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Commentary on Adams et al.: Using administrative big data for the public good

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Abstract

Adams et al demonstrate why US states should learn from Massachusetts on how to build “administrative big data” warehouses for the public good. However, these and other existing data resources must include detailed information on criminal-legal-carceral experiences. Offering buprenorphine treatment in syringe service programs would remove healthcare obstacles and save lives.

Keywords

buprenorphine treatment; syringe service programs; administrative big data; Justice Community Opioid Innovation Network (JCOIN); public health; health equity

Adams et al¹ used a cohort-based mathematical model and cost effectiveness analysis to estimate the number of treatment initiations, averted fatal opioid overdoses and the cost-effectiveness associated with offering buprenorphine–naloxone (buprenorphine) treatment on-site within existing syringe service programs (SSPs) in Massachusetts. The study captured the complexity of opioid use when conceptualized within a life course framework.² Analyses modeled opioid use as a chronic relapsing health condition that can extend over many years and is shaped by interactions with healthcare and the justice system. Adams et al explain how model inputs are derived from state and national surveillance data, clinical trials and observational cohort studies. This commentary considers several implications of these methods that the authors did not discuss but are important to recognize.

As a primary source, Adams et al use data provided by a remarkable public health innovation, the Massachusetts Public Health Data (PHD) Warehouse. Established by legislative mandate in 2015 and managed by the Massachusetts Department of Public Health, the PHD Warehouse is one of the first US examples of using “administrative big data” for policy-relevant research. Of the many strengths for advancing research,³ this warehouse encompasses individual-level linked administrative data from more than twenty sources on all Massachusetts residents aged 11 and older with public or private

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health insurance, covering approximately 98% of the state's population. Events recorded in the PHD Warehouse include, for example, treatment for opioid and other substance use disorders, overdose events, and demographic characteristics, as analyzed by Adams et al, and many other events and experiences such as diagnosis and treatment for physical and mental health conditions, receipt of public welfare benefits, and mortality. Adams et al contribute to the significant and growing body of policy-relevant research based on PHD Warehouse data, the findings from which have been used to design public health surveillance efforts, allocate resources, conduct community outreach, and plan interventions.⁴ More broadly, the PHD Warehouse approximates the comprehensive nationwide population-based registries that have been used to conduct public health research for decades in other countries.^{5,6} New insights can be generated by connecting multiple data sources, thereby offering invaluable data and tools for identifying what is working and for whom.^{7,8} Adams et al provide another reason why other US states should learn from Massachusetts on how to build similar administrative big data warehouses and manage them for the public good.

For other model inputs, Adams et al use data provided by several major research efforts, i.e., the NIDA Clinical Trials Network (CTN) and the National Survey on Drug Use and Health (NSDUH). That these resources enable added benefits, in addition to the knowledge created by the respective parent studies, are a reason why they are well worth our continued investment. However, these data generally omit detailed information on criminal-legal-carceral experiences, thereby precluding full assessment of their relationship with opioid use disorder treatment and outcomes. Such omissions contribute to significant “blind spots” in our understanding of how to address the opioid overdose epidemic.⁹ We need more and better data on criminal-legal-carceral events included in addiction-focused data repositories and in related state and national surveillance data. A step in the right direction, the NIDA Justice Community Opioid Innovation Network (JCOIN) is working now to increase high-quality care for people with opioid misuse and opioid use disorder in justice settings.¹⁰ Research being conducted by JCOIN investigators, and in particular the Massachusetts JOCIN hub,¹¹ presents opportunities to assist justice systems in developing capacity to assess the outcomes of opioid use disorder treatment that is provided during incarceration.

Finally, Adams et al report that compared to the status quo, provision of buprenorphine on-site within SSPs would significantly reduce fatal opioid overdoses and result in new treatment initiations, and ultimately cost less. Yet, SSPs in the US mostly do not offer low-threshold buprenorphine treatment. These findings are compelling, and add to existing but limited evidence¹² on SSPs as critical settings for expanding access to buprenorphine and other medications to treat opioid use disorder. Such a change is likely to present a culture shift for SSPs,¹³ an adaptation that could be eased with the use of telehealth buprenorphine inductions in SSPs¹⁴ and other practices being researched now on how best to offer buprenorphine treatment in SSPs.¹⁵ In addition to the empirical evidence provided by Adams et al in support of offering buprenorphine treatment in SSPs, I add that doing so would provide a fair and just opportunity to access evidence-based healthcare and help to achieve health equity for people with opioid use disorder.

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