



# Changing Drug Landscapes in Philadelphia and Beyond

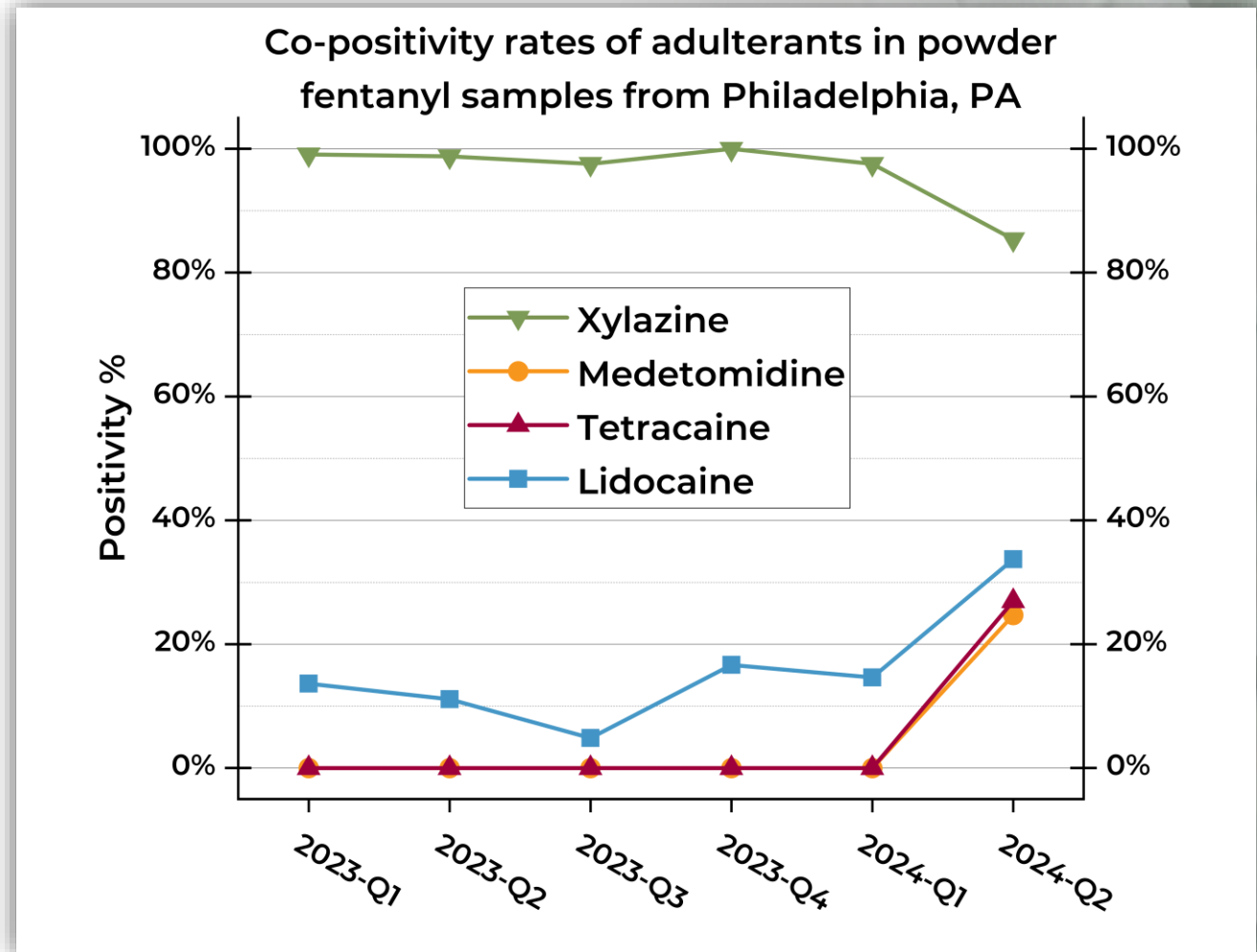
NPS Discovery Quarterly Webinar, July 2024

