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TO: Kate Snyder, Mayor of Portland, Maine
FROM: Amanda Rice, Advisory Council for The Center for Grieving Children
DATE: February 3, 2022
SUBJECT: Expanding Access to Naloxone (Narcan) with Vending Machines

Summary

The city of Portland, Maine, can reduce the increasing narcotic-related fatal overdoses by expanding the access of Naloxone, an overdose-reversing medication, to residents of all socioeconomic statuses. Lower-income communities in Portland experience higher fatal narcotic overdose rates due to insufficient access to Naloxone. Due to this ongoing issue, the city of Portland must put Naloxone distributing vending machines within lower-income communities into effect immediately.

How to Save a Life: Naloxone Vending Machines

The purpose of this memo is to urgently request the implementation of Naloxone (more commonly referred to as *Narcan*) distributing vending machines in lower-income communities throughout Portland, Maine, to decrease fatal overdose rates. Naloxone can reverse a potentially fatal narcotic overdose.

The Center for Grieving Children organization endures the effects of the deadly drug epidemic in Portland, Maine, serving over 4,000 people (Berce, 2022). The Center for Grieving Children sees that lower-income communities face greater public health inequalities, specifically with fatal narcotic-related overdoses. Naloxone distributing vending machines would reduce public health disparities for lower-income communities because of their availability and access for hard-to-reach people. The implementation of Naloxone distributing vending machines would protect our most vulnerable community.

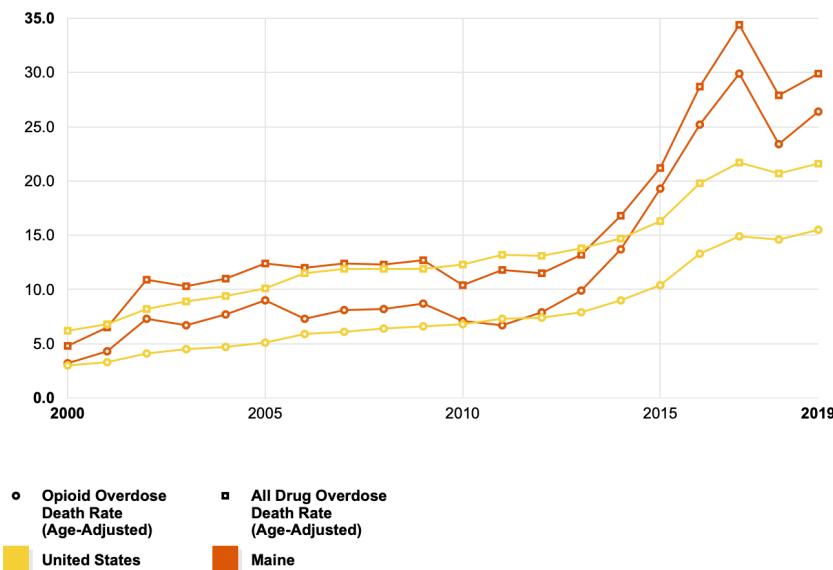
This memo derives data from Maine's Drug Data Lab, The Centers for Disease Control and Prevention, The Food and Drug Administration, The Overdose Detection Mapping Application Program, Maine's Legislation, The Office of Policy Innovation and Future, and the U.S. Surgeon General.

Background: Naloxone is Inaccessible to Many Maine Residents

In the Past Eleven Years, Over 3,000 Maine Residents Have Fatally Overdosed

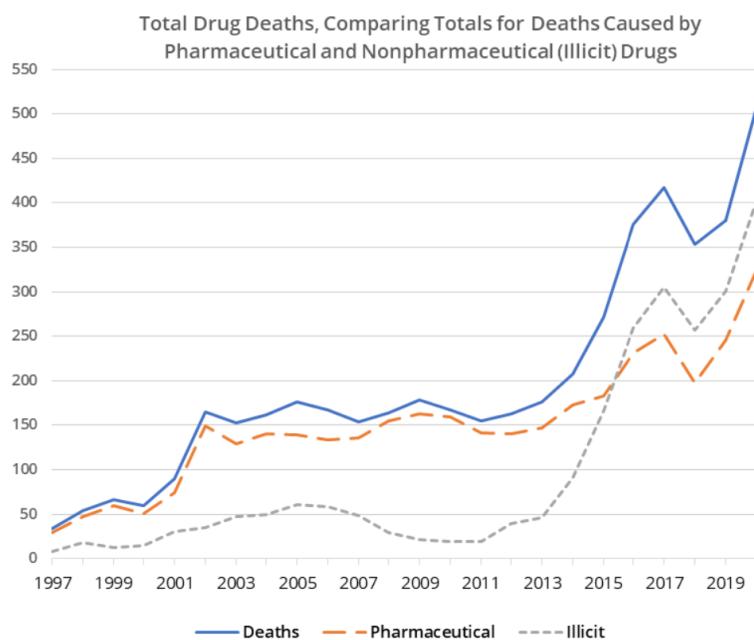
Maine had the “sixth highest overdose death rate in the United States” (Public Consulting Group, 2019) in the year of 2017, despite a relatively small population of 1.3 million residents (U.S. Census Bureau QuickFacts: *Maine*, n.d.). Figure 1 highlights the difference between the national average and Maine’s average death rate per 100,000 persons. Maine had 15 more deaths per 100,000 persons per year than the national average (Public Consulting Group, 2019). In 2017, Maine overdose-related deaths reached 418 (Sorg, 2017, p. 1). More recently, Maine overdose-related deaths increased 33% from 2019, reaching 504 persons in the year 2020 (Sorg, 2020, p. 3). Over 3,000 residents of Maine fatally overdosed in the last eleven years (Opioid Response, Office of Policy Innovation & Future, 2021). As noted in figure 2, the current data portrays a continuous increase in fatal overdose-related deaths due to narcotics.

