

## Section III.e Persons Released from Incarceration in Prisons and Jails

**Current Status:** the 2016 Chapter 55 opioid report found an approximately 50 times higher opioid overdose death rate in formerly incarcerated people than among non-incarcerated Massachusetts residents. Individuals incarcerated in Massachusetts jails were not examined previously.

**Background:** At the end of 2011, 7 million Americans were under correctional supervision, including 2.2 million held in jail or prison<sup>62</sup>. Of those incarcerated, nearly two-thirds (1.5 million) have substance use disorders, including up to one-quarter with opioid use disorder<sup>63,64,65</sup>. It has been estimated that one-third of heroin users pass through correctional facilities annually<sup>66</sup>. Few inmates with opioid use disorder receive addiction treatment during incarceration, and rates of relapse and opioid overdose-related deaths (109 deaths per 100,000 person years, or 15 percent of all deaths among former inmates) are tragically high following release<sup>67 68 69 70</sup>.

Data from Massachusetts prisons and jails were used in this report. The Massachusetts Department of Corrections (DOC) manages all seventeen<sup>71</sup> state correctional facilities or prisons. The 15 county jails<sup>72</sup> or Houses of Correction (HOC) are managed by the county sheriffs. According to the DOC, the MA prison population continued to decline for the fourth year, dropping 15% after a peak of 11,723 inmates on January 1, 2012 to 10,014 inmates on January 1, 2016. The number of criminal releases increased averaging 277 per month (3,329 total) during 2015.<sup>73</sup> The DOC has acknowledged the drug problem within the prison

### Data sources:

- Medical claims
- Hospital, ED, and outpatient data
- Death records
- Ambulance trips
- Post-mortem Toxicology
- Dept of Correction
- Houses of Correction

<sup>62</sup> Glaze LE, Parks E. Correctional populations in the United States, 2011. Washington DC: U.S. Department of Justice; 2012.

<sup>63</sup> Mumola CJ, Karberg JC. Drug use and dependence, state and federal prisoners, 2004 (revised 1/19/07) Washington, DC: U.S. Department of Justice; 2006.

<sup>64</sup> Fazel S, Baillargeon J. The health of prisoners. *Lancet*. 2011;377:956–65. doi: 10.1016/S0140-6736(10)61053-7. [PubMed] [Cross Ref]

<sup>65</sup> Karberg JC, James DJ. Substance dependence, abuse, and treatment of jail inmates, 2002. Washington DC: U.S. Department of Justice; 2005.

<sup>66</sup> Boutwell AE, Nijhawan A, Zaller N, Rich JD. Arrested on heroin: a national opportunity. *J Opioid Manag*. 2007;3:328–32. [PubMed]

<sup>67</sup> Chandler RK, Fletcher BW, Volkow ND. Treating drug abuse and addiction in the criminal justice system: improving public health and safety. *JAMA*. 2009;301:183–90. doi: 10.1001/jama.2008.976. [PMC free article] [PubMed] [Cross Ref]

<sup>68</sup> Gordon MS, Kinlock TW, Schwartz RP, O'Grady KE. A randomized clinical trial of methadone maintenance for prisoners: findings at 6 months post-release. *Addiction*. 2008;103:1333–42. doi: 10.1111/j.1360-0443.2008.002238.x. [PMC free article] [PubMed] [Cross Ref]

<sup>69</sup> Binswanger IA, Blatchford PJ, Mueller SR, Stern MF. Mortality after prison release: opioid overdose and other causes of death, risk factors, and time trends from 1999 to 2009. *Ann Intern Med*. 2013;159:592–600. doi: 10.7326/0003-4819-159-9-201311050-00005. [PubMed] [Cross Ref]

<sup>70</sup> Binswanger IA, Stern MF, Deyo RA, Heagerty PJ, Cheadle A, Elmore JG, et al. Release from prison—a high risk of death for former inmates. *N Engl J Med*. 2007;356:157–65. doi: 10.1056/NEJMsa064115. [PMC free article] [PubMed] [Cross Ref]

<sup>71</sup> List of Prisons, Mass.gov

<sup>72</sup> Accessed at <http://prisonhandbook.com/1688/massachusetts-county-jails/> on 5/19/2017.