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# TRENDS W/ FENTANYL ADULTERANTS

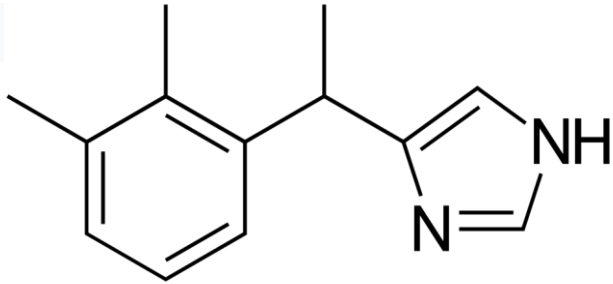
- Xylazine has been [and still] king of the fentanyl adulterants in Philadelphia, PA, but its dominance may be ending
- Xylazine is scheduled in some states, including PA. Yet to be determined the outcome of national scheduling, but a bill has passed in Congress
- Medetomidine is coming up
- Tetracaine observations rising
- Lidocaine 2x change Q1 to Q2



# MEDETOMIDINE

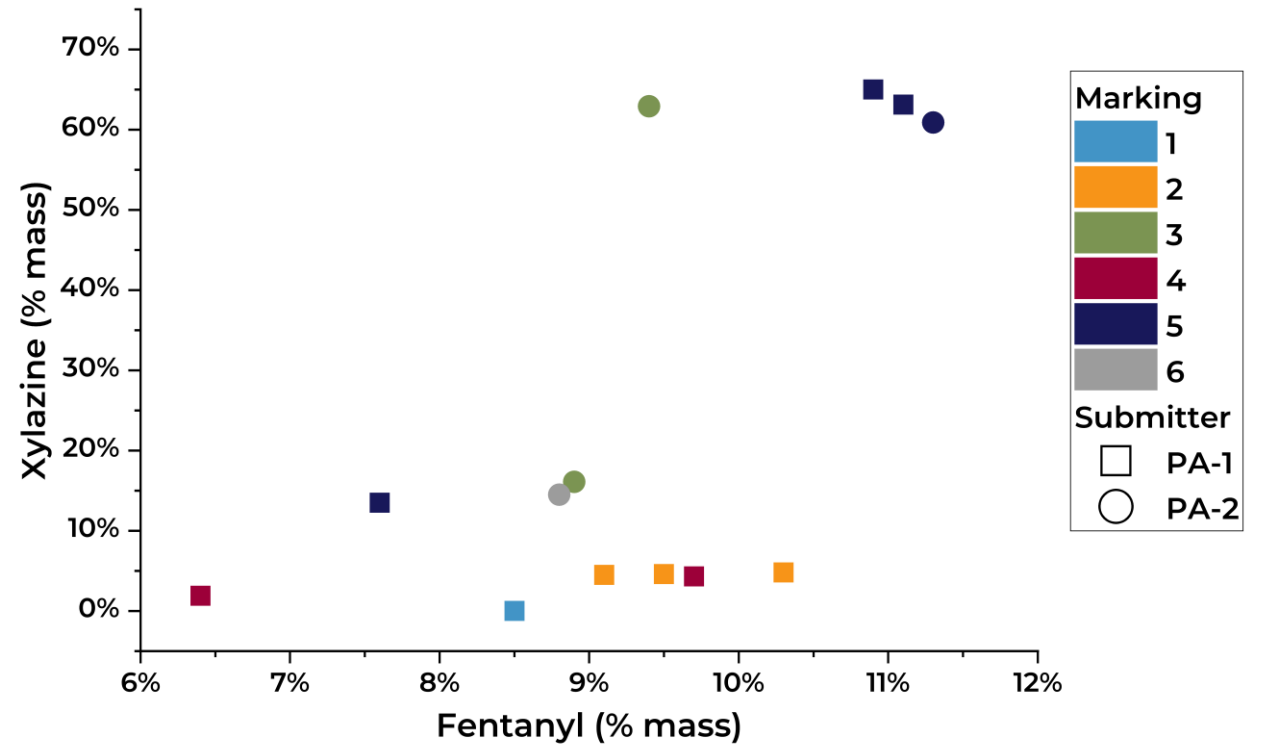
200.285 g/mol

C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>



| Submitter | Received  | Marking | Fentanyl | Xylazine | Est. Medetomidine |
|-----------|-----------|---------|----------|----------|-------------------|
| PA-1      | 5/21/2024 | 1       | 8.5%     | 0.0%     | 1.7%              |
| PA-1      | 5/15/2024 | 2       | 9.1%     | 4.5%     | 10.9%             |
| PA-1      | 5/15/2024 | 2       | 9.5%     | 4.6%     | 9.5%              |
| PA-1      | 5/15/2024 | 2       | 10.3%    | 4.8%     | 11.3%             |
| PA-2      | 5/10/2024 | 3       | 8.9%     | 16.1%    | 9.8%              |
| PA-2      | 5/10/2024 | 3       | 9.4%     | 62.9%    | <1%               |
| PA-1      | 5/21/2024 | 4       | 6.4%     | 1.9%     | 3.8%              |
| PA-1      | 5/7/2024  | 4       | 9.7%     | 4.3%     | 18.4%             |
| PA-1      | 5/2/2024  | 5       | 7.6%     | 13.5%    | 6.1%              |
| PA-2      | 5/10/2024 | 5       | 11.3%    | 60.9%    | <1%               |
| PA-1      | 5/7/2024  | 5       | 11.1%    | 63.1%    | <1%               |
| PA-1      | 5/7/2024  | 5       | 10.9%    | 65.0%    | <1%               |
| PA-2      | 5/10/2024 | 6       | 8.8%     | 14.5%    | 12.3%             |

Fentanyl and xylazine concentrations in medetomidine-positive dope samples (Pennsylvania - May, 2024)

