

Addressing excess risk of overdose among recently incarcerated people in the USA: harm reduction interventions in correctional settings

Lauren Brinkley-Rubinstein, David H. Cloud, Chelsea Davis, Nickolas Zaller, Ayesha Delany-Brumsey, Leah Pope, Sarah Martino, Benjamin Bouvier and Josiah Rich

Abstract

Purpose – *The purpose of this paper is to discuss overdose among those with criminal justice experience and recommend harm reduction strategies to lessen overdose risk among this vulnerable population.*

Design/methodology/approach – *Strategies are needed to reduce overdose deaths among those with recent incarceration. Jails and prisons are at the epicenter of the opioid epidemic but are a largely untapped setting for implementing overdose education, risk assessment, medication assisted treatment, and naloxone distribution programs. Federal, state, and local plans commonly lack corrections as an ingredient in combating overdose. Harm reduction strategies are vital for reducing the risk of overdose in the post-release community.*

Findings – *Therefore, the authors recommend that the following be implemented in correctional settings: expansion of overdose education and naloxone programs; establishment of comprehensive medication assisted treatment programs as standard of care; development of corrections-specific overdose risk assessment tools; and increased collaboration between corrections entities and community-based organizations.*

Originality/value – *In this policy brief the authors provide recommendations for implementing harm reduction approaches in criminal justice settings. Adoption of these strategies could reduce the number of overdoses among those with recent criminal justice involvement.*

Keywords *Criminal justice system, Harm reduction, Prisoners, Illicit drugs, Opioid substitution therapy, Drug addiction*

Paper type *Conceptual paper*

The authors affiliations can be found at the end of this article.

Background

Overdose epidemic

Globally, there has been a significant increase in drug-related overdose deaths in recent years (Martins *et al.*, 2015). Currently the USA is experiencing a growing number of overdose deaths. In 2014, there were over 47,000 overdose deaths and the number of overdoses has increased 137 percent since 2000, making overdose the leading cause of accidental death (Rudd, Aleshire, Zibbell, Gladden, 2016). Opioid-related deaths are largely responsible for the rise in overdose fatalities; there was a 200 percent increase in the rate of overdoses involving opioids from 2000 to 2014 (Rudd, Aleshire, Zibbell, Gladden, 2016). In response, the Rudd, Seth, David, Scholl (2016) has declared opioid-related overdoses a public health epidemic.

Over the past two decades, non-medical prescription opioid use has contributed substantially to rising overdose rates (Calcaterra *et al.*, 2013). In more recent years, though, national initiatives to reduce opioid prescribing have produced modest declines in the number of prescription opioids

Received 22 August 2016
Revised 18 November 2016
Accepted 15 December 2016

dispensed (Dart *et al.*, 2015). However, as the rate of opioid prescribing slowed there was a subsequent increase in the rate of heroin-involved overdose suggesting that once addicted to opioids, people are transitioning from non-medical prescription opioid use to heroin (Compton *et al.*, 2016). From 2010 to 2014, the rate of heroin-involved overdose deaths in the USA increased three-fold (Compton *et al.*, 2016).

Overdose among those with criminal justice experience

Individuals with a history of incarceration have an increased risk of overdose following release from prison or jail (Binswanger *et al.*, 2011; Merrall *et al.*, 2010). In fact, a recent study found that in Washington State overdose was the leading cause of death among those who were previously incarcerated (Binswanger *et al.*, 2013). In addition, recent research has demonstrated that more than 80 percent of individuals who are incarcerated in local jails report issues with substance use and almost half of all individuals in state-run correctional facilities have co-occurring mental illness and substance dependence (James and Glaze, 2006).

The immediate post-release period is an especially high-risk time for a number of reasons. Return to substance use after a period of abstinence while incarcerated can result in lower drug tolerance levels, and the post-release community context, which often includes a lack of social support and economic resources, also increases risk post-release. Linkage to treatment and adoption of harm reduction strategies have proven to lower overdose risk, but little uptake of these types of programs in correctional settings has taken place (Langendam *et al.*, 2001).

