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San Francisco, CA
August 21, 2024

(via email)

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Re: Narcotics Arrests, Overdose Deaths, Correlations — And a Bit More

Dear Commissioners:

By email of July 16, I sent to the Commission my most recent chart depicting data since the summer of 2023 on both the monthly number of arrests of narcotics dealers and users downtown and narcotics overdose deaths. In response, Commission Vice President Carter-Oberstone wrote to me that it was time for statistical analysis to confirm, or not, my suggestion that there appears to be some inverse correlation; that is, as arrests rise, deaths appear to fall. In fact, I was intending to do such an analysis but was reluctant so far because of the limited sample size - one year of monthly data and three data points, one of which (arrest data) is quite noisy. Still, it is fair for Commissioner Carter-Oberstone to observe that we should not wait any longer. So here it is.

A **Summary** of what we have learned with a year of this data is on the immediate next page. Next, is a **Discussion** than includes historical context, this mainly for the benefit of newly appointed Commissioner Clay; to refresh the recollection of the other Commissioners; and also because with this memo I have reached the point of diminishing returns and have nothing more to meaningfully add to the policy discussion or the data compilation effort, so I will likely suspend my work on it. The Discussion also includes a warning on the use of correlations as well as my lament that this particular data dive not distract us from the larger picture.¹

¹ As the other Commissioners know but Commissioner Clay may not, I am neither a professional nor academic expert in any of this.

Summary: What Have We Learned with 12 Months of 3 Data Points? (Dealer Arrests, User Arrests, Overdose Deaths)

1. Common sense tells us that there are many variables relevant to the number and trend of overdose deaths. Data for those variables (e.g. successful overdose interventions, drug toxicity, etc.) appear not to be comprehensively collected but would be essential for understanding precisely why the real number of SF overdose deaths is declining, contrary to the national trend.
2. The sample size for the 3 data points is quite limited and the arrest data seems particularly noisy (variable), so we should exercise a good deal of caution interpreting the 12 months of data using traditional statistical metrics. That said:
3. There is no statistical correlation between the number of dealer arrests and overdose deaths. Does this pass the Common Sense Test? Yes: The District Attorney has said that 90% of arrested dealers are immediately released by the courts; and anecdotal and visual evidence suggests that the number of dealers has not materially declined. (Or has it?)
4. There is what a statistician would call a “weak” but nonetheless meaningful inverse correlation (coefficient of .21) between user arrests and overdose deaths. Does this pass the Common Sense Test? Yes: users (while alive) are removed from the streets, and SFPD enforcement is part of a broader DMACC team effort that includes intervention and public health initiatives, so it makes sense that a coordinated street-level effort that includes more aggressive law enforcement would have some beneficial effect. (See summary statistical output in Exhibit 1.²)
5. As Chief Scott noted in his and Assistant Chief Sullivan’s June 14, 2023 presentation to the Police Commission upon the launch last summer of the enhanced downtown coordinated law enforcement and outreach effort, a reduction in overdose deaths was one of many measures of progress.
6. Wholly apart from the association (none in the case of dealers, weakly inverse in the case of users) between narcotics arrests on the one hand and overdose deaths on the other, the real number of San Francisco’s overdose deaths has plunged; and this at a time when deaths nationwide continue to increase.³ It is unfortunate that we do not know why this is the case, although there are published reports of “weaker fentanyl”⁴ as well as reports that the law enforcement crackdown has

² Two qualified MBAs performed the analysis after I did mine. I use theirs.

³ Nationally, overdose deaths have increased 7% per annum for years and there is no indication that will change anytime soon. <https://www.brookings.edu/articles/which-drugs-are-up-which-are-down/> What is going on in San Francisco?

⁴ <https://sfstandard.com/2024/08/12/fentanyl-soap-purity/>

reduced supply as well as weakening the fentanyl.⁵ But there is also the dismaying comment of a prominent health official confessing utter ignorance of the cause.⁶

Discussion

Background and Context for the Data Displays of Arrests and Overdose Deaths.

The City began an enhanced effort to close the downtown drug markets and improve street conditions in the summer of 2023, perhaps in anticipation of the autumn APEC summit. Chief Scott gave notice of this during his Chief's Report at the May 17, 2023 Commission meeting and again at the June 7, 2023 meeting. He made clear that arrests of dealers and users would be essential components of the plan.

