

Emerging characteristics of drug overdose decedents during the COVID-19 pandemic: A statewide analysis leveraging linked databases

INHSU 2021

Alexandria Macmadu, MSc
PhD Candidate
People, Place & Health Collective
Department of Epidemiology
Brown University School of Public Health



people
place &
health
collective



BROWN
School of Public Health

Co-authors



Sivakumar Batthala, MBA

Executive Office of Health and Human Services, State of Rhode Island

Annice M. Correia Gabel, MA

Executive Office of Health and Human Services, State of Rhode Island

Marti Rosenberg, MA

Executive Office of Health and Human Services, State of Rhode Island

Rik Ganguly, MPH

Executive Office of Health and Human Services, State of Rhode Island

Jesse L. Yedinak, MPA

Dept. of Epidemiology, Brown University School of Public Health

Benjamin D. Hallowell, PhD

Center for Health Data and Analysis, Rhode Island Dept. of Health

Rachel P. Scagos, MPH

Center for Health Data and Analysis, Rhode Island Dept. of Health

Elizabeth A. Samuels, MD, MPH

Dept. of Emergency Medicine, Alpert Medical School of Brown University

Magdalena Cerdá, DrPH

Division of Epidemiology, Dept. of Population Health, Center for Opioid Epidemiology and Policy, School of Medicine, New York University

Kimberly Paull, MPH

Executive Office of Health and Human Services, State of Rhode Island

Brandon D.L. Marshall, PhD

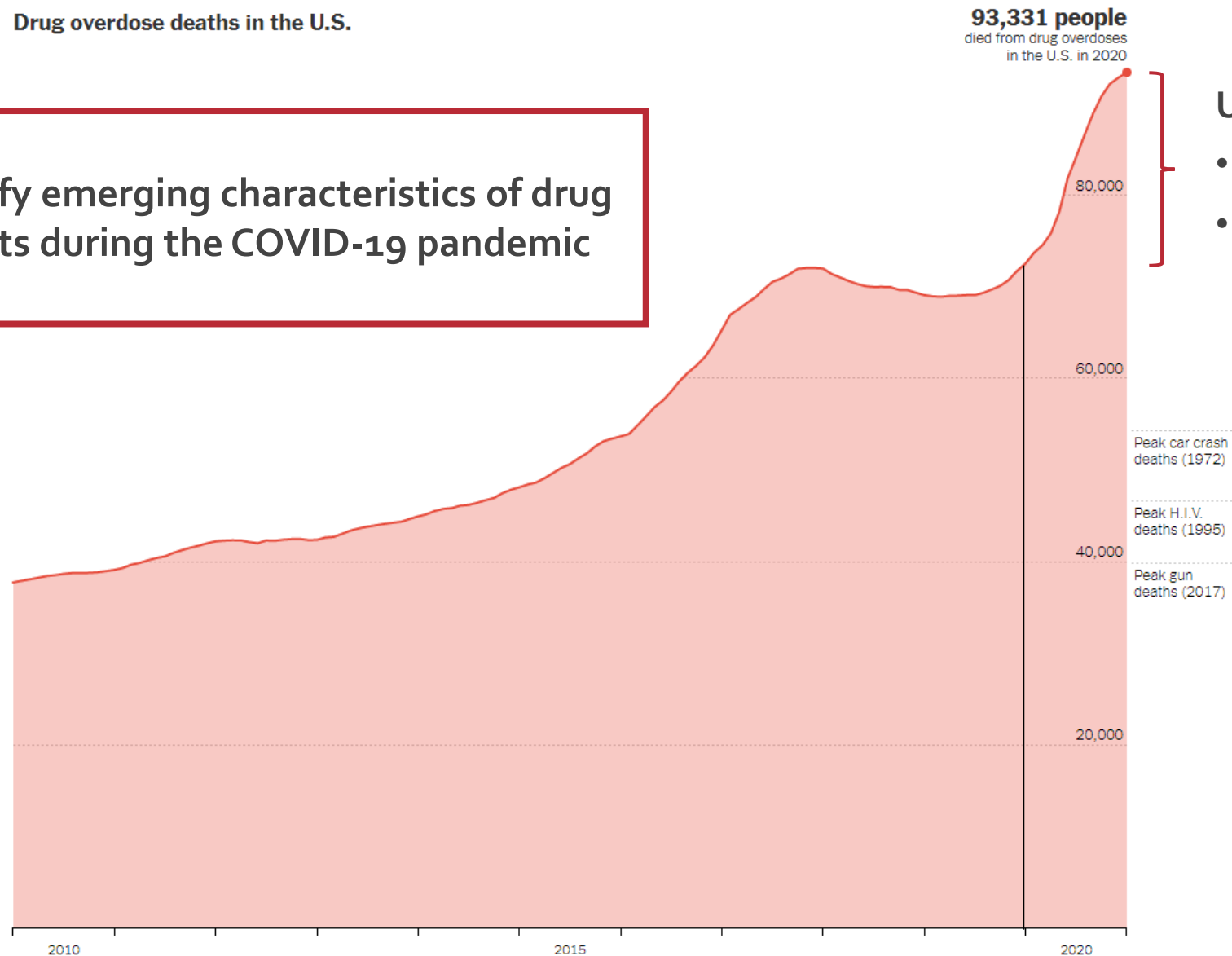
Dept. of Epidemiology, Brown University School of Public Health

No disclosures

Rationale

Drug overdose deaths in the U.S.

