

## Hungry Hornets Checkpoint 2: Revised

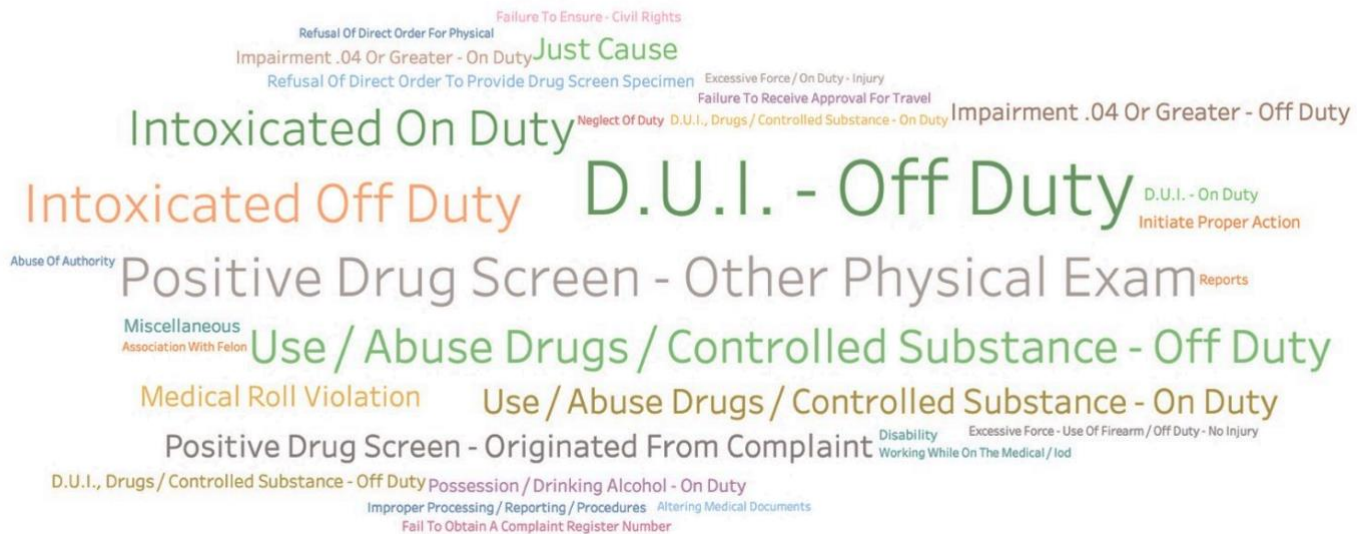
### 1. What is the frequency of each kind of drug/alcohol abuse and medical allegation made by officers as compared with civilians?

These word clouds exhibit fascinating and significant comparisons of the frequency of drug & alcohol abuse and medical complaints between officers and civilians, while also revealing potential inconsistencies in how these allegations are substantiated, classified and documented. Perhaps not surprisingly, off duty complaints are overall more common among officers than civilians, which could be associated with officers having more exposure or interactions with one another outside the work setting, leading to the increased opportunity to increase substance abuse behavior in this context. There is also more variation in type of “positive drug screen” complaints among officers, which can be explained by officer access to a greater variety of supporting evidence. Further, though relatively uncommon in general, medical roll and other medical procedural violations appear to be more commonly reported by officers, which is logical, considering that officers have direct access to witnessing these situations or reviewing these reports, while civilians do not.

