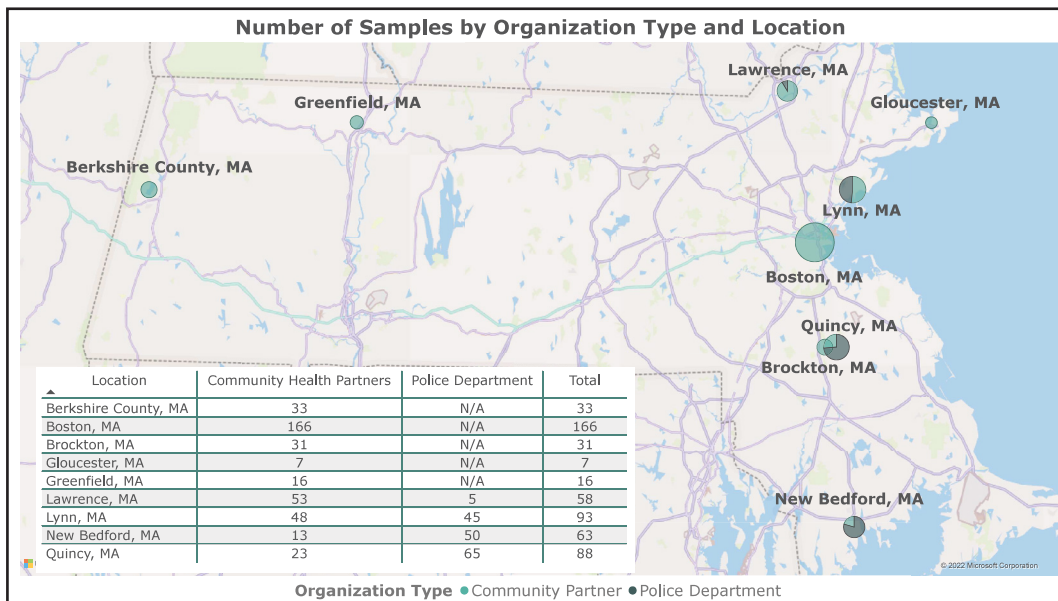




Massachusetts Drug Supply Data Stream (MADDS) Boston Report 2021

Drug Supply Update: Boston, MA

269 samples tested from Boston in 2021; 166 sent for advanced testing



From January to December 2021, 708 drug samples were tested by MADDS, 555 (78.4%) of which were from Massachusetts and had complete on-site and off-site laboratory testing results available for this report. In Boston, 269 drug samples were tested, with 166 (61.7%) sent for complete, advanced testing. The main drug compounds detected in samples from Boston were fentanyl (59.6%), xylazine (20.5%), 4-fluorofentanyl (18.1%), methamphetamine (15.1%), and tramadol (11.4%). This differed from the state as a whole, where cocaine was much more prevalent, and methamphetamine less prevalent. Fentanyl synthesis precursors 4-ANPP (93.4%) and phenethyl 4-ANPP (60.5%) were common in fentanyl-containing samples from Boston. These two compounds may indicate poorly synthesized and purified fentanyl, which could result in a weaker fentanyl supply. The presence of caffeine (9.7%) and xylazine (35.5%), a veterinary sedative, were increasingly common active cuts in heroin/fentanyl samples, and phenacetin (30.0%) was a common active cut in cocaine samples. The most frequently detected inactive components included lactose (50.0%), mannitol (31.9%), and cellulose (8.4%). These numbers are consistent with reporting from 2020 and are on par with the rest of the state. Additional data regarding the substances involved during adverse events are available upon request.

Primary chemical contents for 157 powder or pill drug samples sent for complete advanced testing from Boston are shown in Figure 1.

