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Civil commitment experiences among opioid users

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ABSTRACT

Introduction: Civil commitment is an increasingly used policy intervention to combat the opioid epidemic. Yet little is known about persons who get committed and outcomes following commitment for opioid use. In the current cross-sectional study, we compared the characteristics of persons with and without a history of civil commitment, and the correlates of post-commitment abstinence.

Methods: Between October 2017 and May 2018, we surveyed consecutive persons entering a brief, inpatient opioid detoxification (n = 292) regarding their lifetime experiences with civil commitment for opioid use.

Results: Participants averaged 34.6 years of age, 27.1% were female, and 78.1% were White. Seventy-eight (26.7%) experienced civil commitment for opioid use at least once in their lifetime. Committed individuals had significantly higher rates of fentanyl, heroin, and injection drug use, drug overdoses, past incarceration, current criminal justice involvement, and past medication treatment for opioid use ($p < .05$). The average time to relapse following commitment was 72 days, although 33.8% relapsed on the same day of their release. Longer post-commitment abstinence was significantly associated with post-commitment medication treatment, higher perceived procedural justice (i.e., fairness) during the commitment hearing, positive attitude and higher motivation at the end of commitment, and improvement in attitude during commitment ($p < .05$).

Conclusion: Opioid users who experience civil commitment constitute an especially high risk group. A positive commitment experience and post-commitment medication treatment are associated with longer post-commitment abstinence.

1. Introduction

1.1. Prevalence of opioid misuse and opioid use disorders

Roughly 11.8 million people in the United States (U.S.) misused heroin or prescription opioids in 2016 (Substance Abuse and Mental Health Services Administration, 2017) while 626,000 met criteria for heroin use disorder and 1.8 million for prescription opioid use disorder (Substance Abuse and Mental Health Services Administration, 2017). From 2001–2013, the U.S. prevalence of prescription opioid use doubled and that of heroin use disorder more than tripled (Martins et al., 2017; Saha et al., 2016).

1.2. Overdose deaths from opioids

In 2016, 66.4% (n = 42,249) of recorded drug overdose deaths in the U.S. involved opioids (Seth et al., 2018), although the true number may be considerably higher (Ruhm, 2018). Since 2010, overdose deaths involving synthetic opioids have more than doubled and those involving heroin have more than tripled (Centers for Disease Control, 2017). Fentanyl and higher potency fentanyl analogues constitute an especially dangerous contributor to opioid overdoses given the relatively small amounts needed for lethality (Centers for Disease Control, 2018). Indeed, contamination of heroin with fentanyl has been a major cause of the increased number of overdose deaths attributed to heroin (Dowell et al., 2017). Concurrent opioid use has also been the driving force behind increases in cocaine- and benzodiazepine-related overdose deaths (McCall Jones et al., 2017).

1.3. Civil commitment for opioid use

Civil commitment for opioid use is a legal provision that allows a judge to mandate opioid treatment (typically to an inpatient setting) for individuals whose opioid use poses a high likelihood of serious harm (e.g., for overdose, incapacitation, or other substantial danger) (Christopher et al., 2015). In 1991, 18 states had laws authorizing civil

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commitment for opioid use (Gostin, 1991). By 2015, commitment for opioid use had expanded to 33 states (Christopher et al., 2015). Others states are currently considering opioid civil commitment legislation (Ault, 2017). In Europe, 74% of countries allow for civil commitment for opioids (Israelsson, 2011). Rates of civil commitment for opioids within those U.S. states that allow it are also increasing (Cavaiola and Dolan, 2016).

1.4. Civil commitment in Massachusetts

Massachusetts' has permitted civil commitment for substance use since 1970, although historically, it was primarily used to address chronic alcoholism. In tandem with the rise in opioid overdose deaths, Massachusetts has seen a dramatic increase in the use of civil commitment for opioid use (Harvard, 2014). While some states require a petitioner (i.e., the person who formally requests a civil commitment court hearing) to cover the cost of the commitment, in Massachusetts commitment treatment is paid for by the state. Although Massachusetts is ranked 6th in the U.S. for treatment accessibility for opioid use disorder (Harvard, 2014), it has among the highest rates of opioid related mortality in the U.S. In 2016, the rate of drug overdose deaths in Massachusetts was 30.2 per 100,000, substantially higher than the national average (16.3 per 100,000) (Hedegaard et al., 2017). From 2000 to 2017, there were 15,859 opioid-related overdose deaths in the state, with a five-fold increase from 2000 to 2016 (Massachusetts Department of Public Health, 2018). Moreover, from 2010 to 2015, nonfatal opioid overdoses exceeded 65,000 (Massachusetts Department of Public Health, 2017).

