Description of Homeless Deaths Investigated by the King County Medical Examiner Office (MEO), 2012-2017

Public Health
Seattle & King County

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Introduction

The King County Medical Examiner's Office (MEO) is part of the Prevention Division of Public Health – Seattle & King County. The investigation and study of deaths occurring among homeless individuals falls under the public health mission to eliminate health inequities and it reflects a public health priority to produce and disseminate data that informs community planning.

The purpose of this analysis is to summarize information about deaths among persons presumed to be homeless that occurred between 2012-2017 and were investigated by the MEO. It is important to note that this report does not describe all deaths among homeless persons, and the findings among presumed homeless MEO cases may not apply to deaths among homeless persons who did not become cases for the MEO.

The MEO homeless death data are used to:
- Monitor causes of death and trends over time
- Provide information that can help enhance strategies to reduce the number of preventable and premature deaths occurring among individuals experiencing homelessness in King County (e.g. identify geographic areas with higher numbers of deaths for outreach and engagement)

Methods

Ascertaining Housing Status of King County Decedents

- State Vital Statistics (e.g. death certificates) data do not capture the <u>housing status</u> of decedents.

- MEO captures information about housing status that can be queried to help understand the circumstance and cause of death in the King County homeless population.

- However, MEO only investigates a unique subset of deaths that occur in King County.
  - Approximately 18% of all King County deaths are investigated by MEO.
  - The percentage may be greater for homeless decedents, but cannot be precisely measured.
  - Deaths investigated by MEO are <u>not representative</u> of all KC deaths.

Medical Examiner Office (MEO) Data

The following criteria, defined by state statute*, determine which cases fall under the jurisdiction of the MEO. They include:

1. Persons who die suddenly when in apparent good health and without medical attendance within 36 hours preceding death.
2. Unnatural or unlawful means (including alcohol &other substances).
3. Suspicious circumstances.
4. Unknown or obscure causes.
5. Violent deaths.
6. Contagious disease.
7. Unclaimed bodies.
8. Premature and stillborn infants.

Implication:
If a homeless decedent had a healthcare provider with sufficient knowledge of their <u>natural</u> disease status to certify the cause death, the death would <u>not</u> be investigated by the MEO.

MEO Approach to Ascertaining Homelessness

- Homelessness is determined from information inferred from place and circumstance of death AND/OR testimony from witnesses or next of kin.

- MEO defines "presumed homeless persons" as individuals without permanent housing who lived on the streets or stayed in a shelter, vehicle, or abandoned building at the time immediately preceding death.
  - Decedents who were living in supportive housing, transitional housing, motel/hotel, or a doubled-up situation would not meet the MEO homeless definition.

Primary Data Source: MEO data, 2012 - 2017

- To illustrate how homeless decedents investigated by MEO differ from all decedents investigated by MEO vs. all King County decedents, we also describe vital statistics* data for 2016 (the most recent year data is available).

Analysis

- We report descriptive statistics (e.g. counts and percentages).
- We used the Cochran-Armitage Test* for Trend to evaluate trends over time.