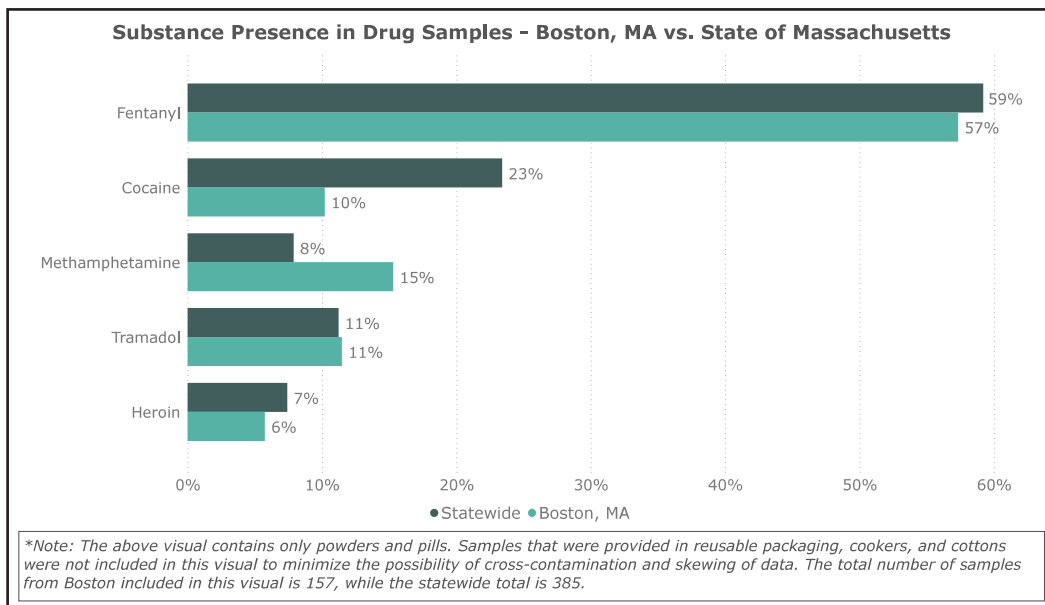


Figure 1

Components of the Drug Supply

The street drug supply is unpredictable, and drugs may contain more components than what is expected. In addition to the primary drug or drugs, additives, known as cuts, may be added. Which cuts are used and the ratios in which they are used vary by drug and may affect the use experience. As can be seen in Figure 2, most samples tested by MADDs in 2021 contained some kind of cut.