<sup>73</sup> Massachusetts Department of Correction, 2015 Annual Report

population.<sup>74</sup> Indeed, the 2016 Chapter 55 opioid report found an approximately 50 times higher opioid overdose death rate in formerly incarcerated people compared with non-incarcerated Massachusetts residents.<sup>75</sup>

**Basic Methods:** The DOC and the county-based HOC data provided a complete listing of persons “released to the street” for the Chapter 55 study. DOC records covered the period 1/1/2011 through 12/31/2015. HOC records covered a slightly shorter period – 7/1/2011 through 12/31/2015. Since nearly the entire population was represented, it was decided that no mathematical modeling would be required to estimate the likelihood that a person had been released from a prison or jail. The linkage rate of DOC and HOC records to the APCD spine were 89.7% and 81.8% respectively.<sup>76</sup>

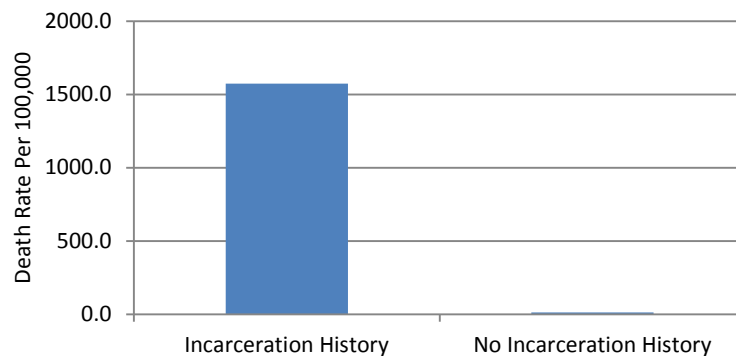
**Key Findings:**

- During the time period, there were 30,056 recently released inmates from the Department of Correction (DOC) and 29,068 from the House of Correction (HOC) for a total of 53,956 former inmates. Twenty-five percent of Massachusetts prison inmates from DOC received treatment during their incarceration.
- The opioid overdose death rate is 120 times higher for those recently released from incarceration compared to the rest of the adult population.

**Key Finding:** The majority of individuals with history of incarceration have insurance through MassHealth; 42% of former inmates were considered homeless and 54% were considered as having an opioid use disorder.

**Key Finding:** Compared to the rest of the adult population, the opioid-related overdose death rate is 120 times higher for persons released from prisons and jails.

**Opioid Death Rate 120 Times Higher for Individuals with Histories of Incarceration**



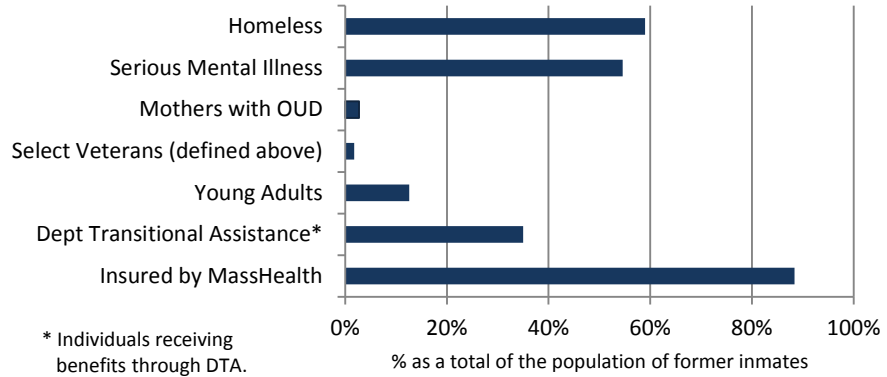
<sup>74</sup> Accessed at <http://www.mass.gov/eopss/agencies/doc/> on 5/19/2017.

<sup>75</sup> Accessed at <http://www.mass.gov/eohhs/docs/dph/stop-addiction/dph-legislative-report-chapter-55-opioid-overdose-study-9-15-2016.pdf> on 5/19/2017.

<sup>76</sup> For HOC data, incarceration dates are not reported for all county releases, so the full period of incarceration is not available for the data set. Hampshire and Berkshire counties did not submit data for FY2012 quarter 2, and Worcester County did not provide offender date of birth for CY2012 through CY2013 Q4, so their information is excluded for this analysis.

