



Change in Deceased Donor Demographics with Drug Intoxication Deaths: 2010 - 2019

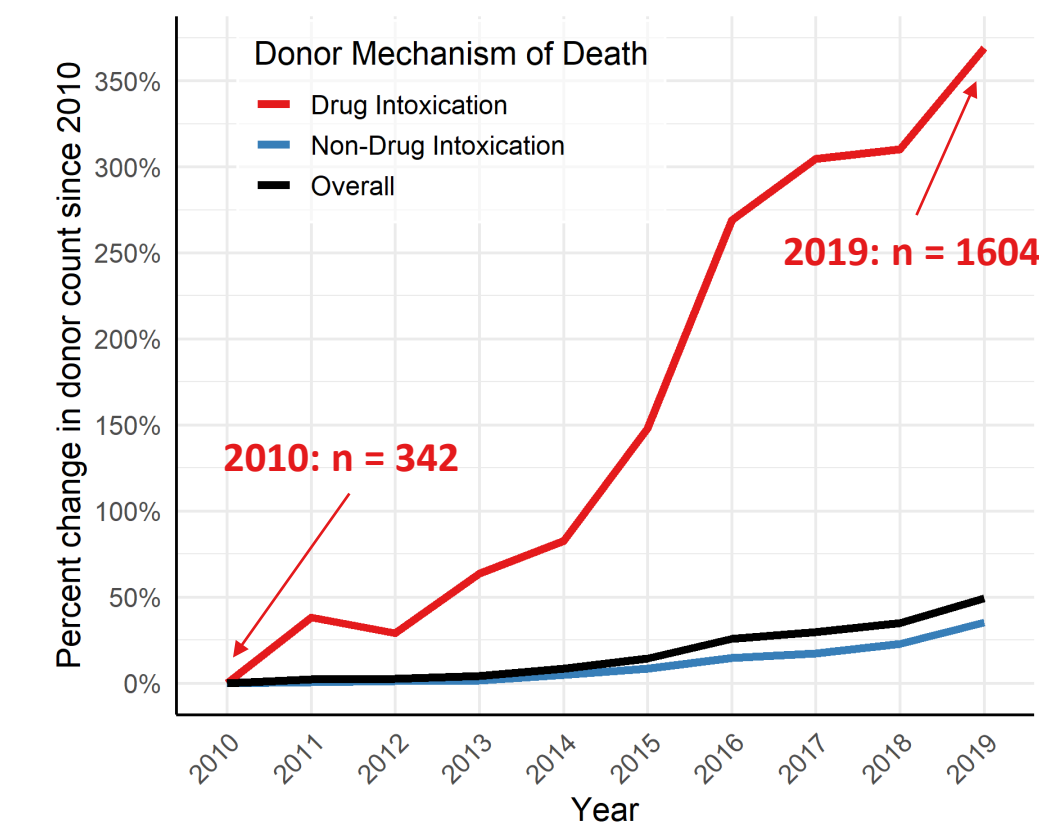
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Introduction

- The number of deceased donors with Drug Intoxication as the Mechanism of Death reported to the OPTN has grown dramatically from less than 400 in 2010 to greater than 1600 in 2019, an increase of over 350%
- The demographic changes in deceased donors with drug intoxication have not been studied extensively
- Of particular concern is the change in demographics related to vulnerable populations
 - Young and old individuals
 - Race/ethnicity minority individuals
 - Low-income and lower socioeconomic status individuals
 - Individuals in rural areas