Figure 1:



Source: *Opioid Overdose Death Rates and All Drug Overdose Death Rates per 100,000 Population (Age-Adjusted), 2021*

Figure 2:



Source: Sorg, 2020, p.13

Naloxone Reverses Narcotic Overdoses

Naloxone is a Food and Drug Administration-approved and supported medicine that medical professionals or individuals can administer without medical training to reverse a narcotic overdose and save a life (Center for Drug Evaluation and Research, 2021). Naloxone can reverse an overdose from opioids, fentanyl, heroin, morphine, and hydrocodone (*Lifesaving Naloxone*, n.d.). The Centers for Disease Control and Prevention describes Naloxone as an “extra layer of protection,” equivalent to an epinephrine pen for those with an allergy (*Lifesaving Naloxone*, n.d.). The Centers for Disease Control and Prevention emphasizes that greater Naloxone distribution can decrease fatal overdoses (*Naloxone saves lives*, 2019). Analysis by The American Academic of Family Physicians proves a 10% depletion in fatal drug overdoses when policies implement greater access to Naloxone (2017). Moreover, the United States Surgeon General advises that “increasing the availability and targeted distribution of Naloxone is a critical component of our efforts to reduce opioid-related overdose deaths... [therefore] ending the opioid epidemic” (Office of the Surgeon General, 2017).

Impoverished Persons are More Likely to Fatally Overdose

The United States National Library of Medicine found that lower socioeconomic standing persons who use narcotics are at a higher risk of experiencing a fatal narcotic overdose than high socioeconomic standing persons (Altekroose et al., 2020). The American Addiction Centers research found that the homeless population accounts for most recorded fatal narcotic overdoses (Nenn, 2021). Similarly, individuals recently released from prison are 120 times more likely to experience a fatal narcotic-related overdose (Binswanger et al., 2007).

Evidence: Inequitable Access

Naloxone Inaccessible by Impoverished Maine residents

Naloxone Limited Access: Pharmacies, Organizations, and COVID-19

Naloxone is limited in accessibility, immensely affecting lower-income communities. The non-profit organization, The Overdose Prevention Through Intensive Outreach Naloxone and Safety (OPTIONS), lists Naloxone distributors: Pharmacies, Maine Access Points, Maine General Harm Reduction, Portland Public Health, Health Equity Alliance, and Bangor Public Health & Community Services (*Get Naloxone*, 2021). Despite listed access, pharmaceutical companies charge \$150 per Naloxone kit, and Naloxone distributors require a phone, a computer, and a mailing address (*Get Naloxone*, 2021) – thereby unaffordable and inaccessible to lower-income communities and severely impoverished individuals. According to Maine researcher Marcella Sorg, the COVID-19 pandemic has decreased the accessibility of Naloxone in pharmacies and reduced the capabilities for non-profit organizations to distribute Naloxone for lower-income communities, thereby increasing fatal drug overdoses (Revello, 2022).

Disparities of Pharmaceutical Naloxone

A study by the Recovery Research Institute found that Naloxone carrying-pharmacies in the United States are less likely to be in areas with high overdose rates and are less likely to be available in lower-income communities (2021). Therefore, lower-income communities are at a greater risk for fatal overdoses due to inaccessibility and costs of Naloxone.

Naloxone and Emergency Medical Services

According to Title 22 Section 2353 of the Maine Statue, emergency medical technicians and law enforcement are authorized to carry and administer Naloxone (*n.d.*).