At the Commission meeting on June 14, 2023 and at the request of the Commission, Chief Scott and Deputy Chief O'Sullivan made a detailed presentation on the open air narcotics markets and the collaborative efforts to close them, again emphasizing the importance of dealer and user arrests.⁷ There, both men identified a number of objectives and measures including arrests, bookings, referrals, number of users accepting services, reduction of overdose deaths, reducing sales and usage, and improving street conditions. In response, three Commissioners criticized the arrest plans, one as "a misadventure proven not to work"; another as "trying to arrest our way out"; and a third as "insanity" that will lead to an increase in overdose deaths.⁸

It was the latter comment that particularly piqued my interest: why would arrests increase overdose deaths? While I became aware of research that suggests that the abrupt removal of users and then their return to the streets can be deleterious, the general prediction that arrests will *increase* overdose deaths did not pass my own common sense test. I was also aware of the general consensus that some combination of "harm reduction" and law enforcement is required to reduce drug use and sale and to improve associated street conditions.⁹ Accordingly, I made it a point thereafter to look at the monthly overdose deaths reports from the Office of the Chief

⁵ <https://www.cbsnews.com/sanfrancisco/news/san-francisco-drug-crackdown-in-tenderloin-producing-results>

⁶ <https://www.sfchronicle.com/sf/article/s-f-fatal-overdoses-drop-amid-fentanyl-crisis-19656263.php>

⁷ [https://www.sf.gov/sites/default/files/2023-06/PoliceCommission61423-Police Commission Presentation Open Air Drug Market Collaboration 06132023.pdf](https://www.sf.gov/sites/default/files/2023-06/PoliceCommission61423-Police%20Commission%20Presentation%20Open%20Air%20Drug%20Market%20Collaboration%2006132023.pdf)

⁸ One Commissioner noted that the June 30, 2021 "Street Level Drug Dealing Taskforce" report did not contain a prominent law enforcement role in its set of recommendations.

⁹ I submitted several memos on this consensus to the Commission with citations but will not repeat those here.

Medical Examiner. The ME has been releasing this data for several years.¹⁰ My April 18, 2024 memo to the Commission was the first to graph the trend in overdose deaths since the inception of the enhanced enforcement effort.

While SFPD had been collecting arrest data since the inception of its summer 2023 crackdown (and of course, all the time, everywhere), it was not until May 29, 2024 that SFPD activated its Drug Market Agency Coordination Center dashboard where one can see, among other things, data for weekly arrests of users and dealers in the vicinity of the downtown narcotics markets.¹¹ My memo of June 1, 2024 to the Commission was the first to add the arrest data to the chart on overdose deaths. (Also, I attach as Exhibit 2 that most recent chart that has been corrected to show the date of the APEC summit last year; that line was misplaced in the prior chart.) It was this graph from which one could infer a possible (inverse) relationship between arrests and deaths.

Which brings us to correlations, common sense, and a bit more.

As Much as We Want and Need Data for Informed Decision Making, Correlations can be Misleading and are Not the Same as Causation.

We need data for sound public policy but we should be careful that we are not seduced by data. A BCG partner has an entire website displaying “Random correlations dredged up from silly data, turned into linear line charts.” <https://tylervigen.com>. Example: the near perfect correlation between the per capita consumption of margarine in Maine and the state’s increasing divorce rate.

And that is why we need a Common Sense Test as well: Does the correlation, weak or small, make sense? Is it logical? Common sense tells you that increasing margarine consumption cannot cause the Maine divorce rate to increase. Although I would have hoped for a correlation between dealer arrests and overdose deaths, it is logical that there may be no such correlation for the reasons I note in point 3 on page 2 above. Conversely, I can see that, logically, there might well be an (inverse) association between user arrests and overdose deaths given — and here I repeat only what I have read and heard from Chief Scott and others — the associated street-level outreach by health workers. Given this sort of team effort that involves law enforcement, it makes sense that there could be this sort of inverse relationship.