Percent Change in Drug Intoxication Deaths

Change in donor counts since 2010

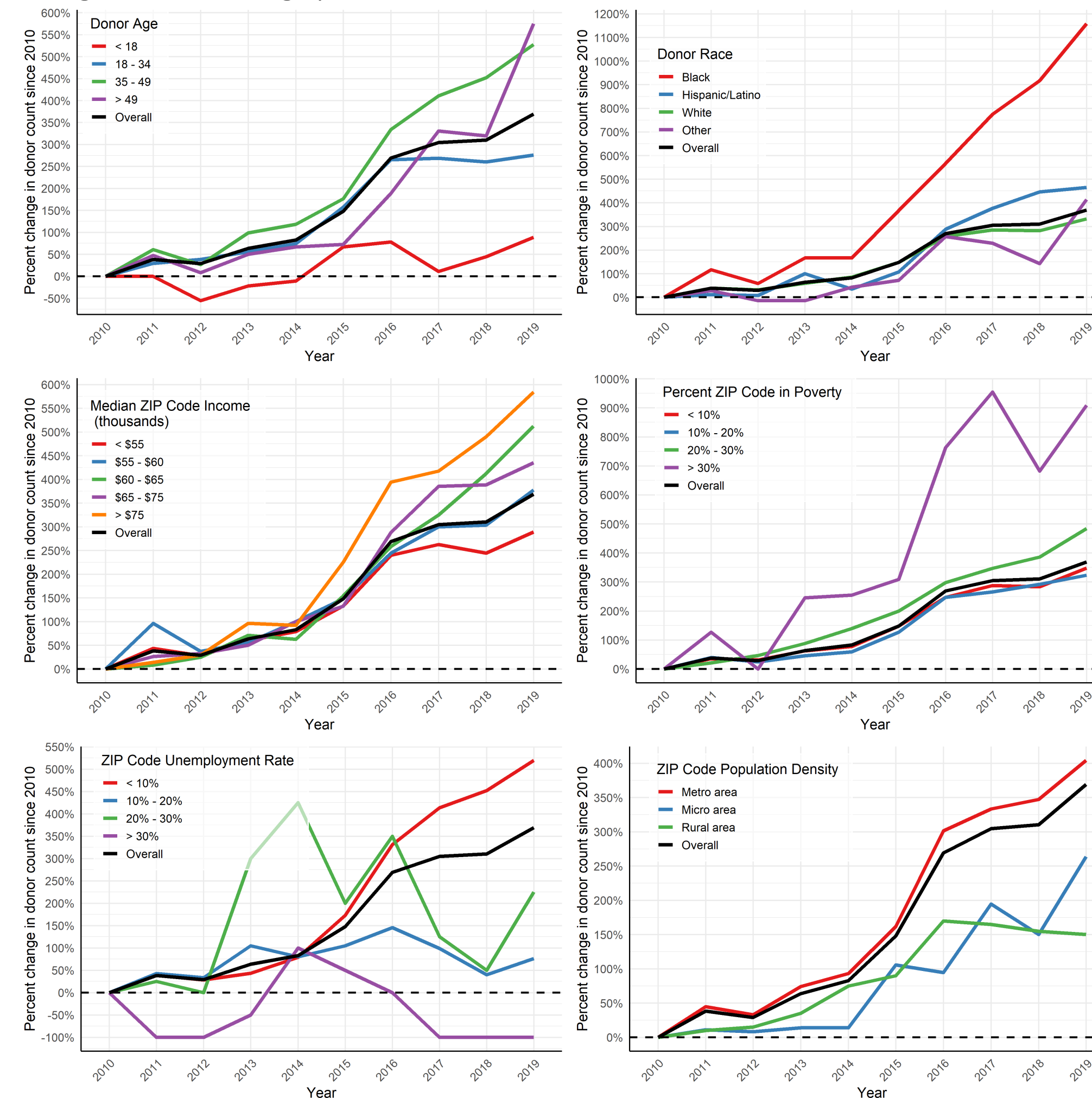


Methods

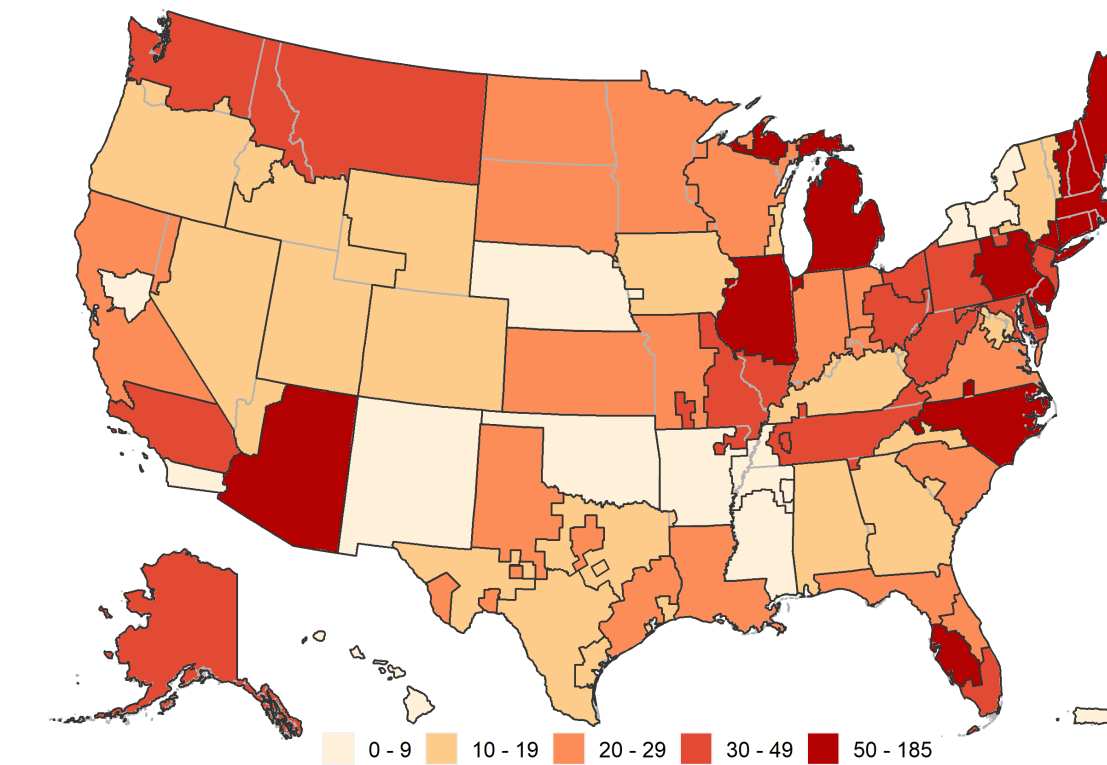
- Donor-level demographic information as well as information related to each donor's home ZIP code was gathered and analyzed to find trends over time
- Donor information includes:
 - Donor age
 - Donor race/ethnicity
 - DSA/OPO
 - Income (median; ZIP code)
 - Poverty (percent; ZIP code)
 - Unemployment rate (percent; ZIP code)
 - Population density (Metro/micro/rural area)
- The OPTN donor-level data were compiled by the SRTR, current as of October 3rd, 2020:
 - Mechanism of death
 - Donor status (organ recovered/not recovered)
 - Donor age
 - Donor race/ethnicity
 - Donor home ZIP code
- ZIP code level data were collected from the US Census ACS 5-Year Estimates Detailed Tables:
 - Median Income
 - Percent in Poverty
 - Unemployment Rate
- ZIP code level population density was collected from the Rural-Urban Commuting Area codes, tabulated by the ERS at the USDA using 2010 US Census population counts
- Donors were matched by ZIP code to the US Census and USDA data; donors missing a valid ZIP code were excluded → ZIP codes present for 97%-98% of donors
- Marginal change in demographic distributions since 2010 were plotted for each variable
- Changes among variable interactions between 2010 and 2019 were explored and summarized

Percent Change in Donor Demographic Among Drug Intoxication Deaths

Change in donor demographics since 2010



Number of Drug Intoxication Deaths by DSA - 2019



Results