Harm reduction and opioid overdose prevention efforts

Harm reduction approaches are strategies that have been proven effective at reducing overdose, decreasing substance use and increasing retention in treatment (Fullerton *et al.*, 2014). Examples of harm reduction include: medication assisted treatment (MAT) such as naltrexone, methadone and buprenorphine; safe injection facilities; overdose and substance use education; naloxone distribution; and syringe exchange programs, among others. In response to the recent opioid epidemic, many federal and state level harm reduction initiatives have been developed. For instance, the Obama White House recently proposed a budget that includes \$920 million for states to expand access to MAT for those with opioid use disorder. The Obama White House also called on federal agencies to work together in areas of education, monitoring, medication disposal, and enforcement in order to reduce drug use and overdose rates. In addition, Congress and several federal agencies have responded by educating and providing technical support to their constituencies to spur the development of overdose prevention strategies. In states and localities where overdose rates are particularly high, governors and mayors have formed task forces charged with developing legislative, policy, and programmatic solutions to curb opioid overdose. For instance, in New York, the Ithaca Plan was launched in 2015, and includes recommendations for establishing a “24-hour crisis center” where people can obtain MAT and case management services, as well as creating the first safe injection site in the USA. However, even though the strategies included in this plan are wide reaching it does not include any corrections-based recommendations (Wilkinson and Fan, 2016).

Internationally, and especially in Europe, there are many examples of prison-based substance use prevention programs, however the availability and use of harm reduction strategies varies (Sander *et al.*, 2016). In the USA few jails and prisons have harm reduction programs and, to our knowledge, one of the only states in the USA that has explicitly incorporated corrections-based recommendations into their overdose reduction strategy is Rhode Island (RI). The governor of RI recently created the Overdose Prevention and Intervention Task Force that includes a variety of cross-sector partnerships with the goal of reducing opioid overdose deaths by one-third within three years. A major initiative outlined in the plan was a comprehensive MAT program at the RI Department of Corrections that includes offering all three available MAT options (methadone, buprenorphine, and naltrexone) during incarceration and linkage to continued treatment in the community post-release (Green *et al.*, 2015).

Harm reduction approaches are especially important for individuals with criminal justice experience. Strategies that prioritize arresting and incarcerating drug users do not deter substance use (Green and Winik, 2010). In contrast, such strategies imperil long-term outcomes

for drug users, because the fear of arrest and incarceration drives drug use “underground” and discourages the utilization of health care services vital in mitigating the risk of overdose and infectious disease transmission (Cloud and Davis, 2015). However, adoption of harm reduction in criminal justice settings is inconsistent and depends largely on the type of facility (jail vs prison vs diversion program) and local and state policies. Further, while law enforcement agencies are increasingly equipping officers with naloxone, few jurisdictions are taking steps to distribute the antidote or provide overdose prevention training to people exiting correctional facilities, despite the significantly elevated risk of overdose during community re-entry.

Recommendations

Given the increased risk of overdose among those with recent criminal justice involvement and the lack of available harm reduction-oriented services available in correctional settings, we suggest a number of strategies be routinely deployed. Specifically we suggest: an expansion of overdose education and naloxone distribution (OEND) programs for those at increased risk of both opioid overdose and witnessing an overdose, the establishment of comprehensive MAT programs as standard of care in correctional facilities, development of strategies for targeted screening of overdose risk at discharge, and collaboration with community-based treatment providers to link individuals to treatment post-release.