1.5. Scarcity of data on civilly committed opioid users

In a criminal justice context, select studies have found that individuals in court ordered substance use treatment are more likely to stay in treatment (Coviello et al., 2013) and remain abstinent (Kelly et al., 2005) at follow-up than those in voluntarily treatment. On balance, however, data is largely mixed and inconclusive on whether criminal-court mandated substance use treatment improves clinical and legal outcomes (Klag et al., 2005; Werb et al., 2016).

Even less is known about individuals who are civilly committed and the outcomes following commitment (Jain et al., 2018). For example, beyond the legal requirement needed to justify commitment (i.e., dangerousness), it is unknown whether demographic, social and clinical features distinguish committed and non-committed opioid users.

Another area of interest are the experiences of opioid users during, and attitudes toward, the civil commitment process. Procedural justice refers to the sense of fairness and inclusion one experiences during a legal proceeding. It is distinct, at least conceptually, from whether one agrees with the outcome. Efforts to promote procedural justice stem from recognition that an individual should treated fairly and respectfully even when they may be under a legal mandate or cannot control the outcome of their case (McKenna et al., 2000). In the context of civil commitment for mental illness, higher perceptions of procedural justice have been shown to improve engagement with the treatment that is directed under a commitment order (Cascardi et al., 2000).

Finally, there are no data on what factors may be associated with longer periods of post-commitment abstinence among opioid users. Thus, as the use of civil commitment expands and policymakers consider adopting new (or modifying existing) civil commitment statutes, there is a pressing need to identify factors that may contribute to better post-commitment outcomes.

2. Methods

2.1. Recruitment

Between October 2017 and May 2018, consecutive persons seeking inpatient opioid withdrawal management ("detoxification") were approached at their time of admission to Stanley Street Treatment and Resources, Inc. (SSTAR) in Fall River, Massachusetts to take part in a survey research study. SSTAR's program provides evaluation and withdrawal management using a methadone taper, individual and group counseling, overdose prevention education, and aftercare case management.

Of patients admitted to SSTAR during the recruitment period, 318 were opioid users who were 18 years or older, English-speaking, and able to provide informed consent as approved by the Butler Hospital Institutional Review Board. Twenty-six refused study participation or were discharged before staff could interview them. The remaining 292 persons completed a 15-minute non-incentivized, face-to-face interview administered by non-treating research staff.

2.2. Measures

In addition to age, sex, race, ethnicity, years of education, past 30-day cocaine use, past 30-day heroin use, lifetime fentanyl use, and lifetime injection drug use, the following were assessed.

2.2.1. Living with partner

Respondents were asked their relationship status. Those reporting being married or living with an unmarried partner were coded as living with a partner. Those reporting being single, divorced or widowed were coded as not living with a partner.

2.2.2. Homelessness

Respondents were asked where they had slept/spent their nights in the past three months. Answer options included own home or apartment, family member's home or apartment, friend's home or apartment, shelter, the street, hospital, incarcerated, detoxification center, and residential treatment. Respondents spending any nights on the street or in a shelter were coded as homeless and all others not homeless.

2.2.3. Employment status

Respondents were asked if they were currently working. Those reporting that they worked full-time (>35 h) or part-time (<35 h) were coded as employed. Respondents reporting being currently unemployed or being a full- or part-time student were coded as unemployed.

2.2.4. Pending legal issues

Respondents answering that their "current legal status" was on probation (with or without a jail/prison sentence), on parole, or on pretrial release were defined as having pending legal issues, and all others were coded as not having pending legal issues.

2.2.5. History of incarceration

An indicator variable was coded 1 if respondents reported they had ever been incarcerated, 0 otherwise.