- About three in five former inmates were considered homeless (coded plus estimated), over half were considered as having an opioid use disorder. Less than 2% were also among the veterans examined in this study.

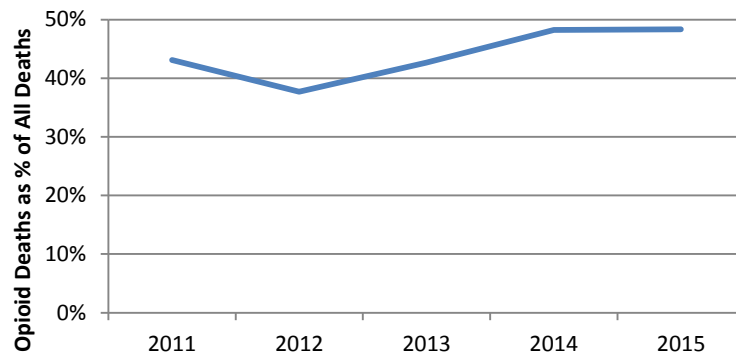
**More Than Half of Individuals with *Histories of Incarceration* Have Been Homeless**



**Key Finding:** Opioid-related deaths have increased over 12-fold between 2011 and 2015. Nearly one of every 11 opioid-related overdose deaths were to persons with histories of incarceration in Massachusetts jails and prisons.

- Opioid-related deaths among persons recently released from incarceration have increased over 12-fold between 2011 and 2015. Two in five deaths were opioid-related corresponding to one of every six opioid-related overdoses deaths in the state.
- In 2015, nearly 50% of all deaths among those released from incarceration were opioid-related.

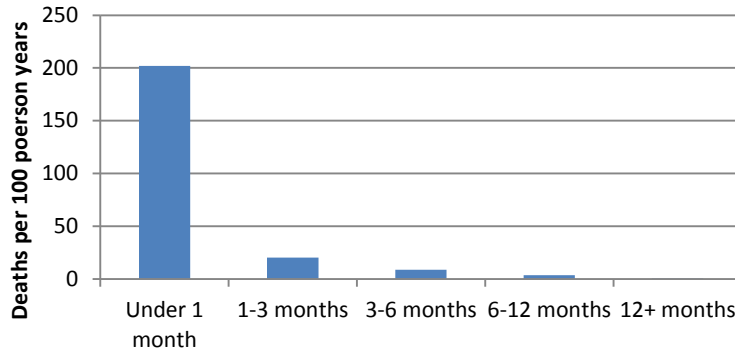
**Nearly Half of All Deaths for Persons Released from Incarceration (2011-2015) are Opioid-Related**



- Inmates who died from opioid-related overdoses were significantly younger than those inmates that died from other causes (36.2 vs. 46.5 years).

- For individuals who died, the mean time from release to death was 19 months, ranging from dying within the same month as release (or in prison) to 58 months later. The first month after release proved to be a critical time period for former inmates. Opioid-related overdose death rates were significantly higher than for subsequent months.<sup>77</sup>

**Opioid-Related Death Rates for Former Inmates are Higher in the Month of Release than Later**



**Key Finding:** Our findings also confirm that there is a significantly elevated mortality risk in the earliest time-periods after being released from a state correctional facility, when compared with other non-critical time periods.

- Former inmates who died from opioid-related overdoses were on average younger, more likely to be male, more likely to be White non-Hispanic, more likely to have a high school education or less, less likely to be married at or around the time of death, less likely to be in a management or professional occupation, more likely to be in a service and in farming/fishing/construction profession, and more likely to be recorded as a veteran on death certificates compared with those who died from all other reportable causes.

**Recommendations for Further Analysis:**

- Examining the impact of treatment on fatal and nonfatal overdose to determine if specific models are more effective with individuals who have been released from incarceration.
- More advanced statistical modeling should be conducted to control for length of prison time, comorbidities that impact medical care utilization, and other differences in socioeconomic status.

<sup>77</sup> Since the data from Houses Correction only included release data and not dates of incarceration, the analysis focused on data from the Department of Correction.