Expansion of OEND programs

The adoption of OEND programs is vital to addressing the opioid epidemic nationwide and corrections-based OEND programs must be a component of any jurisdiction’s comprehensive plan to address overdoses in their community. Naloxone, commonly referred to as Narcan, is a highly effective, safe, and inexpensive drug that can be administered intravenously, intramuscularly, or through a nasal spray to quickly resuscitate an individual experiencing respiratory failure due to an opioid overdose. In recent years, a growing number of states have passed laws to increase access to naloxone for first-responders and lay persons who are likely to witness an overdose. Despite the fact that jails and prisons in the USA present a unique opportunity to distribute naloxone to those at increased risk of both opioid overdose and witnessing an overdose, the provision of naloxone to people upon release from correctional settings is rare.

There are emerging international and domestic models for OEND as part of pre-release programming at correctional facilities. In the USA, a small number of community-based or public health funded OEND programs have forged relationships with correctional facilities to provide overdose education, and, in some instances, distribute naloxone upon release. For example, the New York State Department of Health AIDS Institute, New York State Department of Corrections and Community Supervision, and the Harm Reduction Coalition launched an OEND program in the Queensboro Correctional Facility that educates individuals preparing for re-entry about the risks of opioid use after periods of incarceration and trains them to administer naloxone in the event that they witness an overdose (Zucker *et al.*, 2015). As more jurisdictions consider incorporating OEND into their correctional facilities, however, it is critical that jails – with large populations of individuals awaiting trial or serving shorter sentences – also be included in expansion efforts. Although shorter sentences and unpredictable release dates present some challenges for implementing OEND, the opportunity to reach this large, high-risk population cannot be missed.

Establish comprehensive MAT programs as standard of care

MAT, particularly in conjunction with adjunct psychosocial or behavioral interventions, is the most effective evidence-based approach to address opioid use disorder (Connock *et al.*, 2007). Numerous studies have documented far-reaching benefits to implementing MAT in correctional populations including post-incarceration reductions in illicit opioid use and reduced levels of reincarceration (Sharma *et al.*, 2016).

In some European countries (e.g. Switzerland) correctional access to MAT is routine (Favrod-Coune *et al.*, 2013). In the USA, however, there are over 3,200 local and county jails

and 1,800 state and federal prisons, but few facilities offer addiction treatment using MAT with methadone, buprenorphine and/or naltrexone (Vestal, 2016). Among facilities that do offer MAT, the majority restrict treatment to persons who are pregnant or to those who were engaged in methadone treatment prior to incarceration, and it is usually only provided on an accelerated 30-day taper protocol (Rich *et al.*, 2015). We recommend that comprehensive MAT programs that offer naltrexone, buprenorphine, and methadone be standard of care in correctional facilities. These programs should include: screening all individuals for opioid use disorder; continuing and initiating individuals on MAT while incarcerated; offering all three currently available MAT options as clinically appropriate; and linkage to community MAT programs post-release.

Development of overdose risk screening at discharge

Whereas the connection between incarceration and overdose has been well established, less is known about the factors specific to incarceration or the post-release environment that may exacerbate risk. Some work relevant to the context of overdose in the community has identified lack of social support, financial deprivation, and ever-present exposure to drugs as factors that can impact risk (Binswanger *et al.*, 2012). Fewer studies, though, have explored the institutional and individual level features of incarceration that might increase risk, and we suggest further study of these factors is needed.

There are numerous assessment tools that gauge risk of drug use and addiction, but very few overdose risk indexes (Zedler *et al.*, 2015), and even fewer that are adapted for criminal justice involved populations. Therefore, there is a need to develop a targeted overdose risk assessment tool for those nearing release from correctional facilities. Future research is needed to determine the factors that should be included, who should assess these factors (nurses, correctional administrators, social workers) and what is the best time period to administer the assessment (e.g. at intake vs at release). Based on previous research we suggest taking the following factors into consideration: history of homelessness, lack of social support, previous overdose, intention to return to opioid use post-release, history of financial hardship, and other relevant community and institutional level variables. If an individual is deemed “at risk” he or she should be provided with enhanced discharge planning and treatment, which could include intensive case management and wrap-around services that might mitigate risk of future overdose.