2.2.6. Attitudes toward civil commitment

Respondents were asked the following: "At the beginning/end of the civil commitment, what was your attitude toward being committed? (response range: very positive, somewhat positive, neutral, somewhat negative, very negative); "At the beginning/end of the civil commitment, how motivated were you to receive drug/alcohol treatment?" (response range: very motivated, somewhat motivated, neither motivated nor unmotivated, somewhat unmotivated, very unmotivated); "Overall, how helpful was civil commitment for you?" (response range: very helpful, somewhat helpful, neither helpful nor unhelpful, somewhat unhelpful, very unhelpful).

2.2.7. Procedural justice during civil commitment hearing

We measured participants' perceived procedural justice regarding interaction with the judge overseeing their most recent commitment

hearing using 5 Likert items (higher scores indicate higher perceived procedural justice), adapted from a measure of perceived procedural justice used in mental health court settings (Poythress et al., 2002). For example, "At your civil commitment court hearing, did the judge treat you fairly?" and "At your civil commitment court hearing, did you have enough opportunity to tell the judge what you think he/she needed to hear about your situation?" The reliability for the procedural justice items, as measured by Cronbach's alpha, was 0.921.

2.2.8. Other experiences related to civil commitment

Respondents were asked the number of times they had been civilly committed for opioid use, how many days their most recent commitment lasted, and whether they received medication treatment (methadone, buprenorphine, or naltrexone) during their most recent commitment. They were also asked whether they had a follow-up appointment for medication treatment scheduled at the time of release from commitment, and whether they attended the appointment and received medication there. Finally, respondents were asked, "How many days after your last civil commitment did you use opiates again?"

2.3. Analytic methods

We present descriptive statistics to summarize sample characteristics. T-tests for differences in means and $\chi 2$ tests for differences on categorical variables were used to compare persons with and without a history of civil commitment. Because the sample size was relatively small, and because many variables were ordered categorical and/or severely skewed, we used the Spearman rank-order correlation coefficient to the evaluate association between days to opioid relapse and demographic characteristics as well as civil commitment experiences among those persons who had previously been committed.

3. Results

Participants averaged 34.6 (± 9.4) years of age, 27.1% were female, 78.1% were White. 2.7% were Black, 12.3% were Latino/a, and 6.8% identified other ethnic or racial origins. Seventy-eight (26.7%) reported they had experienced civil commitment one or more times. Persons with a prior commitment were significantly (p = .023) younger (32.5, ± 7.3) than those without (35.3, ± 10.0) (Table 1). Persons with a prior commitment were significantly more likely to be currently involved in the legal system (45.5% vs 29.9%, p = .014), to have previously been incarcerated (79.5% vs 64.0%, p = .012), to have used fentanyl (94.7% vs 84.4%, p = .021), to have used heroin in the past 30 days (98.7% vs 86.9%, p = .003), to have a history of injection drug use (88.5% vs 66.8%, p < .001), to have a prior drug overdose (71.8% vs 51.4%, p = .002), and to have received past medication treatment (either methadone, buprenorphine, or naltrexone) for opioids (92.3% vs 69.2%, p < .001).

Among persons with a prior civil commitment (n = 78), fifty-six (71.8%) had 1 or 2 commitments, 23.1% had 3–4 commitments, and 4 (5.1%) reported 5 or more commitments (Table 2). The modal length of last commitment was 21–30 days (53.3%). Only 14 (15.6%) reported their commitment had been shorter than 21 days, and 25 (31.2%) said their commitment was longer than 30 days. Mean days to relapse after last commitment was 72.0 (± 132.6, median = 14) days; 25 (33.8%) reported zero days to relapse following their last civil commitment. Fifteen participants (19.48%) received medication treatment for opioids during their most recent commitment. Fourteen (18.42%) had a scheduled appointment in the community for medication treatment at the time of release from commitment. Only 6 (7.7%) participants, however, attended this appointment and received medication treatment after their last commitment.

Attitudes at the beginning of commitment were generally quite negative but were significantly more positive (z = −4.12, p < .001) at the end of the commitment. Motivation for treatment also improved

Table 1
Background Characteristics by Civil Commitment (cell Entries are n (%) or mean (± SD)).

