

Baltimore Citywide Engagement of Emergency Departments to Combat the Opioid Epidemic

A citywide collaboration in Baltimore, Maryland, has focused on local public health and hospital emergency departments (EDs) rather than the usual efforts to engage physicians in preventing substance misuse through judicious opioid prescribing and use of Prescription Drug Monitoring Programs.¹ With a population of 620 000, Baltimore experienced 393 overdose deaths in 2015. The majority of overdoses (90%) involved opioids, with 66% involving heroin and 31% involving fentanyl.² There are 12 acute care hospitals in Baltimore. Even though city hospitals reported that 80% of high utilizers of the EDs have addiction and mental health concerns, and all treated many patients with non-fatal overdoses daily, few programs existed to intervene in the ED setting.

COLLABORATION

In 2015, the Baltimore City Health Department (BCHD) began quarterly convenings with leadership from the 12 EDs to plan a course of action to address overdose and addiction. At that time, none of the EDs had established protocols that required discharging patients presenting with overdose with the opioid antidote, naloxone. Only two of the 12 city hospitals were

routinely screening ED patients for opioid use disorder. Patients who requested addiction treatment had many barriers in accessing care including transportation and housing.

The BCHD worked with the EDs to establish a set of discharge principles for patients that included coprescribing of naloxone for all patients at risk for opioid overdose. This was enabled by the passage of Maryland legislation in October 2015 that allowed for the Baltimore City Health Commissioner to issue a “standing order”—a blanket prescription—to all residents.³ This blanket prescription was subsequently given to all high-risk patients, including those with opioid use disorder or presenting with overdose, at discharge (Figure 1). Patients on Medicaid were able to acquire naloxone with a copay of \$1. To further decrease barriers to access, five of the EDs go beyond the standing order to dispense naloxone directly from the ED.

Under the statewide health care initiative called Maryland SBIRT (Screening, Brief Intervention, and Referral to Treatment) and with the technical guidance of a behavioral health consulting firm, the Mosaic Group, eight EDs began implementing SBIRT, an evidence-based approach to identify and provide early intervention services for substance misuse. In the first six months,

these EDs screened more than 134 000 patients for alcohol and drug use and referred 2990 patients directly to treatment. By the end of 2018, two more EDs will have SBIRT services. In addition, Baltimore hospitals started the Overdose Survivor Outreach Program, where case managers and peer recovery coaches link patients who survive overdoses with peer coaches in the community. This program is now operational in eight of the 12 EDs.

BARRIERS

A major barrier identified by ED leadership was the lack of access to on-demand addiction treatment. Many community-based addiction providers reported having same-day or next-day capacity to take patients. Therefore, BCHD worked with partners including a care coordination entity and crisis service to start a 24/7 phone hotline for all addiction and mental health referrals. Within the first several months of

operation, the hotline received more than 1000 calls a week from patients, family members, and hospital employees including ED social workers and nurses. Baltimore is also starting a Stabilization Center as the first step toward a 24/7 behavioral health “urgent care.” The Stabilization Center will provide patients with social support including linkage to outpatient addiction and mental health support, housing resources, and employment opportunities. BCHD has secured \$3.6 million toward capital costs for the center and an additional \$2 million for operating costs in the first two years. A pilot began in April 2018.

City EDs have similarly committed to increasing access to medication-assisted treatment. Starting in 2017, three of the EDs began administering buprenorphine treatment from the ED. Buprenorphine is one of the three FDA-approved medications for the treatment of opioid use disorder, and its use in the ED setting has been shown to be effective in removing delays to treatment, helping patients remain in treatment at 30 days, and reducing illicit opioid use.⁴ Currently, eight EDs offer buprenorphine initiation from the ED, with connections to same-day or next-day referral to ongoing outpatient treatment.

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STANDING ORDER FOR BALTIMORE CITY PHARMACISTS

Pharmacists may dispense any of the following naloxone formulations.

Check formulation dispensed:

Refill=PRN

Narcan: Nasal Spray (4mg of naloxone hydrochloride in 0.1mL). 2 pack kit (up to 2 kits).

Directions: Spray into one nostril. May repeat x1, if no response after 3 minutes.

Evzio: Auto-injector (Naloxone 2 mg). 2 pack kit (up to 2 kits).

Directions: Use as instructed by device. May repeat x1, if no response after 3 minutes.

Intranasal: Naloxone (2mg/2mL) single dose Luer-Lock prefilled syringe. Qty= 2 or 4 syringes. Dispense with intranasal mucosal atomizer device.

Directions: Spray one-half of syringe (1 mL) into each nostril upon signs of opioid overdose. May repeat x1, if no response after 3 minutes.

For more information about naloxone visit www.dontdie.org.

For substance use treatment call the 24/7 Crisis, Information, and Referral Line: 410-433-5175.