Collaboration with community-based providers

An important part of overdose prevention among people with criminal justice experience is collaborating with community-based partners so that treatment can be optimized. For instance, if correctional agencies are reluctant to administer MAT, contracting with a community-based substance use treatment organization that has expertise in delivering MAT may make implementation much more feasible. In addition, correctional administrators must work in concert with community-based partners to link recently incarcerated individuals to substance use treatment, syringe exchange programs, safe injection facilities (where available) and other important re-entry services post-release. Safe injection staff should also work with regional correctional facilities to ensure that individuals at risk for overdose are aware of safe injection sites prior to release. We also recommend creating re-entry programs that utilize peer-based models such as employing community health workers who are in recovery from a substance-use disorder and have prior experience with incarceration to deliver services; doing so can improve trust and clinical rapport, and increase utilization of vital health services upon release.

Conclusions

Individuals with criminal justice experience are disproportionately at risk of opioid overdose. However, very few harm reduction oriented approaches to reduce overdose risk are implemented in prisons and jails. State and local governments seeking comprehensive, interagency strategies to curb the incidence of overdose morbidity and mortality have so far overlooked the value of implementing harm reduction interventions in correctional settings. We recommend: an expansion of OEND programs, the establishment of comprehensive MAT programs as standard of care, the development and use of

overdose risk assessment tools to identify the incarceration-related factors that increase risk. We acknowledge that implementing harm reduction strategies in criminal justice settings takes political will, public support, and earmarked funding, which may be lacking in several areas across the country. However, as public awareness about the opioid epidemic grows, there are opportunities for coalition-building and investment. In the USA, the Bureau of Justice Assistance's Residential Substance Abuse Treatment for State Prisoners formula grant program is advocating for corrections-based MAT programming. The RI overdose prevention plan also recently resulted in two million dollars of state funding, approved by the legislature, to be used for MAT in state corrections. Continuing to look to other countries, states or systems that have implemented harm reduction programs in correctional settings can provide a blueprint for the creation of future initiatives.

Summary of major takeaways:

- those with criminal justice involvement experience disproportionately higher rates of fatal and non-fatal overdose;
- harm reduction strategies are vital for reducing the risk of overdose in the post-release community; and
- we recommend that the following be implemented in correctional settings: expansion of overdose education and naloxone programs; establishment of comprehensive MAT programs as standard of care; development of corrections-specific overdose risk assessment tools; and increased collaboration between corrections entities and community-based organizations.