		Civil Commitment		
	Sample (n = 292)	No (n = 214)	Yes (n = 78)	p = [a]
Age, years	34.6 (± 9.4)	35.3 (± 10.0)	32.5 (± 7.3)	.023
Sex (Male)	213 (72.9%)	154 (72.0%)	59 (75.6%)	.531
Race/Ethnicity				.258
Non-Latino White	228 (78.1%)	161 (75.2%)	(85.9%)	
Black	8 (2.7%)	7 (3.3%)	1 (1.3%)	
Latino/a	36 (12.3%)	29 (13.6%)	7 (9.0%)	
Other	20 (6.8%)	17 (7.9%)	3 (3.9%)	
Lives w Partner (Yes)	65 (22.3%)	51 (28.8%)	14 (18.0%)	.285
Years of Education	11.8 (± 1.9)	11.7 (± 2.00)	12.0 (± 1.7)	.379
Employed (Yes)	54 (18.5%)	37 (17.3%)	17 (21.8%)	.380
Homeless (Yes)	70 (24.0%)	49 (22.9%)	21 (26.9%)	.476
Legal Involvement (Yes)	99 (34.0%)	64 (29.9%)	35 (45.5%)	.014
Ever Incarcerated (Yes)	199 (68.2%)	137 (64.0%)	62 (79.5%)	.012
Used Fentanyl (Yes)	250 (87.1%)	178 (84.4%)	72 (94.7%)	.021
Past 30-Day Heroin Use (Yes)	263 (90.1%)	186 (86.9%)	77 (98.7%)	.003
Ever Injection Drug Use (Yes)	212 (72.6%)	143 (66.8%)	69 (88.5%)	< .001
Ever Overdose (Yes)	166 (56.8%)	110 (51.4%)	56 (71.8%)	.002
Past 30-Day Cocaine (Yes)	162 (55.5%)	114 (53.3%)	48 (61.5%)	.208
Ever MAT (Yes)	220 (75.3%)	148 (69.2%)	72 (92.3%)	< .001

[a] P-values were calculated using the Pearson $\chi 2$ – test of independence for categorical variables and the *t*-test for differences in means for continuous variables.

Table 2
Experiences and Attitudes among Civilly Committed Opioid Users (n = 78).

	N (%)	Mean (± SD)	Median	Range
# of Prior Commitments				
1-2	56 (71.8%)			
3-4	18 (23.1%			
5-10	4 (5.1%)			
Length of Last Commitment				
≤ 10 Days	5 (6.5%)			
11 – 20 Days	7 (9.1%)			
21 – 30 Days	41 (53.3%)			
31 – 45 Days	15 (19.5%)			
> 45 Days	10 (11.7%)			
Days to Relapse Post Commitment		72.0 (± 132.6)	14	0 – 730
Attitude at Beginning of Commitment		2.0 (± 1.41)	1	1 – 5
Attitude at End of Commitment		2.9 (± 1.65)	3	1 – 5
Motivation at Start of Commitment		2.3 (± 1.61)	1	1 – 5
Motivation at End of Commitment		2.9 (± 1.72)	3	1 – 5
Helpfulness of Commitment		2.6 (± 1.66)	2	1 – 5
Perceived Procedural Justice		8.0 (± 7.58)	6	0 – 20
Medication Treatment During Commitment[a]	15 (19.5%)			
Follow-up Medication Treatment Appointment[b]	14 (18.4%)			
Medication Treatment After Commitment[b]	6 (7.7%)			

[a] One participant was missing.
[b] Two participants were missing.

Table 3
Spearman Rank-Order Correlations of Days to Relapse with Demographic Characteristics and Civil Commitment Experiences (n = 74[a]).

Correlate	r_s (p =)
Age	−0.00 (.986)
Sex (Male)	−0.01 (.916)
Race (White)	−0.04 (.763)
Latino/a (Yes)	−0.03 (.770)
Years of education	0.19 (.101)
Attitude before commitment	0.18 (.121)
Attitude after commitment	0.44 (< .001)
Change in attitude	0.25 (.028)
Motivation before commitment	0.19 (.100)
Motivation after commitment	0.33 (.005)
Change in motivation	0.14 (.224)
Helpfulness of commitment	0.45 (< .001)
Perceived procedural justice	0.39 (.001)
Medication treatment after commitment	0.28 (.017)

[a] Four participants were missing.

from the beginning to end of the most recent commitment ($z = -2.24$, $p < .001$). At the start of commitment, 47 (60.3%) said they were very or somewhat unmotivated while 24 (30.8%) said they were very or somewhat motivated. In contrast, 35 (43.6%) said they were somewhat or very unmotivated at the end of commitment and 38 (48.7%) described themselves as very or somewhat motivated. Forty (51.3%) participants said commitment was very or somewhat unhelpful while 24 (30.8%) described commitment as somewhat or very helpful. The mean score on the perceived procedural justice index (range from 0 to 20) was 8.0 (± 7.58), with a median score of 6. Scores on this index tended to cluster at the lower and upper limits; 22 (29.3%) were at the lower limit of 0 and 11 (14.7%) were at the upper limit of 20.