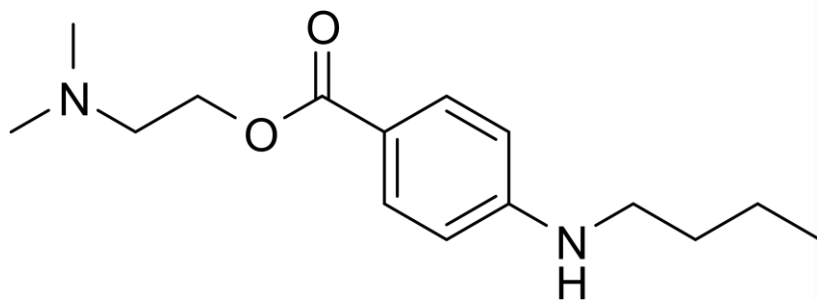


# TETRACAINE

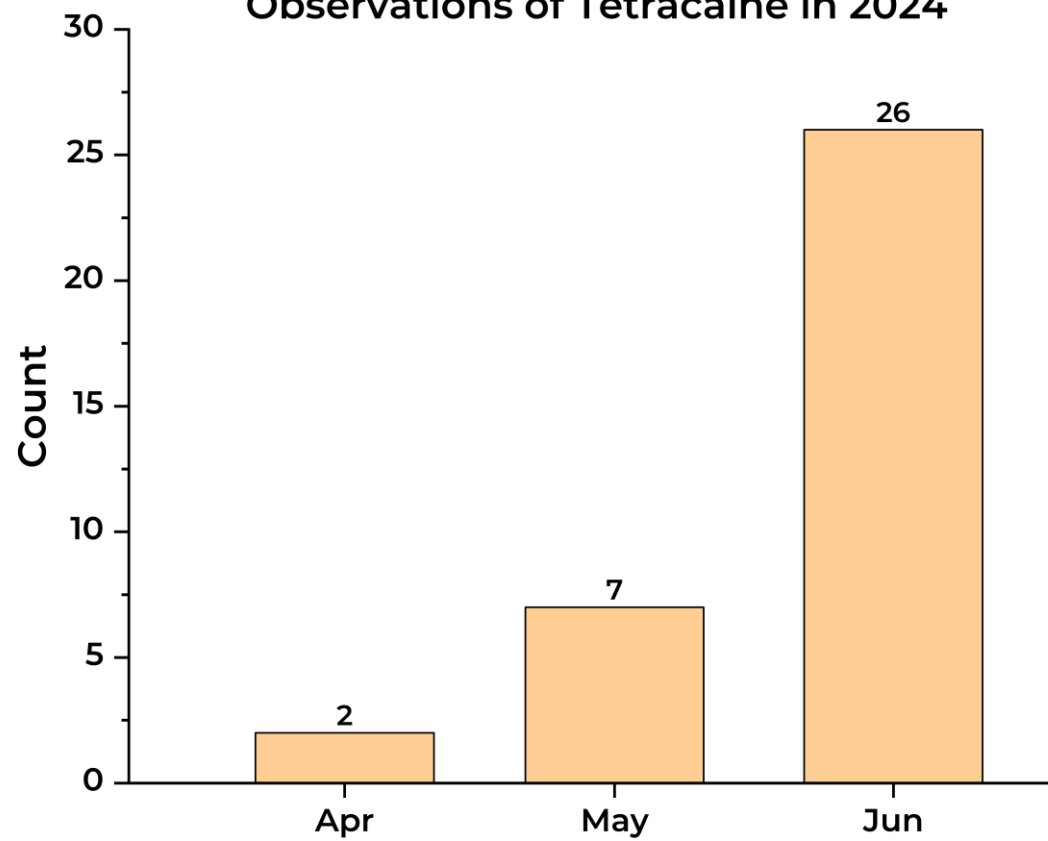
- Powerful anesthetic
- Infrequently observed prior to Q2 2024 (n = 4)
- Fentanyl co-occurring
- Also present w/ other NPS:
  - Nitazene analogs
  - Medetomidine
  - Xylazine