References

- Binswanger, I.A., Blatchford, P.J., Lindsay, R.G. and Stern, M.F. (2011), "Risk factors for all-cause, overdose and early deaths after release from prison in Washington state", *Drug and Alcohol Dependence*, Vol. 117 No. 1, pp. 1-6.
- Binswanger, I.A., Blatchford, P.J., Mueller, S.R. and Stern, M.F. (2013), "Mortality after prison release: opioid overdose and other causes of death, risk factors, and time trends from 1999 to 2009", *Annals of Internal Medicine*, Vol. 159 No. 9, pp. 592-600.
- Binswanger, I.A., Nowels, C., Corsi, K.F., Glanz, J., Long, J., Booth, R.E. and Steiner, J.F. (2012), "Return to drug use and overdose after release from prison: a qualitative study of risk and protective factors", *Addiction Science and Clinical Practice*, Vol. 7 No. 3, pp. 1-9.
- Calcaterra, S., Glanz, J. and Binswanger, I.A. (2013), "National trends in pharmaceutical opioid related overdose deaths compared to other substance related overdose deaths: 1999-2009", *Drug and Alcohol Dependence*, Vol. 131 No. 3, pp. 263-70.
- Cloud, D. and Davis, C. (2015), *First Do No Harm: Advancing Public Health in Policing Practices*, Vera Institute of Justice, New York, NY, available at: www.vera.org/publications/first-do-no-harm (accessed March 17, 2016).
- Compton, W.M., Jones, C.M. and Baldwin, G.T. (2016), "Relationship between nonmedical prescription-opioid use and heroin use", *New England Journal of Medicine*, Vol. 374 No. 2, pp. 154-63.
- Connock, M., Juarez-Garcia, A., Jowett, S., Frew, E., Liu, Z., Taylor, R.J., Fry-Smith, A., Day, E., Lintzeris, N., Roberts, T., Burls, A. and Taylor, R.S. (2007), "Methadone and buprenorphine for the management of opioid dependence: a systematic review and economic evaluation", *Health Technology Assessment*, Vol. 11 No. 9, pp. 1-171.
- Dart, R.C., Surratt, H.L., Cicero, T.J., Parrino, M.W., Severtson, S.G., Bucher-Bartelson, B. and Green, J.L. (2015), "Trends in opioid analgesic abuse and mortality in the United States", *New England Journal of Medicine*, Vol. 372 No. 3, pp. 241-8.
- Favrod-Coune, T., Baroudi, M., Casillas, A., Rieder, J.P., Gétaz, L., Barro, J., Gaspoz, J.M., Broers, B. and Wolff, H. (2013), "Opioid substitution treatment in pretrial prison detention: a case study from Geneva, Switzerland", *Swiss Medical Weekly*, Vol. 143, p. w13898.
- Fullerton, C.A., Kim, M., Thomas, C.P., Lyman, D.R., Montejano, L.B., Dougherty, R.H., Daniels, A.S., Ghose, S.S. and Delphin-Rittmon, M.E. (2014), "Medication-assisted treatment with methadone: assessing the evidence", *Psychiatric Services*, Vol. 65 No. 2, pp. 146-57.
- Green, D.P. and Winik, D. (2010), "Using random judge assignments to estimate the effects of incarceration and probation on recidivism among drug offenders", *Criminology*, Vol. 48 No. 2, pp. 357-87.

Green, T.C., Rich, J.D., Marshall, B.D.L., Bratberg, J., Goyer, J. and McCance-Katz, E. (2015), "Rhode Island's strategic plan on addiction and overdose: four strategies to alter the course of an epidemic", *Rhode Island Governor's Overdose Prevention and Intervention Task Force*, Rhode Island Department of Health, Providence, RI, available at: www.health.ri.gov/news/temp/RhodeIslandsStrategicPlanOnAddictionAndOverdose.pdf (accessed March 17, 2016).

James, D.J. and Glaze, L.E. (2006), *Mental Health Problems of Prison and Jail Inmates*, Bureau of Justice Statistics, Department of Justice, Washington, DC, available at: www.bjs.gov/content/pub/pdf/mhnpj.pdf (accessed March 17, 2016).

Langendam, M.W., van Brussel, G.H., Coutinho, R.A. and van Ameijden, E.J. (2001), "The impact of harm reduction-based methadone treatment on mortality among heroin users", *American Journal of Public Health*, Vol. 91 No. 5, pp. 774-80.

Martins, S.S., Sampson, L., Cerda, M. and Galea, S. (2015), "Worldwide prevalence and trends in unintentional drug overdose: a systematic review of the literature", *American Journal of Public Health*, Vol. 105 No. 11, pp. e29-e49.

Merrall, E.L., Kariminia, A., Binswanger, I.A., Hobbs, M.S., Farrell, M., Marsden, J., Hutchinson, S.J. and Bird, S.M. (2010), "Meta-analysis of drug-related deaths soon after release from prison", *Addiction*, Vol. 105 No. 9, pp. 1545-54.

Rich, J.D., McKenzie, M., Larney, S., Wong, J.B., Tran, L., Clarke, J., Noska, A., Reddy, M. and Zaller, N. (2015), "Methadone continuation versus forced withdrawal on incarceration in a combined US prison and jail: a randomised, open-label trial", *The Lancet*, Vol. 386 No. 9991, pp. 350-9.