As shown in Table 3, time to relapse was positively and significantly associated with attitude after commitment ($rs = 0.44$, $p < .001$), an improvement in attitude during commitment ($rs = 0.25$, $p = .028$), motivation after commitment ($rs = 0.33$, $p = .005$), perceived helpfulness of commitment ($rs = 0.45$, $p < .001$), higher scores on the procedural justice index ($rs = 0.39$, $p = .001$) and keeping an appointment for medication treatment (either methadone, buprenorphine, or depot naltrexone) following completion of commitment ($r_s = 0.28$, $p = .017$).

4. Discussion

This study found that opioid users who have been civilly committed are more likely to use and inject heroin, report exposure to fentanyl, to have overdosed, to have current criminal justice involvement and past incarceration, and to have received medication treatment for opioid use, compared to those who were never committed. With regard to post-commitment outcomes, several factors were associated with longer time to relapse: higher perceived procedural justice during the commitment hearing, an improved attitude about being committed, higher motivation for treatment at the end of commitment, and receiving medication treatment after commitment ends.

On first glance, it may be tempting to interpret these associations as offering provisional support for civil commitment. Loosely interpreted, they seem to suggest that commitment can be judiciously applied to mitigate the dangerousness that opioid use poses to some individuals. Yet at present, we caution against drawing such a conclusion for a number of reasons. First, there is simply too little data available on civil commitment for opioid use to make assertions about whether it is appropriately administered or effective in reducing opioid-related risks. We do not have, for example, comparable outcome data on people who are not committed but who have similar patterns of opioid use and risk behaviors. Future studies should also compare outcomes between individuals who are not committed and those who are subject to different commitment durations. Second, the sample used for the current study includes committed individuals who have relapsed and are now enrolled in a short-term inpatient opioid treatment program. Thus, we do not know how representative these individuals are of the larger population of persons committed for opioid use. Other previously committed users may be actively using opioids and not seeking managed withdrawal and aftercare, actively using opioids and receiving long-term medication treatment, not actively using opioids, incarcerated, or even deceased following overdoses or by other means. Third, the overall merits of a costly and controversial public policy like civil commitment must be evaluated in the broader context of the prevention and treatment services that are available for opioid use. In other words, even if our data were fully representative of committed opioid users, there may be antecedent factors contributing to commitment that could be effectively mitigated by other, less compulsory, means.

Notwithstanding these caveats, this study has important implications. First, these data reflect what one might expect of individuals who are subject to civil commitment for opioid use: they are an especially high-risk group in need of treatment. After all, to justify a commitment order, a person's substance use must be thought to be severe enough to threaten their own safety or that of others. Considering that all but a handful of committed participants have been exposed to fentanyl, injection drugs and have been incarcerated, and that a majority have overdosed, this group appears to meet that risk profile. A prior overdose would certainly contribute to a court finding of acute dangerousness given the elevated risk for repeat and fatal overdoses following a nonfatal event (Olfson et al., 2018). Criminal behaviors themselves may, in some instances (e.g., assault, threatening someone with a weapon), constitute a high enough level of safety concern to warrant civil commitment if they are causally linked to one's opioid use.

Second, the initiation or continuation of medication treatment after (and presumably during) commitment appears to be under-utilized in the commitment setting. Medication treatment, for example, clearly reduces all cause- and opioid-related mortality among opioid users who have previously overdosed (Larochelle et al., 2018). Given the high-risk nature of this group, it seems imperative that a greater number have access to medication treatment while committed. Unfortunately, only a small minority of those committed individuals in our sample received medication treatment during their most recent commitment. Even among the few who did receive such treatment, most did not continue it once in the community. Further research is needed to determine whether this under-utilization is due to patient refusal, provider bias against such treatment, or a reluctance to initiate such treatment because of limited availability for follow-up care in the community. At the same time, we note that the majority of committed individuals have received medication treatment in the past, so simply offering them such treatment may be insufficient to achieve sustained abstinence or harm reduction. More data is needed on the nature of transitional services between commitment and community care and what barriers may exist for those who do not follow through, such as transportation, financial, or criminal justice-related difficulties or lack of treatment availability.