***Citation:** Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990–2016, Community Health Assessment Tool (CHAT), October 2017.
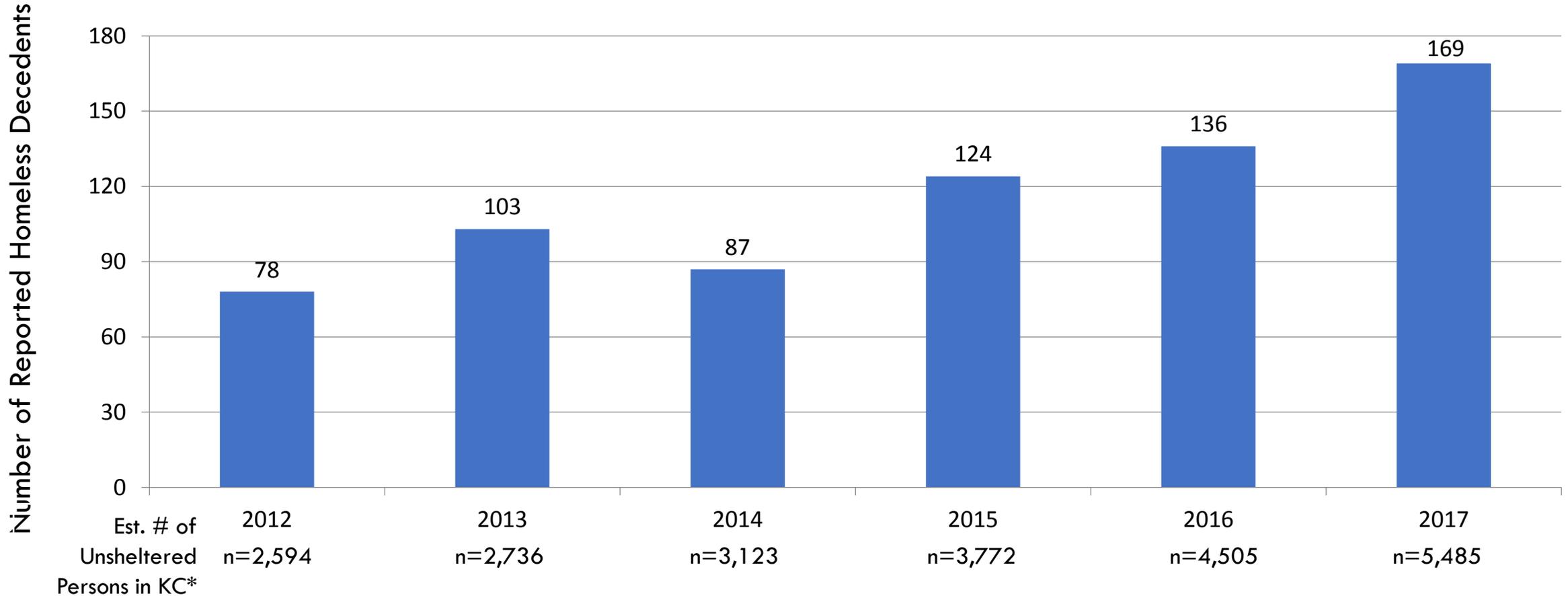
Results

Number of Presumed Homeless Deaths Investigated by KC- MEO between 2012 -2017

Total N=697

Est. # of Unsheltered Persons in KC*	2012 n=2,594	2013 n=2,736	2014 n=3,123	2015 n=3,772	2016 n=4,505	2017 n=5,485
Number of Reported Homeless Decedents	78	103	87	124	136	169

SUMMARY: The absolute number of homeless decedents investigated by MEO has increased from 2014-2017, in parallel with an increase in the estimated number of unsheltered persons in King County.*

* http://allhomekc.org/king-county-point-in-time-pit-count/#reports; http://www.homelessinfo.org/
Note: Methods for One Night Count change each year.

Demographic Characteristics of Presumed Homeless Decedents Investigated by MEO Compared with All MEO Cases and All King County Deaths, 2016

	Deaths Investigated by MEO		All King County Deaths
	Homeless decedents (n=136)	All MEO Cases (n=2399)	Death Certificate Data (n=12,970)
Age			
<15	0%	2%	1%
15-24	1%	5%	1%
25-44	35%	20%	5%
45-64	51%	33%	18%
65+	13%	40%	75%
Male	**81%**	**67%**	**51%**
Race and Hispanic ethnicity			
White, non-Hispanic	72%	78%	79%
Black, non-Hispanic	14%	10%	6%
Native American, non-Hispanic	8%	2%	1%
Asian, non-Hispanic	2%	6%	9%
Hispanic	3%	2%	3%

SUMMARY: Compared to all cases investigated by the MEO and decedents in the general population, homeless decedents were younger and disproportionately comprised of men and racial/ethnic minorities. The demographic characteristics of homeless decedents remained stable over time (not shown).