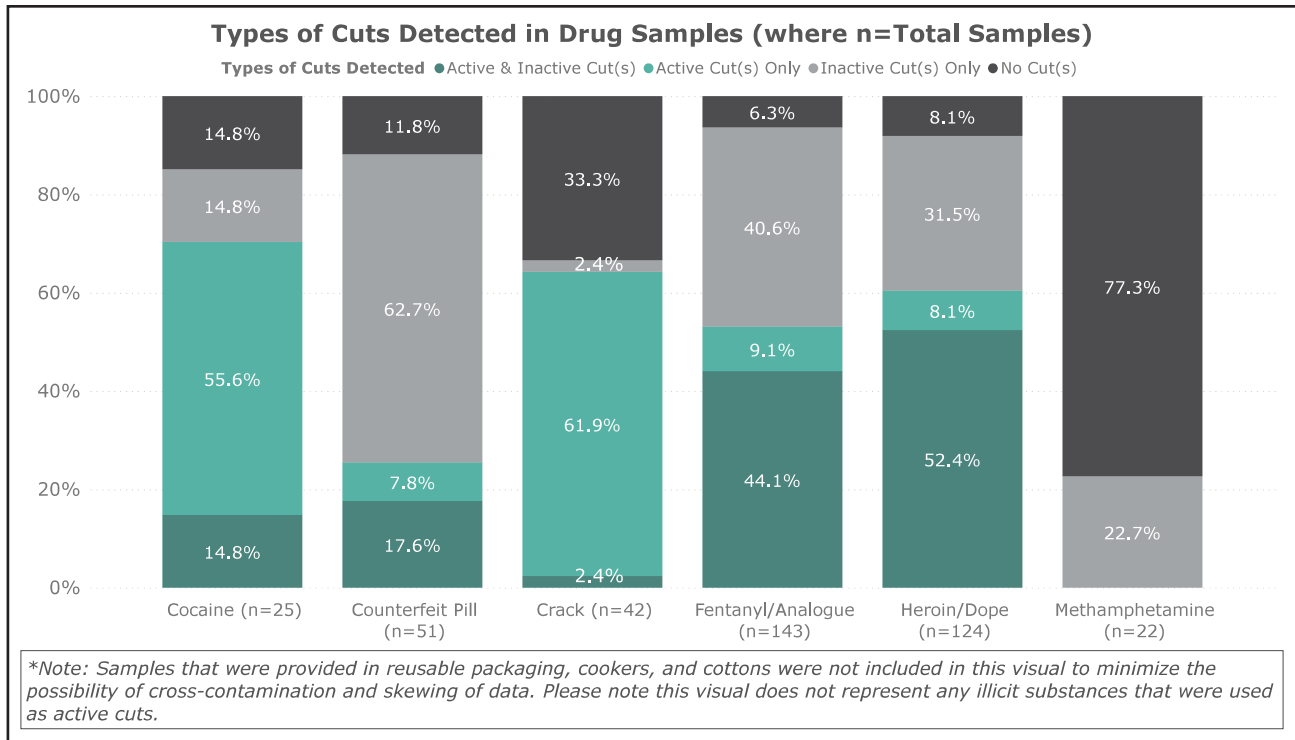


Figure 2

Active Substances

Any component of a drug that affects the use experience is an active substance. The substance could be what a drug is intended to be or sold as, an additive that was cut into a drug, or any substance that is present as a result of cross-contamination. Figure 3 shows all active substances that were detected in MADDs samples in 2021. The pie chart shows that 4-fluorofentanyl was the most frequently detected fentanyl analogue in 2021.

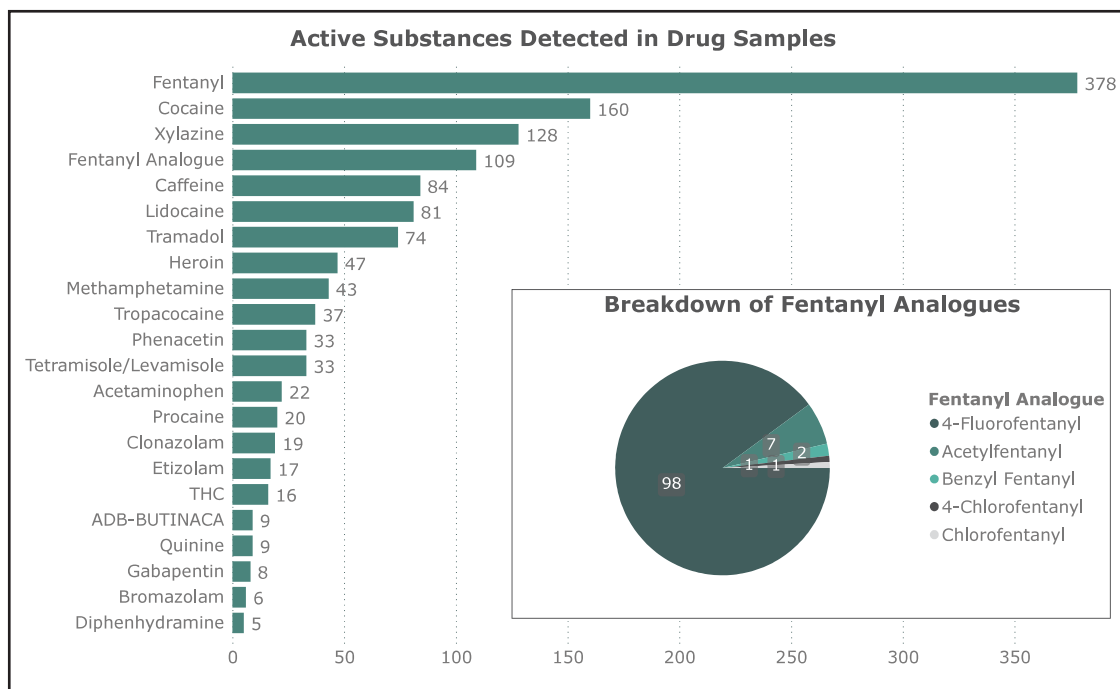


Figure 3

Active Cuts

Substances added to drugs that affect the use experience but are not the intended drug or what a drug is sold as are called active cuts. These additives may intensify, diminish, lengthen, or shorten the effect of a drug. Figure 4 breaks down the most common active cuts detected in MADDs samples in 2021. Fentanyl as an active cut is reported separately, in Figure 5.