Third, the way in which individuals are treated during their court evaluation for commitment, as evidenced by their perceptions of procedural justice, have implications for their engagement during and following commitment. Understandably, most opioids users who are civilly committed view it as an unwelcome intervention. There are good reasons to ensure that these individuals experience the commitment hearing and determination process as being conducted fairly and respectfully. People deserve to be treated with dignity even (and perhaps especially) in the face of being denied liberty. Moreover, such conduct may serve to make the mandated treatment more effective by promoting a therapeutic alliance and nurturing an individual's appreciation for the adverse health, safety and social effects their opioid use has created. Future work could also investigate whether perceived procedural justice is influenced by pre-commitment factors, such as the person who initiated the commitment hearing and past court

experiences.

A number of study limitations should be noted. The nature and timing of participants' opioid use relative to the timing of their most recent civil commitment is unknown. Thus, it is possible, although unlikely given the dangerousness these behaviors confer, that some participants began fentanyl and heroin use after their most recent commitment. Not assessing the date of the most recent commitment also means that the recall period for the commitment experience varies, and may have been years earlier. Still, commitment is a salient event, giving us confidence in their memory of that experience. This sample also represents a single jurisdiction with recruitment from a single site. Finally, some of the variables were examined with single items.

5. Conclusion

Persons who are civilly committed for opioid use constitute an especially high-risk population, with elevated rates of heroin and fentanyl use, overdoses, and criminal justice problems, compared to non-committed opioid users. Individuals who experience higher levels of procedural justice during the civil commitment evaluation process and those who engage in post-commitment medication treatment have longer times to relapse. These findings suggest that both the legal process of being committed and the aftercare planning during commitment are key components of optimizing the outcomes of persons committed for opioid use.

Author contributors

Drs. Christopher, Stein, and Anderson generated the design and analyses used in the current study. Drs. Christopher and Stein conducted the literature review, wrote the Introduction, Methods, and Discussion, and revised the final draft of the manuscript. Dr. Anderson conducted statistical analyses, wrote the Results section, and reviewed manuscript drafts. All authors have contributed to and approved the final manuscript.

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Conflict of interest

None.

References

Ault, A., 2017. States consider mandatory treatment for opioid abusers. Medscape. Mar 28 Available at: http://www.medscape.com/viewarticle/877839 Accessed: September 1, 2018.

Cascardi, M., Poythress, N.G., Hall, A., 2000. Procedural justice in the context of civil commitment: an analogue study. Behav. Sci. Law 18, 731–740.

Cavaiola, A.A., Dolan, D., 2016. Considerations in civil commitment of individuals with substance use disorders. Subst. Abus. 37, 181–187.

Centers for Disease Control. Rising Numbers of Deaths Involving Fentanyl and Fentanyl Analogs, Including Carfentanil, and Increased Usage and Mixing with Non-opioids. CDC Health Alert Network. July 11, 2018. CDCHAN-00413. Available at: https://emergency.cdc.gov/han/han00413.asp. Accessed September 1, 2018.

Centers for Disease Control, 2017. NCHS data on drug-poisoning deaths. NCHS Fact Sheet (August) Available at: https://www.cdc.gov/nchs/data/factsheets/factsheet_drug_poisoning.htm Accessed September 1, 2018.

Christopher, P.P., Pinals, D.A., Stayton, T., Sanders, K., Blumberg, L., 2015. Nature and utilization of civil commitment for substance abuse in the United States. J. Am. Acad. Psychiatry Law 43, 313–320.

Dowell, D., Noonan, R.K., Houry, D., 2017. Underlying factors in drug overdose deaths. JAMA 318, 2295–2296.

Gostin, L.O., 1991. Compulsory treatment for drug-dependent persons: justifications for a public health approach to drug dependency. Millbank Q. 69, 561–593.