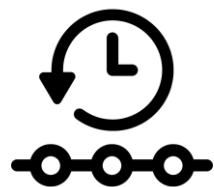
Objective: To identify emerging characteristics of drug overdose decedents during the COVID-19 pandemic



Unknown:

- Underlying causes
- Subpopulations at elevated risk

Methods



Design: We conducted a retrospective, population-based cohort study using data from statewide databases linked at the person-level via the Rhode Island Data Ecosystem (RIDOH, Medicaid, DLT, HMIS)



Approach: We compared characteristics of 470 overdose decedents whose deaths occurred during Jan-Aug 2019 (206 people) vs Jan-Aug 2020 (264 people)

Results

KEY FINDINGS



Increased rate of overdose deaths occurring in **personal residences** (13.2 vs 19.7 per 100,000 person-years; $P = .003$) as compared to a hospital or elsewhere



Increased proportion of overdose among persons **aged 50-59 years with anxiety** (9% vs 19%, $P = .003$), **men with depression** (22% vs 38%, $P = .008$), and **men with anxiety** (23% vs 37%; $P = .02$)



Increased proportion overdose deaths among persons experiencing **job loss** (8% vs 16%; $P = .01$)



Increased rate overdose deaths involving **synthetic opioids** (20.8 vs 28.3 per 100 000 person-years; $P = .003$), and decline in proportion of deaths involving **heroin** (5% vs <2%; $P = .02$)

Discussion

ENVIRONMENT



ISOLATION

Increased rate of overdose deaths occurring in **personal residences** (13.2 vs 19.7 per 100,000 person-years; $P = .003$) as compared to a hospital or elsewhere



MENTAL HEALTH

Increased proportion of overdose among persons **aged 50-59 years with anxiety** (9% vs 19%, $P = .003$), **men with depression** (22% vs 38%, $P = .008$), and **men with anxiety** (23% vs 37%; $P = .02$)



ECONOMIC INSECURITY

Increased proportion overdose deaths among persons experiencing **job loss** (8% vs 16%; $P = .01$)



DRUG SUPPLY

Increased rate overdose deaths involving **synthetic opioids** (20.8 vs 28.3 per 100 000 person-years; $P = .003$), and decline in proportion of deaths involving **heroin** (5% vs <2%; $P = .02$)

Discussion

ENVIRONMENT



ISOLATION

KEY FINDINGS

Increased rate of overdose deaths occurring in **personal residences** (13.2 vs 19.7 per 100,000 person-years; $P = .003$) as compared to a hospital or elsewhere

RECOMMENDATIONS (*selected*)

Policy/Service Delivery: Developing and implementing pilot overdose prevention sites, where persons may use pre-obtained drugs under trained supervision



MENTAL HEALTH

Increased proportion of overdose among persons **aged 50-59 years with anxiety** (9% vs 19%, $P = .003$), **men with depression** (22% vs 38%, $P = .008$), and **men with anxiety** (23% vs 37%; $P = .02$)

Service Delivery: Establishing on-demand buprenorphine induction at primary care offices, community mental health organizations, outpatient behavioral health, and inpatient psychiatric hospitals



ECONOMIC INSECURITY

Increased proportion overdose deaths among persons experiencing **job loss** (8% vs 16%; $P = .01$)

Policy: Alleviating structural stressors that co-occur with income assistance payments (i.e., rent/mortgage payments) by expanding affordable housing availability



DRUG SUPPLY

Increased rate overdose deaths involving **synthetic opioids** (20.8 vs 28.3 per 100 000 person-years; $P = .003$), and decline in proportion of deaths involving **heroin** (5% vs <2%; $P = .02$)

Service Delivery: Expanding distribution of naloxone and fentanyl test strips, and ensure that resources are allocated to subgroups at elevated risk

Conclusions



We identified several **emerging characteristics** of drug overdose decedents



These characteristics corresponded to **environmental changes** that occurred during the COVID-19 pandemic



Our findings suggest that targeted opportunities exist to adapt **service delivery** and **state policies** in response to the heightened overdose crisis

Further Reading



Original Investigation | Substance Use and Addiction

Comparison of Characteristics of Deaths From Drug Overdose Before vs During the COVID-19 Pandemic in Rhode Island

Alexandria Macmadu, MSc; Sivakumar Batthala, MBA; Annice M. Correia Gabel, MA; Marti Rosenberg, MA; Rik Ganguly, MPH; Jesse L. Yedinak, MPA; Benjamin D. Hallowell, PhD, MPH; Rachel P. Scagos, MPH; Elizabeth A. Samuels, MD, MPH; Magdalena Cerdá, DrPH; Kimberly Paull, MPH; Brandon D. L. Marshall, PhD

Contact Information



people
place &
health
collective



BROWN
School of Public Health

Alexandria Macmadu, MSc

People, Place & Health Collective

Brown University School of Public Health

121 South Main Street, Box G-S121-3

Providence, Rhode Island 02912

E-mail: alexandria_macmadu@brown.edu

Twitter: @AlexMacmadu

Thank you!