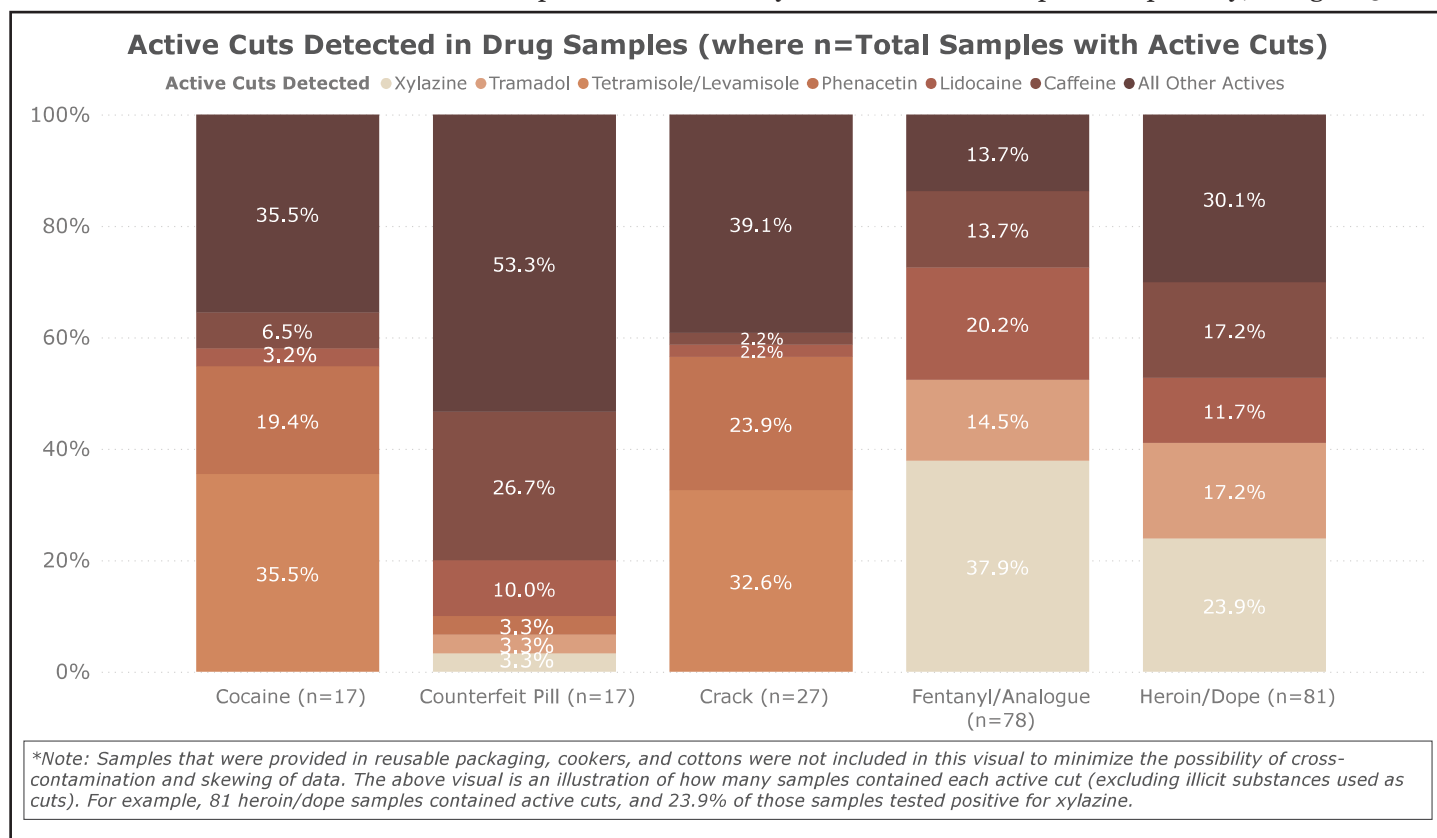


Figure 4

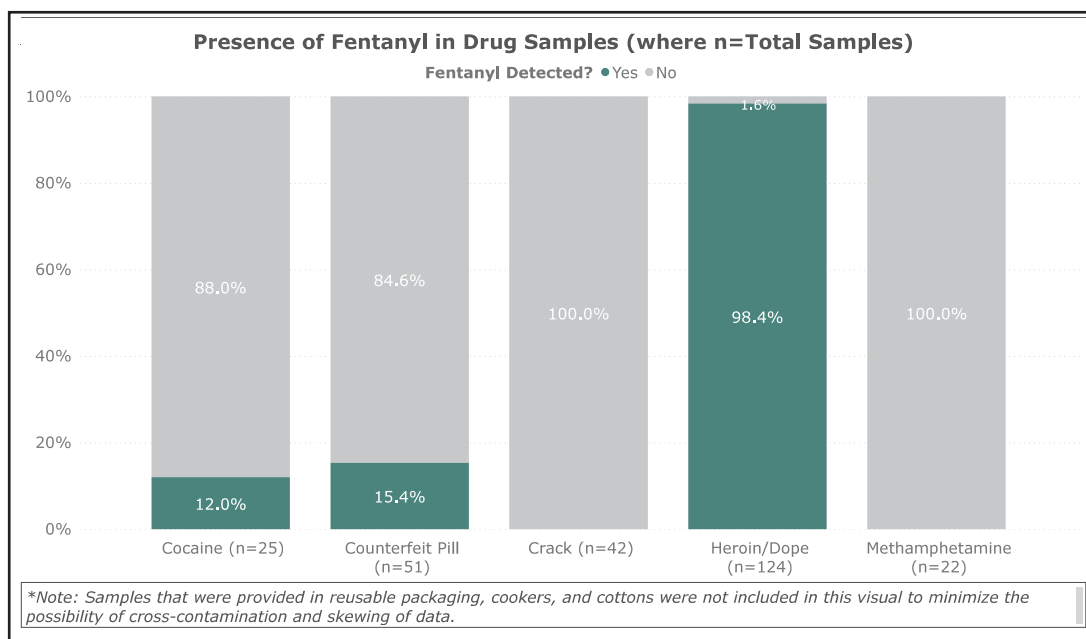


Figure 5

Active cut: Fentanyl

Fentanyl and its analogues remain the most common active cuts in the drug supply in Massachusetts. Figure 5 shows the presence of fentanyl in other samples tested by MADDs.

The combination of opioids with stimulants increases the risk for opioid overdose and other health concerns. As fentanyl and other opioids have been detected in many other drugs, including stimulants and counterfeit pills, access to naloxone and education around naloxone use is extremely important, even for those who do not use opioids.