264.369 g/mol

$C_{15}H_{24}N_2O_2$



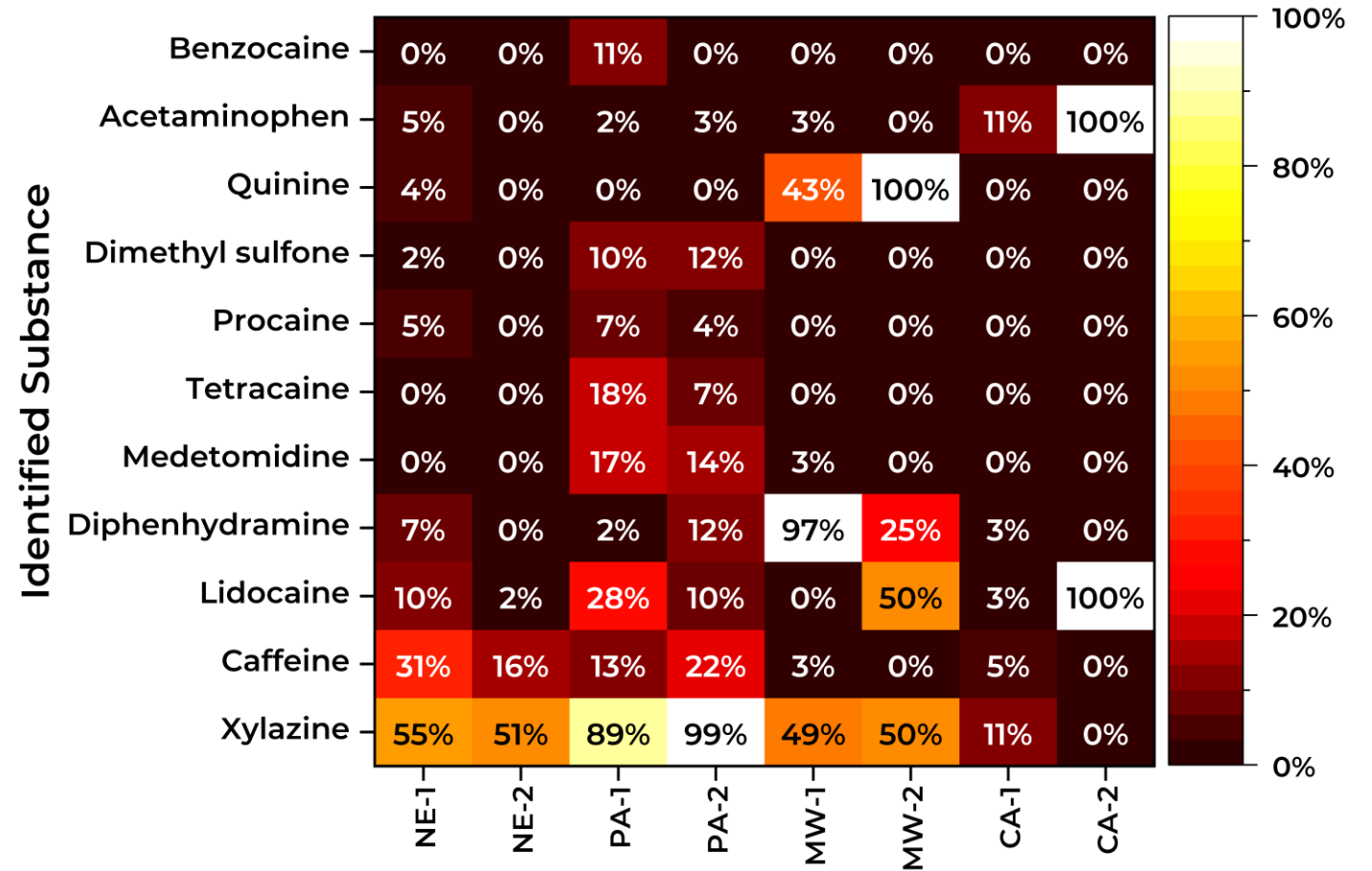
Observations of Tetracaine in 2024



# FENTANYL TRENDS

- Benzocaine
- Acetaminophen
- Quinine
- Dimethylsulfone,
- Procaine, Tetracaine, Medetomidine
- Diphenhydramine
- Lidocaine
- Caffeine
- Xylazine

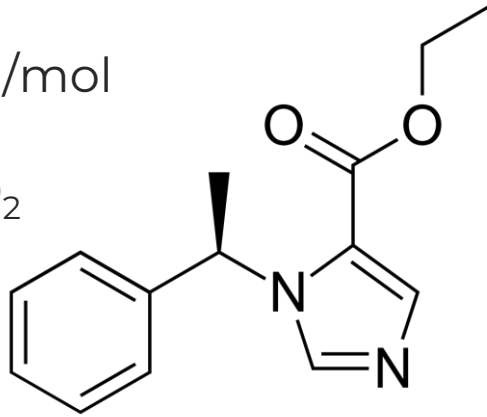
Substances identified w/ fentanyl in Q1-Q2 2024  
by sample source region