Primary Cause of Death Among Presumed Homeless Decedents Investigated by MEO, 2012-2017
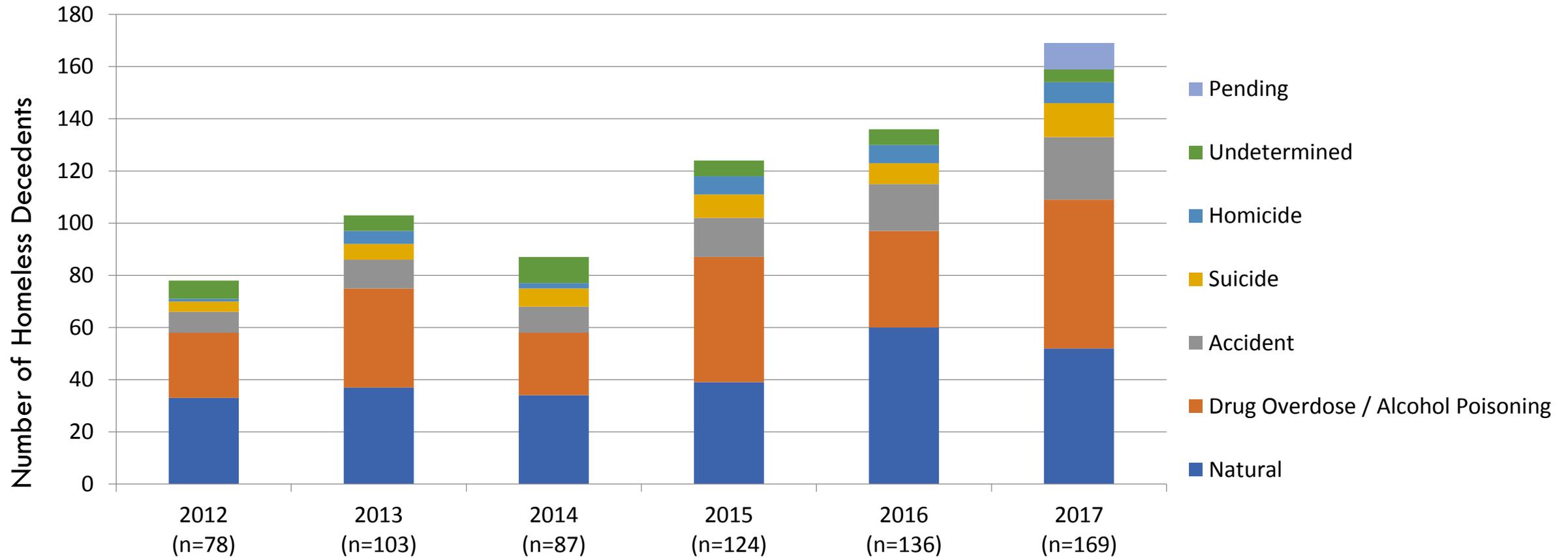
SUMMARY: Of homeless decedents investigated by the MEO in 2012-17:
- The distribution of causes of death was similar across years.
- 37% of deaths were attributed to natural causes and 30% of deaths were attributed to drug overdose.
  - These percentages have <u>not</u> significantly changed over time.
- 29 (4%) were at least partially attributed to hypothermia and/or cold exposure.

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Primary Cause of Death among Presumed Homeless and Housed Decedents Investigated by MEO, 2012-2017, Stratified by Age and Housing Status
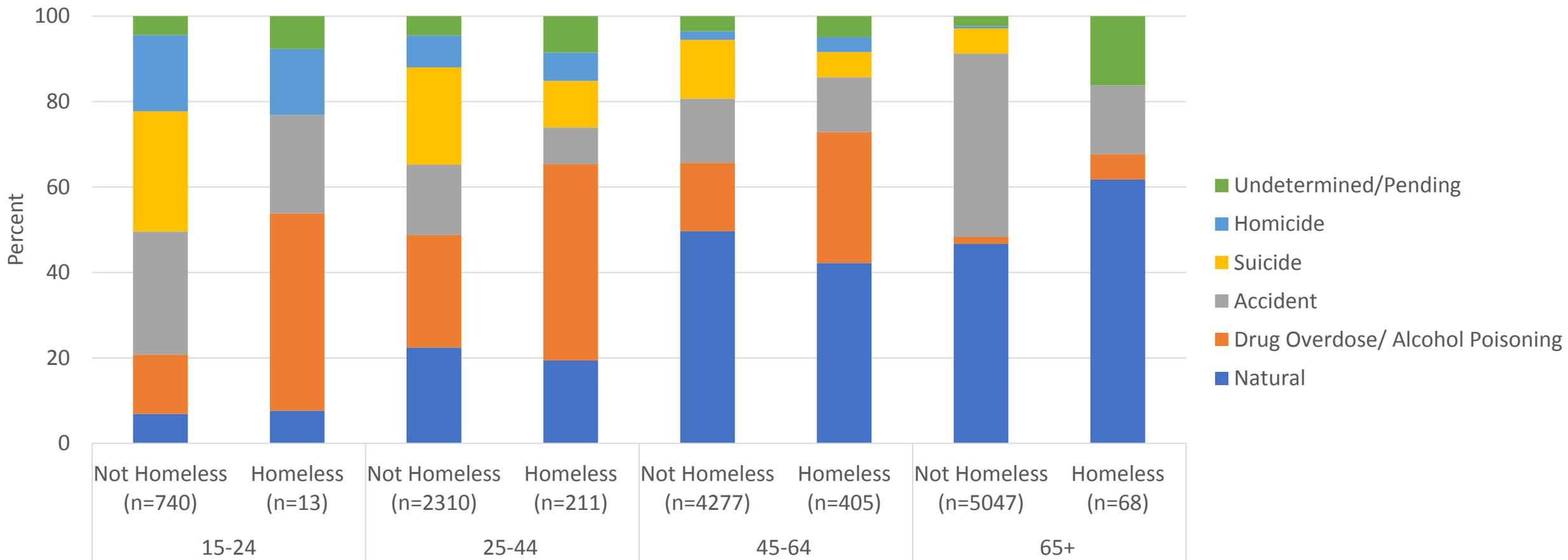
SUMMARY: The percent of deaths attributed to natural causes increased with increasing age.
Across all age groups, the percent of deaths attributed to drug overdose was significantly (p<.05) greater among homeless decedents than housed decedents.