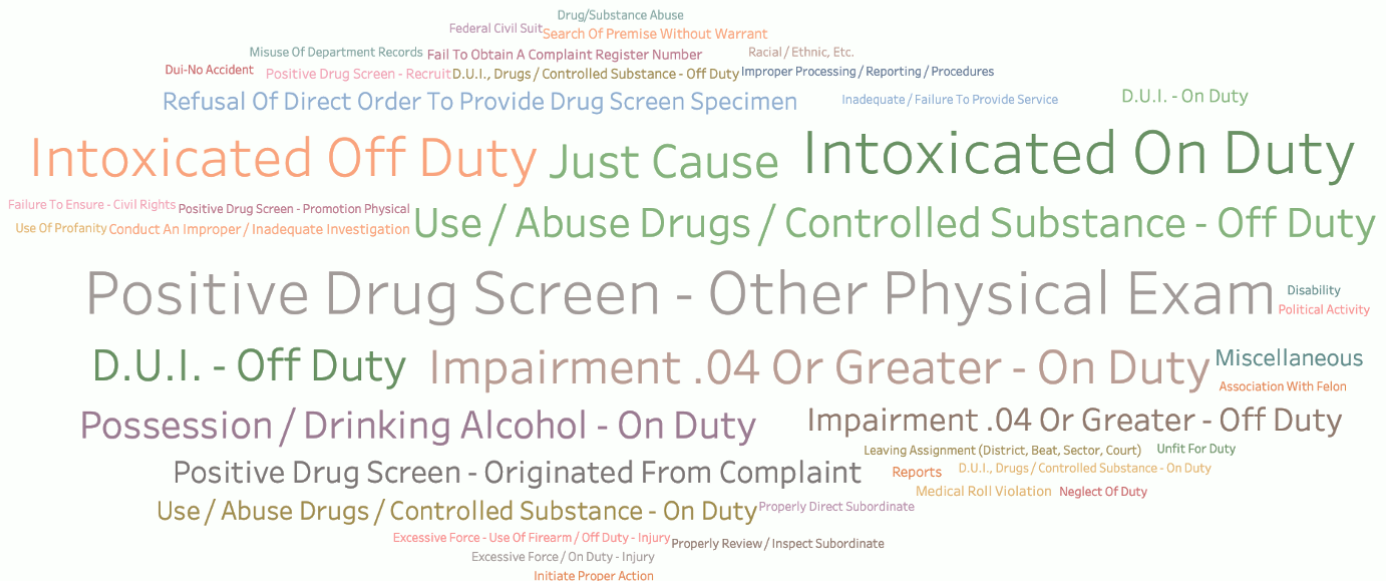
However, there are also certain trends that are unexpected. The “positive drug screen – other physical exam” complaint frequency is similar if not higher among civilians when compared to officers. This raises the question of how one would define a positive drug screen, and how one defines a physical exam. Is it that complainants base their assessment of whether an officer is on drugs by a visual assessment? What constitutes a physical exam? The latter seems highly subjective and likely variable between officer and civilian complainants, suggesting that this allegation name may require some revision. Similarly, there is a sizable representation of “impairment 0.04 or greater” and both on and off duty “intoxication” complaints among civilians, when it is unlikely that a civilian is actually taking this measurement or using objective criteria to evaluate impairment or intoxication. Along similar lines, the fact that “refusal of direct order to provide drug screen specimen” has any representation among civilian complaints is not logical and calls into question how these allegations are recorded. Additional ambiguity is reflected in certain allegation names, such as “possession/drinking alcohol on duty,” as possession and drinking are different activities and should ideally be divided into separate allegation names. “Just cause” and “failure to ensure civil rights” among others seem to be misclassified into the wrong allegation category, or it is unclear how they are associated with substance abuse and other medical type allegations.

Overall, generating this visualization using Tableau was effective and efficient. One limitation was word size (zooming may be required to see some of the smaller or zero value categories), though is also likely a function of the number of categories. Also, placing each cloud side by side required a separate application.

