

# Leveraging City Data to Understand the Opioid Epidemic in Philadelphia

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## Objective

To match fatal overdose information across city data sources to understand which systems overdose decedents may have interacted with prior to their death

## Introduction

Philadelphia is in the midst of a drug epidemic that killed 702 Philadelphians in 2015, 907 in 2016, and is on trajectory to kill 1,200 in 2017. Opioids are involved in the majority of fatal overdoses, contributing to 80% of overdose deaths in 2016. In 2016, the age-adjusted death rate for opioid-involved overdoses was 40.4 deaths per 100,000 residents, up from 17.9 deaths per 100,000 residents in 2010. Despite the epidemiologic work accomplished to date, gaps in knowledge still exist, especially for vulnerable populations such as those with serious mental illness or those who were ever incarcerated, homeless, or within the juvenile justice system. Matching individuals who died of an overdose across city systems could provide insight into missed opportunities for interventions. Findings will help inform policy for those systems that serve clients at highest risk for overdose.

## Methods

Individuals who succumbed to fatal overdoses involving opioids between January 1, 2012 and June 30, 2016 were matched to other city data systems going back to January 1, 2000. Descriptions of city systems that were matched to fatal overdose data is provided in Table 1. Frequencies were calculated to determine the number of individuals who received services or received services in the three years prior to death, as indicated by one of the city systems.

## Results

Between January 1, 2012 and June 30, 2016, 2,163 individuals died from an opioid-involved overdose. Overdose decedents were predominately male (69.1%), between the ages of 25-34 (28.0%), and white, non-Hispanic (63.5%). Heroin was the most common opioid detected in the system found in 67.1% of overdose decedents. In the years prior to death, 75.4% of individuals had received a service provided by a city agency and 61.6% had received a service within the three years immediately prior to death. Overdose decedents utilized the most services from Community Behavioral Health (CBH), a managed care organization providing behavioral health services for Philadelphia's Medicaid population, both ever (59.5%) and in the three years prior to death (46.2%). Many decedents were also incarcerated within the Department of Prisons with 50.4% ever incarcerated and 27.9% incarcerated in the three years prior to death (Table 2). Additionally, 20.9% and 17.5% of overdose decedents had a positive STD or hepatitis C test, respectively, ever reported to the Department of Public Health (Table 3).

## Conclusions

This match of overdose decedents to other city systems highlights missed opportunities to help individuals who struggle with opioid dependence. Historically, Philadelphia has taken a recovery oriented approach to drug use, which focuses on drug treatment, and these data suggest that this approach is not sufficient for preventing subsequent fatal overdose. A harm reduction approach, which seeks to reduce the

harms of drug use through interventions such as overdose reversal training and naloxone distribution, needle and syringe exchange, and education on safe injection practices, needs to be prioritized in this epidemic alongside recovery oriented practices.

Table 1: City Systems Matched to Fatal Overdoses

City System	Role	Description of Data
Behavioral Health Services Initiative	Assesses, refers, and fund treatment for persons uninsured and underinsured with substance abuse problems	Substance abuse treatment services
Community Behavioral Health	Managed care organization providing mental health and substance abuse services for Philadelphia	Substance abuse and mental health treatment services
Department of Human Services	Child welfare agency promoting child safety, permanent housing, and well-being for children and youth at risk of abuse neglect or delinquency	Juvenile Justice Services and Children and Youth Services
Forensic Intensive Recovery	Court assisted diversion program providing substance abuse treatment in lieu of incarceration	Diversion history
Office of Mental Health	Provides mental health services for adults and children requiring medical, social, and educational services	Mental health services
Office of Homeless Services	Collaborates with housing and service providers to provide emergency housing and services to people who are homeless or at risk of homelessness	Street outreach, shelter stays, Safe Havens, and Journey of Hope
Department of Prisons	Incarcerates individuals awaiting trial, sentencing, or transfer to state prisons, those serving shorter sentences, and those who violated parole or probation	Incarceration history
Department of Public Health	Protects and promotes health of Philadelphians	Hepatitis B, hepatitis C, syphilis, gonorrhea, or Chlamydia reported positive tests results

Table 2: Systems providing services in years prior to death (N=2,163)

	Ever		3 Years Prior to Death	
	N	%	N	%
Behavioral Health Services Initiative	849	39.3	476	22.0
Children and Youth Services	106	4.9	2	0.1
Community Behavioral Health	1287	59.5	1000	46.2
Forensic Intensive Recovery	543	25.1	279	12.9
Juvenile Justice Services	193	8.9	14	0.7
Office of Homeless Services	399	18.5	213	9.9
Office of Mental Health	1003	46.4	685	31.7
Department of Prisons	1091	50.4	604	27.9

Table 3: Infectious Disease Testing (N=2,163)

	N	%
STD (Syphilis, Gonorrhea, or Chlamydia)	452	20.9
Hepatitis C	378	17.5
Hepatitis B	25	1.2

## Keywords

opioid; overdose; heroin

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