¹⁰ https://www.sf.gov/resource/2020/ocme-accidental-overdose-reports?_gl=1*4zkjyp*_ga*Mjc1MDQ0MTQ2LjE2NzU5OTExODQ.*_ga_BT9NDE0NFC*MTcyNDE3MTgwMS4xMDkuMC4xNzI0MTcxODAxLjAuMC4w*_ga_63SCS846YP*MTcyNDE3MTgwMS4xMDcuMC4xNzI0MTcxODAxLjAuMC4w

¹¹ <https://www.sanfranciscopolice.org/drug-market-agency-coordination-center>

Excessive Focus on Statistical Correlations Among 3 Data Points, All Involving Overdose Deaths, is Misplaced

But excessive attention to statistical “correlation” between narcotics deaths on the one hand, and dealer/user arrests on the other hand, risks missing the larger picture.

There is no question that the robust downtown narcotics markets have inflicted enormous harm on users, Tenderloin and SOMA residents, the attractiveness and livability of much of the downtown core, and the general reputation of the City. There is also no question that San Francisco is the preeminent West Coast (or at least California) bazaar of choice, where narcotics are readily available at an attractive price; hence, “drug tourism.”¹² And of course there is the association between downtown narcotics purchase and use on the one hand, and tents and encampments on the other; as well as an association between (a) drug activity and (b) property and violent crimes.

In this setting, surely the elimination of these narcotics markets is in the public interest; equally, the perhaps more difficult rendering of assistance and treatment to users. But in addition to overdose deaths, surely we should capture as well the effect of arrests on street conditions, access to residential buildings, downtown livability in general, the related outreach efforts on health and housing, and of course trends for general crimes. All of this raises questions of goals, metrics, and transparency; and obviously other City agencies, particularly the Department of Health but others as well, have an important role.

No one person or government entity seems willing to risk being sucked into this intellectual quagmire of writing up the Big Plan; and I hasten to add that clearly SFPD is merely one entity involved. Commissioners might recall that my March 7, 2024 memo suggested that the Police Commission could play a valuable informational role seeking answers to some of these questions by having relevant City officials appear. I understand why that suggestion, particularly in an election year, went nowhere. Still, this is quite the paradox in a City where planning and analysis are ubiquitous.

So, this is where we are. Perversely, perhaps that has been the central lesson of this one year of three data points collection and my associated written and verbal exchanges with Commissioners: we have the odd case of data proving the negative, that is, we have so-so data that shows no effect (in the case of dealer arrests) and some effect (in the case of user arrests) on the one metric of overdose deaths. But even in the case of overdose deaths, we apparently have little to no confidence in explaining why they plunged last month. Beyond that it seems a bit of a data black hole.

¹² Let’s recall Chief Scott’s quote of a comment by a street level user that he comes to San Francisco for drugs because it is “easy and cheap.” Scott’s comment at the June 14, 2023 Police Commission meeting.

The many other ill effects of the drug markets — on neighbors, the reputation of the City, collateral crime, and much more — demands the closure of such markets. Oddly, the Police Commission has devoted little time to this matter since last June's meetings.

But perhaps we can at least agree that, to date, the feared adverse effects of arrests have not been realized and that, in fact, even the arrests of users might have been beneficial.

Attachments:

- Correlation Analysis Output
- Revised Chart January 2023-July 2024 Narcotics Arrests and Overdose Deaths