Every Second Counts: Poor Emergency Medical Service Response Time

In just the month of February of 2021, 39% of people experiencing an overdose passed away before EMT or law enforcement arrived. (*February 2021 Monthly Overdose Report – Maine Drug Data Hub*, 2021). An investigation done by the I-Team from WGME found that EMT response time has increased by 2 minutes, reaching an average of a 10-minute response time (Owens, 2021). Inconsistent and elongated emergency medical service response time will increase fatal overdoses within the city of Portland.

Nearly 80% of People Overdosing Do Not Call Emergency Services

Maine Drug Data found that 79% of people experiencing a drug overdose do not call law enforcement or emergency medical services (Sorg, 2021, p. 6). Although emergency medical services distribute Naloxone, a large percentage of the population are hard to reach as they may not have the means to call for medical assistance.

Policy Recommendation: Vending Machines in Low-Income areas

Public Health Vending Machine that Distributes Naloxone

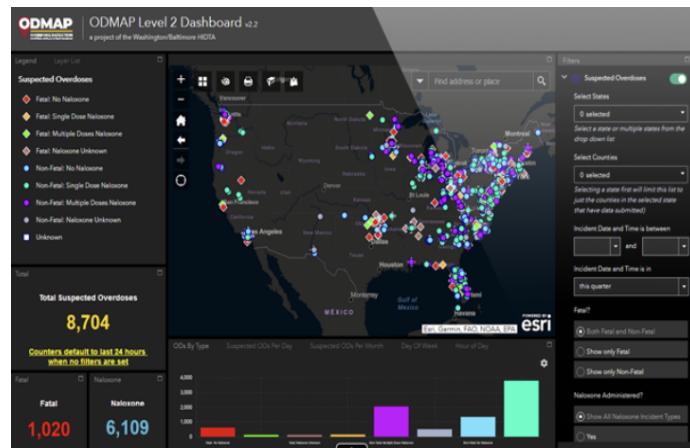
The increasing deaths caused by narcotic overdoses in the state of Maine can be depleted by the implementation of vending machines that distribute Naloxone for the general public, specifically located in lower-income communities that experience greater rates of fatal overdoses.

Technical Feasibility: The Overdose Detection Mapping Application Program to Determine Vending Machine Location

Maine law enforcement agencies use The Overdose Detection Mapping Application Program (ODMAP) that “can enable communities to develop tailored interventions targeting specific geographical areas or high-risk individuals” (Alter, 2020, p.2). The state of Maine can access The Overdose Detection Mapping Program data to ensure the adequate location of where to

install Naloxone vending machines. Figure 3 illustrates The Overdose Detection Mapping Program.

Figure 3:



Source: *Overdose detection mapping application program.* (n.d.)

Naloxone Dispensing Vending Machines Will Decrease Economic Burden of Fatal Overdoses

According to The Centers for Disease Control and Prevention, Maine's cost per fatal narcotic overdose is \$5,953 – the sixth highest in the United States (Luo, 2021). Therefore, the state of Maine spent roughly 3 million dollars towards fatal narcotic overdoses in 2020. Implementing Naloxone distributing vending machines can lower costs exponentially.

New York City Adopted Naloxone Distributing Vending Machines

In an effort to “support low-barrier access to Naloxone,” New York City implemented public health vending machines (Fund for Public Health in New York, 2021, p. 2). In doing so, public health vending machines will supply

free supplies, easily understandable messaging, and instructions in multiple languages. Public health vending machines will be placed in locations with expanded or 24-hour access, both indoor and outdoor settings . . . Priority locations include . . . communities disproportionately burdened by opioid overdose, including Black and Latinx communities, LGBTQ+ individuals, people who engage in sex work, neighborhoods with a very high poverty level, and people who are most likely to witness or experience an overdose (Fund for Public Health in New York, 2021, p. 2).

Bystander Administration of Naloxone

Naloxone dispensing vending machines are administratively feasible because Maine is one of 10 states that has removed all “healthcare providers’ civil, criminal, or professional liability for provision of Naloxone” (State Naloxone Access Laws, Prevention Solutions, 2021).

Vending Machines Cost Roughly \$13,000

The Alcoholism and Drug Abuse research journal proposed that vending machines cost roughly \$13,000 (2020). The cost of implementing Naloxone vending machines in Portland would be substantially less than what Maine spent on fatal narcotic overdoses in 2020 – \$3,000,000.

Conclusion

Implementing Naloxone distributing vending machines in lower-income communities through The Overdose Detection Mapping Application Program can improve public safety by making public health more accessible for people of all socioeconomic standing. In doing so, Portland, Maine, will achieve greater health equality and equity. Failure to urgently implement Naloxone distributing vending machines will continue to put lower-income communities at risk for fatal narcotic-related drug overdoses.

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