Harvard Institute of Politics, 2014. Involuntary Commitment for Substance Abuse Treatment in Massachusetts: Problems and Proposed Solutions. Policy Brief. Available at http://www.iop.harvard.edu/sites/default/files_new/research-policy-papers/Section35HealthcarePolicyPaper.pdf, Accessed September 1, 2018.

Hedegaard, H., Warner, M., Miniño, A.M., 2017. Drug Overdose Deaths in the United States, 1999–2016. NCHS Data Brief, No 294. National Center for Health Statistics, Hyattsville, MD.

Israelsson, M., 2011. Welfare, temperance and compulsory commitment to care for persons with substance misuse problems: a comparative study of 38 European countries. Eur. Addict. Res. 17, 329–341.

Jain, A., Christopher, P., Appelbaum, P.S., 2018. Civil commitment for opioid and other substance use disorders: does it work? Psychiatr. Serv. 69, 374–376.

Klag, S., O'Callaghan, F., Creed, P., 2005. The use of legal coercion in the treatment of substance abusers: an overview and critical analysis of thirty years of research. Subst. Use Misuse 40, 1777–1795.

Larochelle, M.R., Bernson, D., Land, T., Stopka, T.J., Wang, N., Xuan, Z., Bagley, S.M., Liebschutz, J.M., Walley, A.Y., 2018. Medication for opioid use disorder after nonfatal opioid overdose and association with mortality: a cohort study. Ann. Intern. Med. 169, 137–145.

Martins, S.S., Sarvet, A., Santaella-Tenorio, J., Saha, T., Grant, B.F., Hasin, D.S., 2017. Changes in US lifetime heroin use and heroin use disorder: prevalence from the 2001-2002 to 2012-2013 national epidemiologic survey on alcohol and related conditions. JAMA Psychiatry 74, 445–455.

Massachusetts Department of Public Health, 2017. An Assessment of Fatal and Nonfatal Opioid Overdoses in Massachusetts (2011 – 2015). Available at:. Accessed September 1, 2018. https://www.mass.gov/service-details/chapter-55-overdose-report.

Massachusetts Department of Public Health, 2018. Number of Opioid-Related Overdose Deaths, All Intents by County, MA Residents: 2000-2017. Available at:. Accessed September 1, 2018. https://www.mass.gov/lists/current-opioid-statistics.

McCall Jones, C., Baldwin, G.T., Compton, W.M., 2017. Recent increases in cocaine-related overdose deaths and the role of opioids. Am. J. Public Health 107, 430–432.

McKenna, B.G., Simpson, A.I., Coverdale, J.H., 2000. What is the role of procedural justice in civil commitment? Aust. N. Z. J. Psychiatry 34, 671–676.

Olfson, M., Wall, M., Wang, S., Crystal, S., Blanco, C., 2018. Risks of fatal opioid overdose during the first year following nonfatal overdose. Drug Alcohol Depend. 190, 112–119.

Poythress, N.G., Petrila, J., McGaha, A., Boothroyd, R., 2002. Perceived coercion and procedural justice in the Broward mental health court. Int. J. Law Psychiatry 25, 517–533.

Ruhm, C.J., 2018. Corrected US opioid-involved drug poisoning deaths and mortality rates, 1999-2015. Addiction 113, 1339–1344.

Saha, T.D., Kerridge, B.T., Goldstein, R.B., Chou, S.P., Zhang, H., Jung, J., Pickering, R.P., Ruan, W.J., Smith, S.M., Huang, B., Hasin, D.S., Grant, B.F., 2016. Nonmedical prescription opioid use and DSM-5 nonmedical prescription opioid use disorder in the United States. J. Clin. Psychiatry 77, 772–780.

Seth, P., Scholl, L., Rudd, R.A., Bacon, S., 2018. Overdose deaths involving opioids, cocaine, and psychostimulants — United States, 2015–2016. MMWR Morb. Mortal. Wkly. Rep. 67, 349–358.

Substance Abuse and Mental Health Services Administration, 2017. Key Substance Use and Mental Health Indicators in the United States: Results From the 2016 National Survey on Drug Use and Health (HHS Publication No. SMA 17-5044, NSDUH Series H-52). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD.

Werb, D., Kamarulzaman, A., Meacham, M.C., Rafful, C., Fischer, B., Strathdee, S.A., Wood, E., 2016. The effectiveness of compulsory drug treatment: a systematic review. Int. J. Drug Policy 28, 1–9.