Rudd, R.A., Aleshire, N., Zibbell, J.E. and Gladden, R.M. (2016), "Increases in drug and opioid overdose deaths – United States, 2000-2014", *MMWR: Morbidity and Mortality Weekly Report*, Vol. 64 Nos 50-51, pp. 1378-82.

Rudd, R.A., Seth, P., David, F. and Scholl, L. (2016), "Increases in drug and opioid-involved overdose deaths – United States, 2010–2015", *MMWR Morbidity and Mortality Weekly Report*, Vol. 65, pp. 1445-52, doi: <http://dx.doi.org/10.15585/mmwr.mm655051e1>

Sander, G., Scandurra, A., Kamenska, A., MacNamara, C., Kalpaki, C., Bessa, C.F., Nicolas, G., Parisi, G., Varley, L., Wolny, M., Moudatsou, M., Pontes, N.H., Mannix-McNamara, P., Libianchi, S. and Antypas, T. (2016), "Overview of harm reduction in prisons in seven European countries", *Harm Reduction Journal*, Vol. 13 No. 28, pp. 1-13.

Sharma, A., O'Grady, K.E., Kelly, S.M., Gryczynski, J., Mitchell, S.G. and Schwartz, R.P. (2016), "Pharmacotherapy for opioid dependence in jails and prisons: research review update and future directions", *Substance Abuse and Rehabilitation*, Vol. 7, pp. 27-40.

Vestal, C. (2016), "At Rikers Island, a Legacy of Medication-Assisted Opioid Treatment", The Pew Charitable Trusts, Stateline, available at: www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/05/23/at-rikers-island-a-legacy-of-medication-assisted-opioid-treatment (accessed March 17, 2016).

Wilkinson, G. and Fan, L. (2016), "The Ithaca Plan: A Public Health and Safety Approach to Drugs and Drug Policy". City Government of Ithaca, NY, available at: www.cityofithaca.org/documentcenter/view/4224 (accessed March 17, 2016).

Zedler, B., Xie, L., Wang, L., Joyce, A., Vick, C., Brigham, J., Kariburyo, F., Baser, O. and Murrelle, L. (2015), "Development of a risk index for serious prescription opioid-induced respiratory depression or overdose in Veterans' Health Administration Patients", *Pain Medicine*, Vol. 16 No. 8, pp. 1566-79.

Zucker, H., Annucci, A.J., Stancliff, S. and Catania, H. (2015), "Overdose prevention for prisoners in New York: a novel program and collaboration", *Harm Reduction Journal*, Vol. 12 No. 51, pp. 1-2.

Further reading

Matusow, H., Dickman, S.L., Rich, J.D., Fong, C., Dumont, D.M., Hardin, C., Marlowe, D. and Rosenblum, A. (2013), "Medication assisted treatment in US drug courts: results from a nationwide survey of availability, barriers and attitudes", *Journal of Substance Abuse Treatment*, Vol. 44 No. 5, pp. 473-80.

Author affiliations

Lauren Brinkley-Rubinstein is based at the Department of Social Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA and Center for Health Equity Research, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA.

David H. Cloud is based at the Rollins School of Public Health, Emory University, Atlanta, Georgia, USA and the Vera Institute of Justice, Substance Use and Mental Health Program, New York City, New York, USA.

Chelsea Davis is based at the Vera Institute of Justice, Substance Use and Mental Health Program, New York City, New York, USA.

Nickolas Zaller is based at the Department of Health Behavior and Health Sciences, University of Arkansas for Medical Sciences, Fayetteville, Arkansas, USA.

Ayesha Delany-Brumsey and Leah Pope are both based at the Vera Institute of Justice, Substance Use and Mental Health Program, New York City, New York, USA.

Sarah Martino, Benjamin Bouvier and Josiah Rich are all based at Center for Prisoner Health and Human Rights, Miriam Hospital, Providence, Rhode Island, USA.

Corresponding author

Lauren Brinkley-Rubinstein can be contacted at: Lauren_Brinkley@med.unc.edu