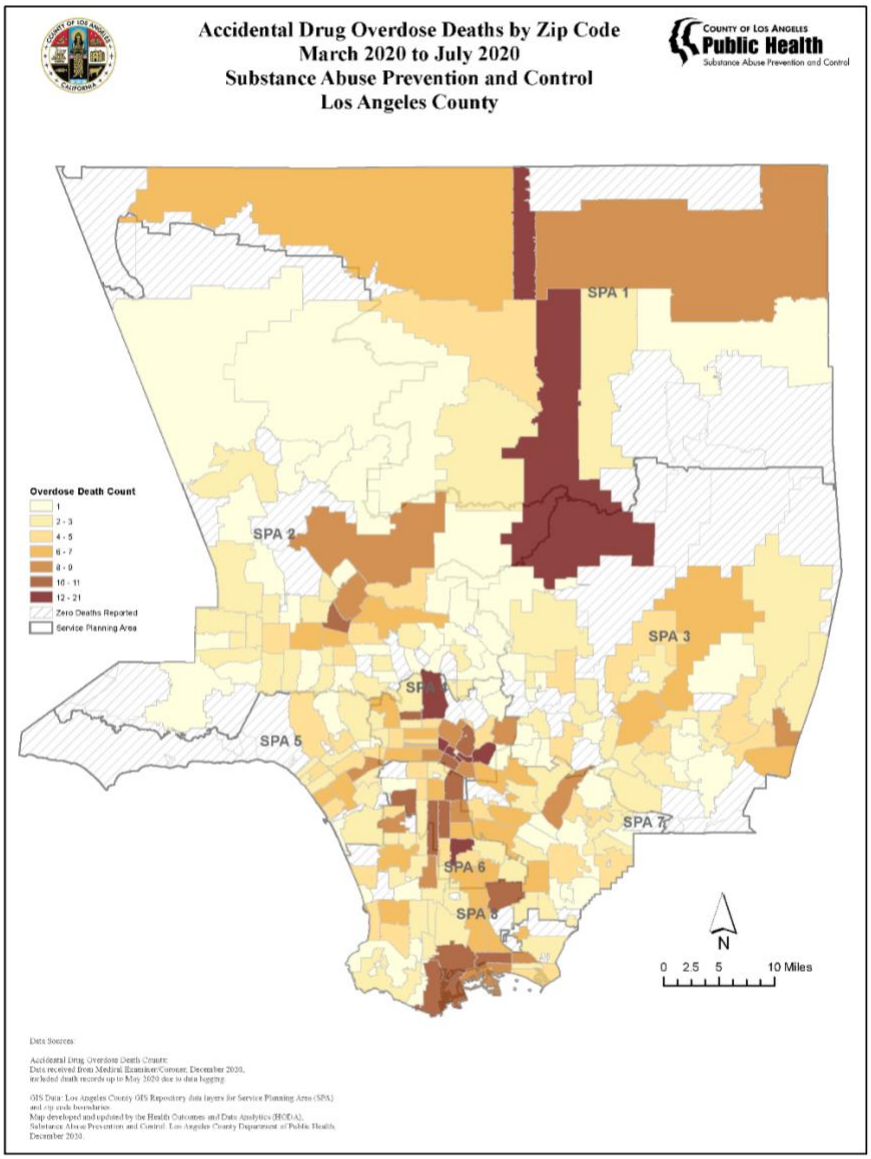
Findings generally demonstrated higher densities of drug overdose deaths and increased numbers during the pandemic period compared to the same period in 2019 (as represented by darker colors) in the Long Beach area, downtown and East Los Angeles, and along the northern and southern boundaries of North County.

Figure 20a. Accidental Drug Overdose Deaths by Zip Code, March to July (2019 vs. 2020)



Prior to Pandemic (March to July 2019)

Figure 20b. Accidental Drug Overdose Deaths by Zip Code, March to July (2019 vs. 2020)



During Pandemic (March to July 2020)

***Note**: Zip codes were based on residential address; if residential address was missing, death location or event address (about 10%) was used. Los Angeles County GIS Repository data layers for Service Planning Area (SPA) and zip code boundaries were used. Maps developed by the Department of Public Health's Division of Substance Abuse Prevention and Control, Health Outcomes and Data Analytics (HODA) Unit.*

Conclusion

Findings from this data report indicate that there has been a slight but steady increase in accidental drug overdose deaths in Los Angeles County over the past 10 years, with notable increases since 2018 largely due to increases in methamphetamine- and fentanyl-related deaths. This escalation in overdose deaths in 2018 exhibited a sharp surge starting in March 2020 and continued into the end of the evaluation period of this data report in July 2020. This finding suggests a clear association between an acceleration in rising drug overdose deaths and the start of the pandemic.

During the pandemic period the vast majority (78%) of drug overdose deaths involved males in 2020, though overdose death rates among females increased to a greater degree from 2019 to 2020 when compared with males. The data report also revealed that middle-aged (aged 25-34) and older individuals (aged 45-64) had the highest accidental drug overdose death rate and total raw numbers of deaths, respectively.

In terms of drug-related deaths among racial and ethnic groups during the first five months of the pandemic, COVID-19 appeared to contribute to greater drug overdose deaths among minority groups, particularly Blacks/African Americans and Asians. The highest accidental drug overdose death rate per 100,000 population was among Blacks/African Americans, although the total number of accidental drug overdose deaths was highest among Whites. The two populations with the highest respective increases in drug overdose death rate during the pandemic were Asians and Blacks/African Americans.

Methamphetamine and fentanyl are the first and second most common drug types involved in accidental drug overdose deaths in Los Angeles County. While methamphetamine contributed to more deaths in total and also had the highest accidental drug overdose death rate per 100,000 population, fentanyl-related deaths increased by 117% during the first five months of the pandemic compared to the 70% increase in methamphetamine-related deaths.

Findings also demonstrated that accidental drug overdose death rates were higher in areas with higher percentages of poverty, though the largest number of accidental drug overdose deaths occurred in areas with lower levels of poverty.

Mapping of drug overdose deaths indicated higher densities of drug overdose deaths in the Long Beach area, downtown and East Los Angeles, and along the northern and southern boundaries of North County, most notably impacting the corresponding Supervisorial Districts (2 and 4) and Service Planning Areas (1 and 4).

In summary, the findings of this data report indicate that COVID-19 has contributed to more drug overdose deaths in Los Angeles County than would otherwise be anticipated in the absence of the pandemic. The implications of the data also suggest that the greatest positive impact would likely result from interventions that target methamphetamine and fentanyl use, particularly among males, middle-aged and older adults, and Blacks/African Americans. Whether due to social disconnection and/or additional stressors related to the pandemic, it will be increasingly important to ensure that residents of Los Angeles County continue to have access to recovery-oriented treatment services to mitigate the direct and indirect human toll of COVID-19.