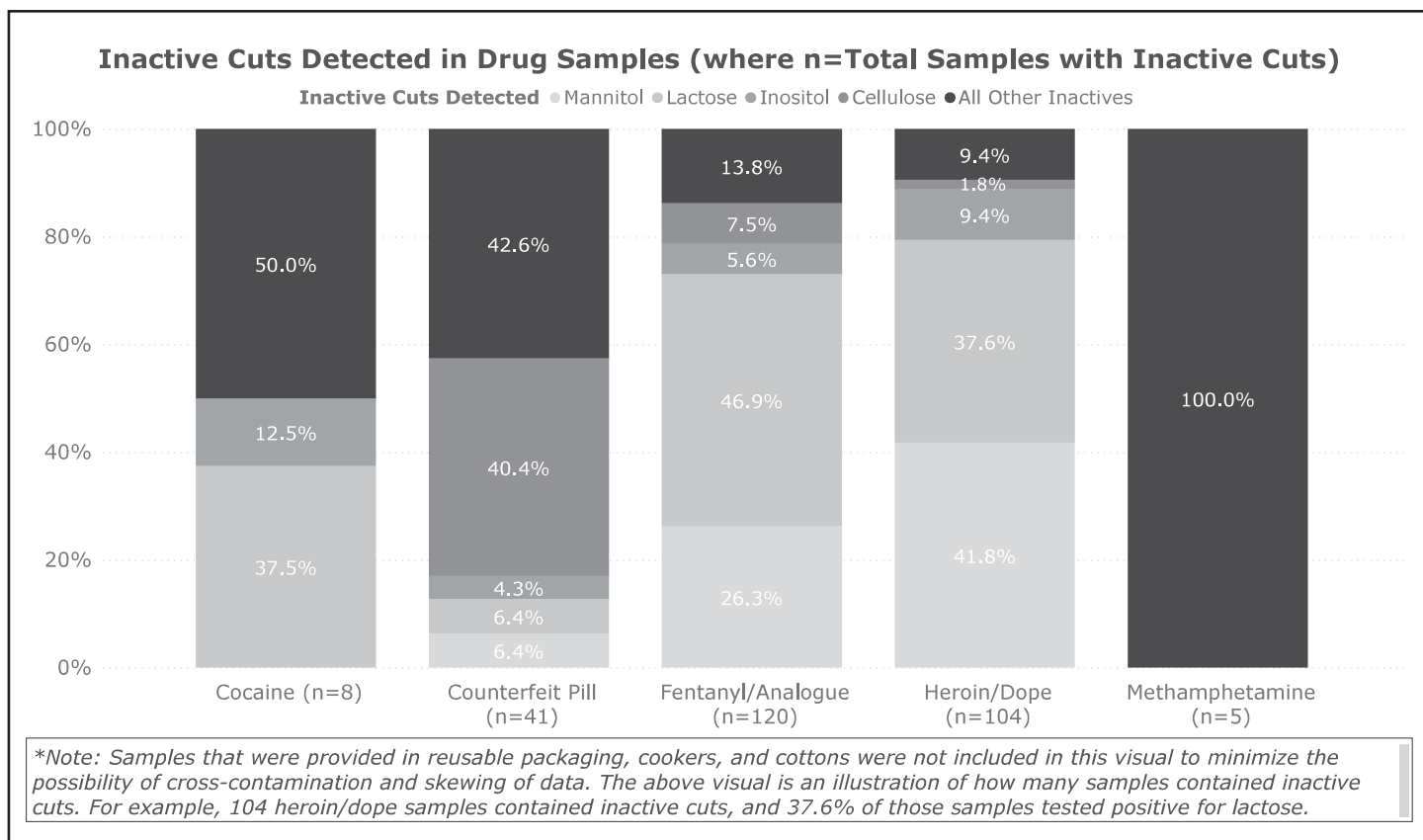


Figure 6

Inactive Cuts

Substances that do not affect the use experience are called inactive cuts. These may be added to bulk up the amount of a drug and dilute a drug's concentration. Effects of drugs with inactive cuts may therefore be less intense than the same amount of a more concentrated version of the drug.

Although inactive cuts are less likely to have serious adverse health effects than active cuts, they may still present some risk. Figure 6 shows the most common inactive cuts detected by MADDs in drug samples from 2021.

Thank you to our partners in

Berkshire County

Boston

Brockton

Fall River

Gloucester

Greenfield

Lawrence

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New Bedford

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Quincy

for their important work and their support of this project.

For more information on MADDs or drug checking in Massachusetts, [click here](#) or scan below.



MADDs is a state-funded collaboration between Brandeis University researchers, the Massachusetts Department of Public Health, various town police departments, and local harm reduction agencies. Contact us at maddsbrandeis@gmail.com.