Percent of Drug-Caused Deaths Attributed to Specific Drug Types Among Presumed Homeless Decedents Investigated by MEO, Stratified by Year, 2012-2017
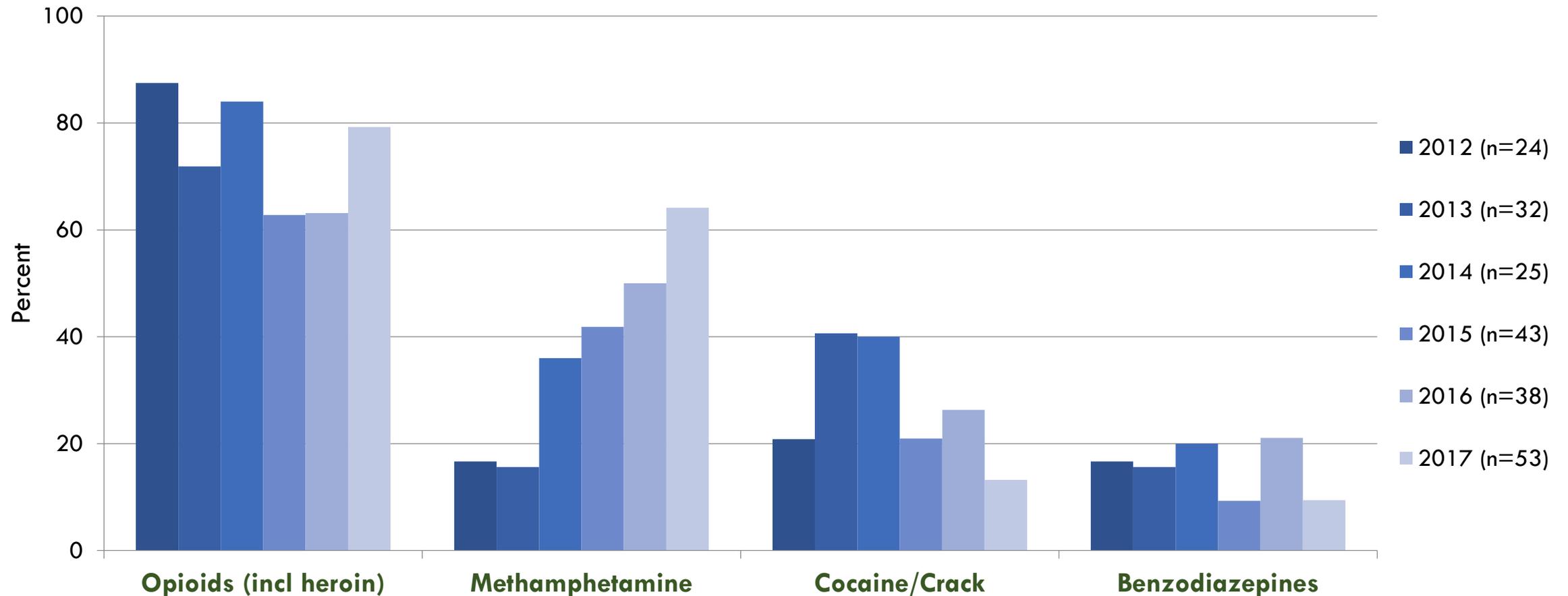
SUMMARY: Opioids remain the leading category of drug-caused deaths among homeless decedents in King County; however, the percentage of drug-caused deaths involving methamphetamine has increased significantly since 2013 (p<.0001).