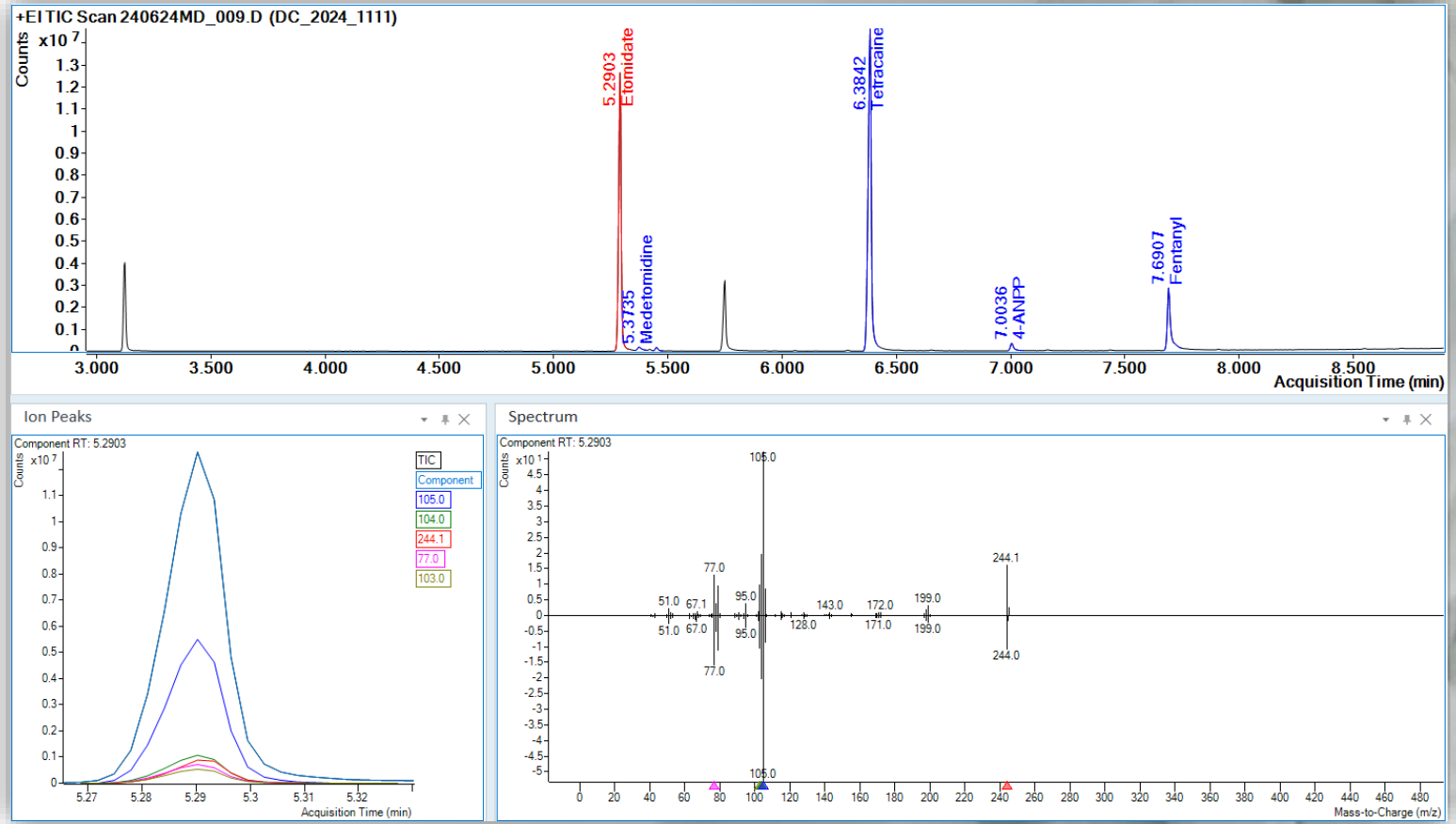
# ETOMIDATE

244.294 g/mol

$C_{14}H_{16}N_2O_2$



- Observed for the first time 6/24/2024 in sample collected 6/20/2024 in Philadelphia, PA
- Associated with Fatal OD



# SUMMARY

\*These findings only apply to the subset of samples discussed

- Xylazine may be in decline
- Tetracaine and Medetomidine on the rise as toxic adulterants in fentanyl
- Distinct geographic trends exist in adulteration of powder fentanyl
- Etomidate is an adulterant worth watching

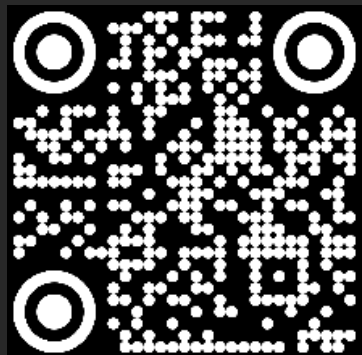




Thank you!

Questions?

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