- Donors with drug intoxication increased across all age groups regardless of race/ethnicity:
 - Black donors increased from 12 in 2010 to 151 by 2019 → over 1100% increase
 - Hispanic/Latino donors increased from 26 in 2010 to 147 by 2019 → over 450% increase
 - White and 35-49: increased over 500%
 - Other races increased from 7 in 2010 to 36 in 2019
- The increase in drug intoxication deaths among donors is largely occurring in:
 - Metro areas
 - Areas with low unemployment rates
 - All poverty rate levels
 - All median income levels
- Within non-metro areas, increases are seen largely in areas with low unemployment, at all poverty rate levels, and median incomes up to \$75k
- Combining donor demographics with ZIP code characteristics, donor counts increased dramatically in metro areas, especially areas with low or moderate unemployment regardless of race/ethnicity

Conclusions

- Marginally, the number of donors increased across all age groups, race/ethnicities, median ZIP code income, ZIP code poverty level, and ZIP code population density
 - Donors counts from ZIP codes with high unemployment decreased from 2010 to 2019, a trend seen with all deceased donors
- Despite a large relative change in donors from ZIP codes with high poverty of 900%, the absolute increase was 100 donors
- In 2010, the largest count of donors with drug intoxication at the OPO level was 20; as of 2019, the count ranged up to 185
- Donors who have died from drug intoxication over the previous decade increased, many of them from vulnerable populations

References

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