Location of Deaths Among Presumed Homeless Individuals Investigated by MEO, 2012-2017

Indoor Public Spaces, 2%

Encampments/ Abandoned Sites, 4%

Correctional Settings, 1%

Shelter/Social Svc Agency, 5%

Hotel/Motel, 7%

Park/Natural Areas/"Outdoors" unspecified, 34%

Outdoor Urban location, 10%

Vehicle/Garage, 10%

Healthcare Facilities, 16%
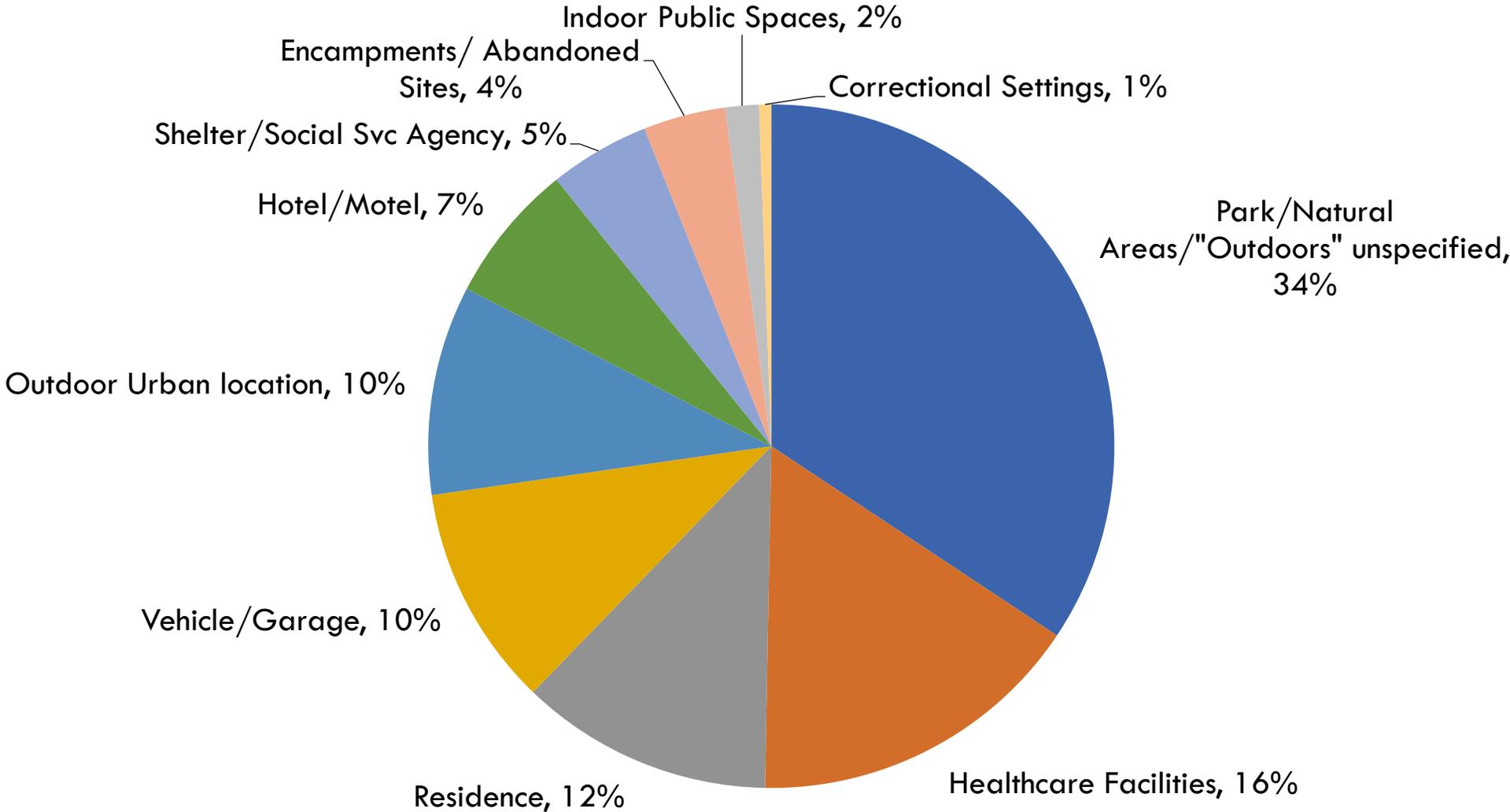
Residence, 12%