NPI# 1225279243

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This prescription does not require completion of a specialized training in overdose recognition and response or possession of a training certificate.

health and ED collaborations in Baltimore. First, the convenings were focused on a common, straightforward objective: to reduce overdose deaths and increase access to addiction treatment. Second, they involved specific action items that were implementable. When barriers arose, BCHD engaged partner groups that offered expertise. Third, they highlighted successes, with EDs that implemented pilots returning to share their experiences with others. Such discussions frequently prompted other EDs to begin pilots themselves. Fourth, they required that all parties did what was possible within their realm of expertise. The BCHD's requesting that EDs do their part through prescription of naloxone and buprenorphine was accompanied by the city investing in the Stabilization Center and the 24/7 hotline. Finally, they took into account the busy setting of the ED. Interventions such as peer-recovery specialists and standardized discharge principles were designed collaboratively with ED leadership so as to not interrupt workflow, but to improve it.

CHALLENGES

Three major challenges were identified during these convenings. Hospitals expressed that changing workflows without resources would be extremely difficult. Support from the local and state behavioral health authorities along with technical expertise from the Mosaic Group has helped to address this challenge. In addition, individuals diagnosed with both substance use and mental health disorders may challenge traditional health care settings as providers may not be equipped to provide treatment

FIGURE 1—Standing Order for Baltimore City Pharmacists to Dispense Naloxone: Baltimore, MD, June 1, 2017

In addition to addressing ongoing access to treatment, BCHD's quarterly ED convenings have also provided a forum to respond rapidly to alarming trends. When data emerged that one in three opioid overdoses also involved benzodiazepines, BCHD worked with ED chairs and counterparts from across the country to petition the US Food and Drug Administration (FDA) to add a black-box warning on the combination of opioids and benzodiazepines for both prescription opioids and

benzodiazepines. This petition was approved by the FDA in August 2016. BCHD worked with EDs to disseminate information about the dangers of coprescribing opioids and benzodiazepines across the hospitals and to city residents. In light of escalating overdoses from fentanyl, BCHD brought together ED leadership with emergency medical services, law enforcement officials from the Police Department and State Attorney's Office, and community representatives to set up a real-time

alert system that deploy outreach workers to "hotspots" with high numbers of overdoses. Two EDs are piloting the use of fentanyl test strips as part of their point-of-care testing to patients presenting with overdose.

FACTORS CONTRIBUTING TO SUCCESS

Five factors have contributed to the success of the local public

of both diagnoses. More resources need to be devoted to increasing the capacity of providers to care for those with co-occurring disorders. Finally, EDs expressed the need for more resources to address the social determinants of health such as housing, food, and jobs. The BCHD is working with hospitals to coordinate resources through a centralized resource directory under the Accountable Health Communities project granted by the Center for Medicare and Medicaid Innovation.

LOOKING FORWARD

Although BCHD and Baltimore EDs have worked hard to

make strides, more needs to be done. Overdose deaths continue to rise. There were 694 overdose deaths in 2016, with 60% of these deaths attributable to fentanyl. Screening and limited treatment through EDs is not sufficient; all hospital service settings, including inpatient wards and outpatient primary care settings, should offer behavioral health services, an effort that has continued with Baltimore recently establishing “Levels of Care” to certify hospitals in opioid use disorder treatment.⁵ This initiative, based on a similar program in Rhode Island, creates a common foundation of tackling the opioid epidemic and scores a hospital on a level 3, 2, or 1—with a level 1 hospital offering the

most comprehensive response. These citywide convenings in Baltimore can serve as public-private models for other cities and states for combating the opioid epidemic. *AJPH*

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Could Social Bots Pose a Threat to Public Health?

Social bots are automated accounts that use artificial intelligence to steer discussions and promote specific ideas or products on social media such as Twitter and Facebook.¹ To typical social media users browsing their feeds, social bots may go unnoticed as they are designed to resemble the appearance of human users (e.g., showing a profile photo and listing a name or location) and behave online in a manner similar to humans (e.g., “retweeting” or quoting others’ posts and “liking” or endorsing others’ tweets).

Social bots have been studied by computer scientists for years. However, bots have only recently received greater public attention, alongside other social media practices being scrutinized by policymakers. In that context,

researchers have discovered that a significant fraction of political tweets made before the 2016 US presidential election had been posted by social bots and that those tweets had been retweeted at a rate similar to that of human-generated ones.² Although it is now known that social bots have been used to automate online political campaigns, their prevalence and influence in the health domain are largely unknown.

FEW STUDIES CONDUCTED

At present, only a handful of studies on social bots appear on PubMed. An example is a 2017 study that compiled a corpus of 2.2 million Twitter posts and

characterized how social bots promote electronic cigarettes.³ To detect tweets posted by bots, the authors employed state-of-the-art bot detection techniques and found that, in comparison with human users, social bots were twice as likely to suggest that electronic cigarettes could be used in smoking cessation, a conclusion not definitively supported by empirical evidence.³ This study also showed that social bots were twice as

likely as humans to promote recently introduced electronic cigarette devices and accessories.³

These findings suggest that social bots have been designed to purposely push a particular narrative depicting electronic cigarettes in positive terms. The larger implications for public health, however, remain to be examined. Do users who are exposed to messages from social bots experience changes in their attitudes or offline behaviors? If so, can we design effective countermeasures or intervention strategies to mitigate the influence of bots on public health? Also, given that research has

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