## Frequency of Drug & Alcohol Abuse and Medical Allegations Made by Officers



## Frequency of Drug & Alcohol Abuse and Medical Allegations Made by Civilians

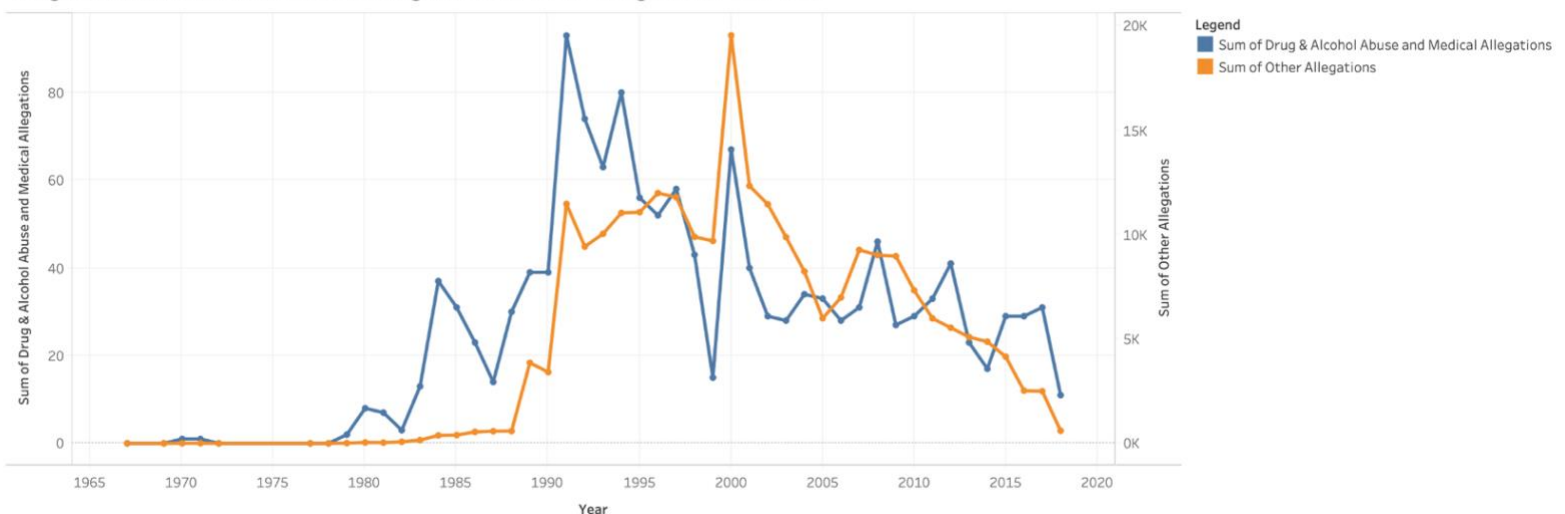


## 2. Is the frequency of drug/alcohol abuse allegations versus all other allegations changing over time?

Drug/alcohol abuse, medical and other allegations against officers demonstrate intriguing trends over time. Note that these trends did not change significantly after refining the allegation categories explored in our revised analysis. For both, there appears to be a peak in 1995-2001, though this peak occurs earlier and alongside another lower peak in the early 1990s for drug/alcohol abuse and medical allegations. This pattern may have multiple explanations, given the historical context. In particular, the peaks in drug/alcohol substance abuse and medical allegations correlates with an increase in nationwide substance abuse of every class occurring in the 1990s<sup>1</sup>. Given that both types of allegations peaked in the 1990s, this could also reflect heightened recognition, attention to, or enhanced documentation or allegation protocol by the CPD during this decade. Perhaps higher crime burden in Chicago was a precipitant for increased officer allegations of all kinds, though this is not well-documented in the literature. Especially given the opioid epidemic beginning in 2016, it is surprising that the number of substance abuse and medical allegations among officers continued to decrease overall. This could reflect the positive influence of referral to substance abuse professionals or the trauma intervention program. The overall decrease in number of all kinds of allegations throughout the 2000s may further reflect the deterrent effect of discipline, whether threatened or imposed.

From a visualization processing standpoint, creating this consolidated line graph was more challenging than the pie graphs for query 1. This was due to the need to merge the x-axis for time associated with the drug/alcohol abuse and medical allegations with the different one associated with the other types of allegations. After multiple attempts to generate a joined csv on DataGrip and use this for plotting on Tableau, this ultimately required the need to use both SQL and python to generate code that would result in an accurate and visually legible plot of both line graphs using all 3 axes.

Drug & Alcohol Abuse and Medical Allegations vs. Other Allegations Over Time



**References:**

1. Blog Team. (2021). Most popular drug in U.S. by decade. *American Addiction Centers National Rehabs Directory*. <https://rehabs.com/blog/most-popular-drug-in-us-by-decade/>