SUMMARY: The majority of deaths (72%) occurred outside of health care facilities and residences, and approximately half occurred outdoors.

Geographic Distribution of Presumed Homeless Deaths Investigated by MEO, 2012-2017

Number of Homeless Deaths
- 0 - 8
- 9 - 19
- 20 - 32
- 33 - 65
- 66 - 176
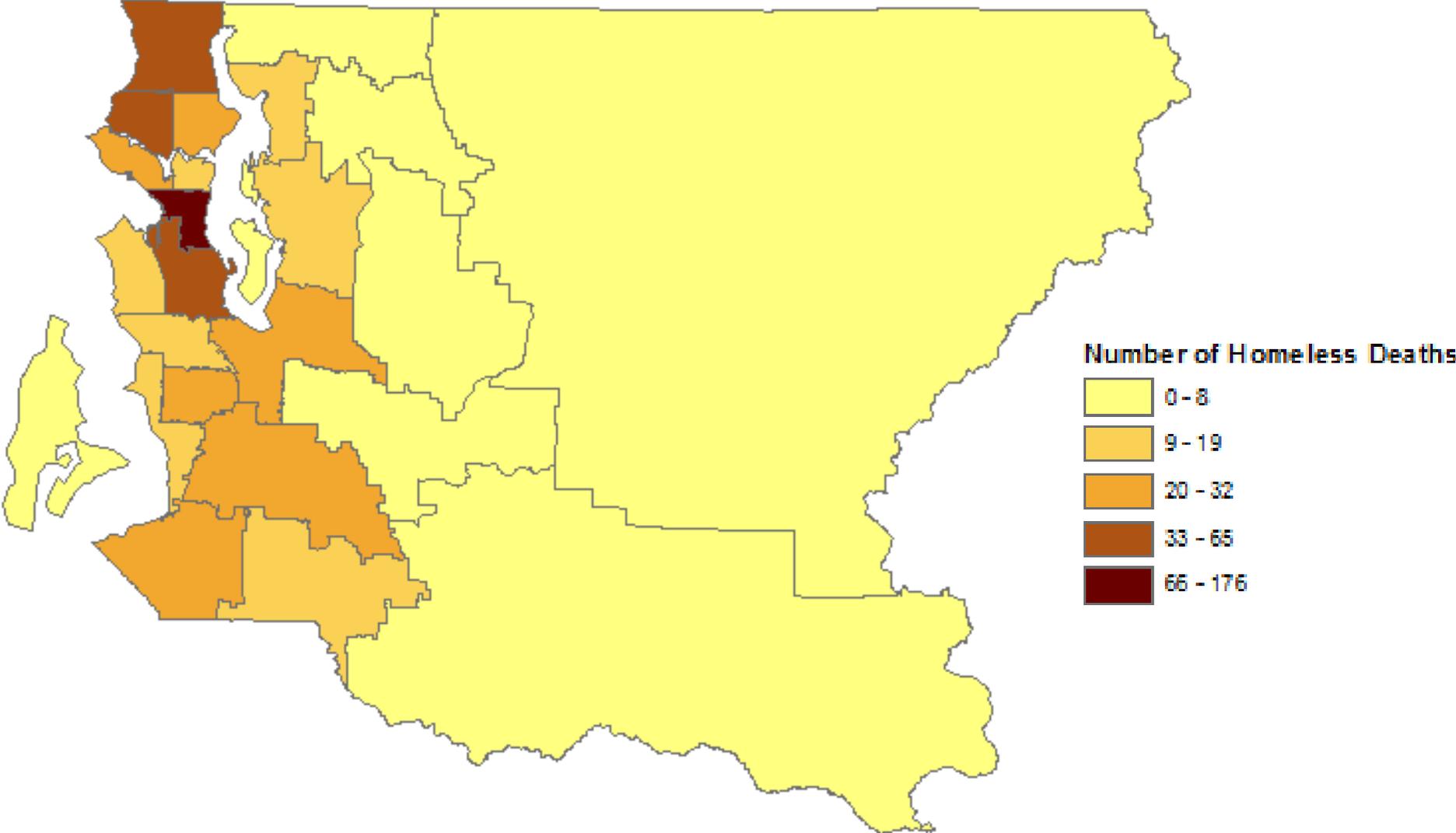
SUMMARY: Among homeless deaths investigated by MEO in 2012-17, 27% occurred in Downtown/Central Seattle, 10% in Beacon Hill/Southeast Seattle, and 10% in North Seattle/Shoreline.