**SUMMARY
OUTPUT**

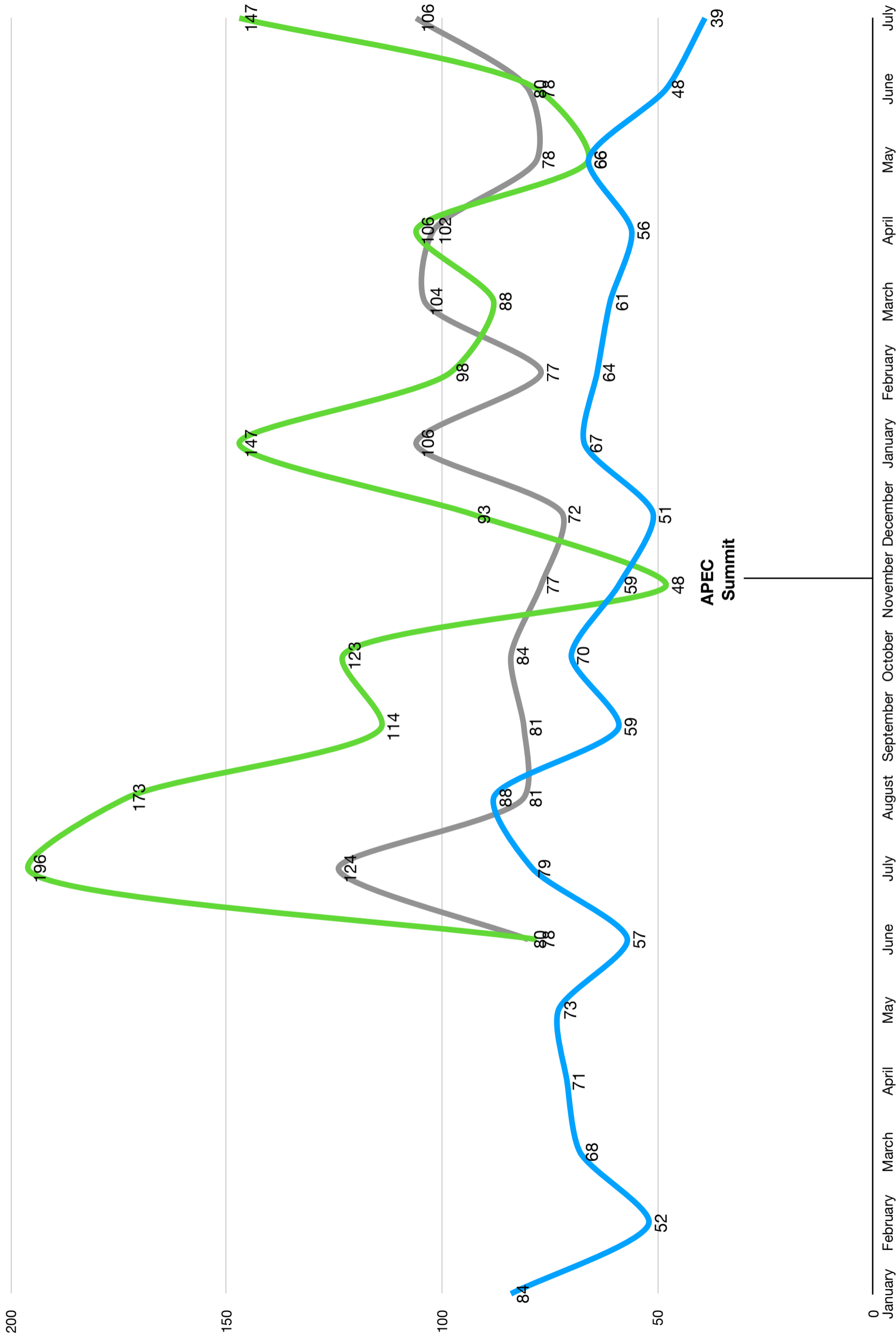
<i>Regression Statistics</i>	
Multiple R	0.558784984
R Square	0.312240658
Adjusted R Square	0.187193505
Standard Error	11.17925299
Observations	14

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	624.1244702	312.0622351	2.496983344	0.12761471
Residual	11	1374.732673	124.9756975		
Total	13	1998.857143			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	62.31707887	18.36769827	3.392753842	0.006005557	21.89004756	102.7441102	21.89004756	102.7441102
User Arrests	0.209761135	0.096044318	2.184003573	0.05150428	-0.001630985	0.421153254	-0.001630985	0.421153254
Dealer Arrests	-0.267266509	0.257375832	-1.038428927	0.321358374	-0.833746894	0.299213877	-0.833746894	0.299213877

Number of City-Wide Overdose Deaths and Dealer/User Arrests Per Month, January 2023-July 2024 - Version 2



— Number of Deaths — User Arrests — Dealer Arrests

Sources: 1. SF Medical Examiner Reports for Deaths Data.
2. SFPD DMACC Dashboard for Arrest Data — but see note below.

Note: As noted in the footnote to Version 1, the July DMACC data for July 2024 includes 5 reporting weeks, rather than the usual 4, the most recent being “July 31” when there were 49 user arrests and 18 dealer arrests. This Version 2 strips out that fifth week of data (i.e. removing 49 user arrests and 18 dealer arrests) in order, in the author’s opinion, to reflect more fairly both the number of arrests and the inverse association with overdose deaths.