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Acceptance Among Heroin Users of Advanced Technology in Studying Naloxone Distribution Programs

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Objective: Heroin overdose deaths continue to rise, prompting implementation of "bystander" naloxone programs in community and emergency department (ED) settings. Rigorous data demonstrating the outcomes of naloxone rescue kits dispensed to heroin users are lacking. Advanced technology-based monitoring may help monitor efficacy of these programs. We sought to determine heroin users' acceptance of bystander naloxone kits and attitudes toward use of advanced technology to study the kits' community penetrance and geographic distribution patterns.

Methods: A convenience sample of 23 adults in the ED with a complaint related to heroin use completed a survey regarding naloxone distribution programs and familiarity with advanced technology such as low-energy Bluetooth (BLE) tracking beacons. Participants were asked about duration of heroin use, other substances used (excluding alcohol/tobacco), familiarity with naloxone, and acceptability of dispensing BLE-tagged "smart naloxone kits" to characterize effectiveness of naloxone distribution programs.

Results: Participants were 52% male, median age 32 years, median heroin use duration 4 years. 78% used other substances, including cocaine (61%), benzodiazepines (30%), marijuana (22%). 87% had previously overdosed on heroin. 83% knew someone who needed naloxone. 65% had needed to administer naloxone personally. 65% had used advanced technology (e.g., GPS, Bluetooth, smartphones) within the past month. Naloxone distribution programs were favorably received: 52% perfectly acceptable, 26% acceptable, 21% slightly acceptable. BLE technology was widely accepted: 22% felt they were more likely to carry BLE-tagged kits, while 70% felt BLE would not affect whether they carry the kits and 9% reported that BLE would deter them from using the kits.

Conclusion: Our data demonstrate that heroin users are accepting of advanced technology deployment to study the efficacy of naloxone distribution programs. The readiness of individuals with substance use to accept BLE technology is important for the development of further iterations of advanced monitoring devices to detect and respond to opioid overdose.