Discussion

Key Findings

1. The absolute number of homeless decedents investigated by MEO has increased from 2014-2017, concordant with increases in the overall number of individuals experiencing homelessness in King County.

2. Of homeless decedents investigated by the MEO in 2016, the proportion that was Black or Native American, young or middle-aged, and male was considerably greater than that observed among all KC decedents in 2016.

3. 30% of homeless deaths investigated by MEO were attributed to drug overdose.

   - Across all age groups, the percent of deaths attributed to drug overdose was significantly (p<.05) greater among homeless decedents than housed decedents.

   - Opioids are involved in the majority of overdose deaths in King County, including those that occur among the homeless.

   - The percent of overdose deaths involving methamphetamine has increased significantly in recent years, especially among the homeless.

4. 72% of homeless deaths investigated by MEO occurred outside of residences and healthcare facilities; approximately half occurred outdoors.

5. The greatest number of homeless deaths investigated by MEO occurred   in central Seattle.

Discussion

This report provides insight into the causes and circumstances of deaths among a subset of King County's most vulnerable individuals experiencing homelessness. Strategies to <u>reduce mortality</u> in the King County homeless population include:

- Enhancement of Public Health partnerships with housing and shelter providers.
  - This includes supporting our Department of Community and Human Services (DCHS) and All Home/Coordinated Entry for All efforts to continue to integrate health services into their Continuum of Care.
- Expansion of low barrier primary care and chronic disease management services that address prevention and management of premature health problems of an aging homeless population.
- Integration of low barrier behavioral health interventions into street-, shelter-, and housing-based outreach and medical services.
  - Examples include mobile medical vans and interdisciplinary outreach teams.
- Expansion of overdose prevention intervention and drug treatment programs within the homeless community.

The design and implementation of such interventions should align with King County's Equity and Social Justice Strategic Plan and the Community Needs Assessment of Public Health – Seattle and King County's Health Care for the Homeless Network.

Limitations

Data Source

- Since housing status is not captured in vital statistics data, we analyzed MEO data for this report.
- Deaths investigated by the MEO are not representative of all KC deaths, and deaths investigated by MEO among homeless persons are not representative of deaths among all homeless persons (see below).
  - Deaths involving drugs, violence, and injury are over-represented, while deaths attributed to natural causes are under-represented.
- The proportion of all homeless deaths investigated by the MEO is unknown.

Ascertainment of homelessness

- MEO employs a more narrow definition of homelessness than that used by other agencies that serve homeless residents of King County.
  - For example, decedents who were living in supportive housing, transitional housing, motel/hotel, or a doubled-up situation would not meet the MEO homeless definition.
- Given the limited information available to the MEO regarding housing status, assessment of housing status is *imperfect.*
  - Some decedents might have been erroneously excluded from analyses, and vice versa, some decedents may have been erroneously characterized as homeless.
- Ascertainment of homelessness could have varied over time, which could have influenced observed trends.

Recommendations for Future Assessments

Evaluators could consider the following strategies to improve the assessment of mortality among homeless residents of King County:

- Linkages among homeless service provider data, vital statistics data, and MEO data to generate more population-based estimates of mortality and cause of death, as well as to better understand the relationship between MEO and vital statistics data.

- Develop standardized criteria for the homeless definition utilized by MEO and conduct routine audits of MEO data.

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