

## Substance Distribution by States (Total Years)

{'Desmethyprodine ': [('OH', 8), ('KY', 5), ('VA', 2)],  
'Buprenorphine': [('OH', 10687),  
( 'PA', 9354),  
( 'VA', 7147),  
( 'KY', 6428),  
( 'WV', 1223)],  
'Butyryl fentanyl': [('OH', 221),  
( 'PA', 132),  
( 'KY', 17),  
( 'VA', 6),  
( 'WV', 3)],  
'Dextropropoxyphene': [('WV', 36), ('OH', 36), ('PA', 6)],  
'3,4-Methylenedioxy U-47700': [('PA', 3)],  
'Meperidine': [('VA', 49), ('OH', 20), ('PA', 15), ('KY', 13), ('WV', 7)],  
'Pentazocine': [('KY', 16), ('OH', 15), ('VA', 13), ('WV', 7), ('PA', 4)],  
'Morphine': [('OH', 3180),  
( 'VA', 2908),  
( 'PA', 2027),  
( 'KY', 1852),  
( 'WV', 615)],  
'3-Fluorofentanyl': [('VA', 1)],  
'Opium': [('VA', 28), ('PA', 1), ('OH', 1), ('KY', 1)],  
'3-Methylfentanyl': [('OH', 941), ('PA', 256), ('VA', 10), ('WV', 5)],  
'U-51754': [('OH', 7)],  
'U-48800': [('OH', 23), ('PA', 12)],  
'Dihydromorphone': [('PA', 1)],  
'o-Fluorofentanyl': [('OH', 4), ('VA', 3)],  
'Propoxyphene': [('OH', 223),  
( 'PA', 167),  
( 'VA', 117),  
( 'KY', 61),  
( 'WV', 3)],  
'Oxymorphone': [('OH', 1526),  
( 'KY', 1278),  
( 'VA', 1070),  
( 'PA', 758),  
( 'WV', 731)],  
'Fluoroisobutyryl fentanyl': [('OH', 103), ('PA', 36), ('VA', 12), ('KY', 4)],  
'Crotonyl fentanyl': [('OH', 39)],  
'Mitragnine': [('OH', 125), ('KY', 58), ('PA', 6), ('VA', 4), ('WV', 3)],

'Tramadol': [('OH', 2796),  
('PA', 1408),  
('VA', 1339),  
('KY', 789),  
('WV', 67)],  
'Metazocine': [('PA', 1)],  
'Valeryl fentanyl': [('PA', 19), ('OH', 2)],  
'Dihydrocodeine': [('VA', 5), ('OH', 4), ('PA', 2), ('WV', 1), ('KY', 1)],  
'Acetyldihydrocodeine': [('PA', 5)],  
'Fentanyl': [('OH', 26453),  
('PA', 13191),  
('KY', 4280),  
('VA', 2797),  
('WV', 618)],  
'Fluorofentanyl': [('OH', 2), ('KY', 1)],  
'Heroin': [('OH', 133137),  
('PA', 119907),  
('VA', 24441),  
('KY', 23377),  
('WV', 9453)],  
'Methadone': [('OH', 2464),  
('VA', 2182),  
('KY', 2143),  
('PA', 1793),  
('WV', 131)],  
'Levorphanol': [('PA', 2)],  
'Acryl fentanyl': [('OH', 1227),  
('PA', 63),  
('KY', 52),  
('WV', 13),  
('VA', 10)],  
'MT-45': [('PA', 2)],  
'p-Fluorofentanyl': [('OH', 6), ('WV', 1)],  
'p-methoxybutyryl fentanyl': [('PA', 1)],  
'Thebaine': [('OH', 7), ('PA', 2), ('WV', 1), ('KY', 1)],  
'ANPP': [('OH', 278), ('PA', 21), ('KY', 19), ('VA', 4), ('WV', 1)],  
'cis-3-methylfentanyl': [('PA', 23), ('KY', 2)],  
'Hydromorphone': [('VA', 2472),  
('WV', 955),  
('OH', 804),  
('KY', 535),  
('PA', 357)],  
'Benzylfentanyl': [('OH', 115), ('PA', 36), ('VA', 1)],

'Hydrocodone': [('KY', 14540),  
('OH', 13943),  
('VA', 10327),  
('PA', 6100),  
('WV', 2460)],  
'Hydrocodeinone': [('PA', 3)],  
'Methorphan': [('KY', 124), ('PA', 79), ('VA', 48), ('OH', 30), ('WV', 28)],  
'Pethidine': [('KY', 6), ('PA', 6), ('VA', 1), ('OH', 1)],  
'Acetylcodeine': [('PA', 7), ('WV', 5), ('VA', 1)],  
'Methoxyacetyl fentanyl': [('OH', 218),  
('PA', 79),  
('KY', 17),  
('VA', 9),  
('WV', 2)],  
'trans-3-Methylfentanyl': [('PA', 21), ('KY', 2)],  
'Cyclopropyl/Crotonyl Fentanyl': [('OH', 26)],  
'Furanyl fentanyl': [('OH', 1738),  
('PA', 721),  
('VA', 570),  
('KY', 148),  
('WV', 42)],  
'Codeine': [('PA', 1834), ('OH', 1312), ('VA', 631), ('KY', 320), ('WV', 53)],  
'Opiates': [('OH', 57), ('PA', 3)],  
'Cyclopentyl fentanyl': [('KY', 1)],  
'Remifentanyl': [('PA', 1)],  
'Acetyl fentanyl': [('OH', 1361),  
('PA', 545),  
('WV', 59),  
('VA', 50),  
('KY', 36)],  
'Fluorobutyryl fentanyl ': [('OH', 22), ('WV', 1)],  
'U-49900': [('OH', 17)],  
'Oxycodone': [('OH', 35988),  
('KY', 25586),  
('PA', 24827),  
('VA', 16735),  
('WV', 7037)],  
'Nalbuphine': [('VA', 1)],  
'p-Fluorobutyryl fentanyl': [('PA', 10), ('OH', 3), ('VA', 2), ('KY', 1)],  
'Carfentanyl': [('OH', 5415),  
('PA', 178),  
('KY', 169),  
('VA', 58),

('WV', 8)],  
 'Cyclopropyl fentanyl': [('OH', 730),  
 ('PA', 102),  
 ('KY', 79),  
 ('VA', 27),  
 ('WV', 3)],  
 '4-Methylfentanyl': [('OH', 5)],  
 'Tetrahydrofuran fentanyl': [('OH', 5), ('PA', 1)],  
 'Furanyl/3-Furanyl fentanyl': [('WV', 7)],  
 '4-Fluoroisobutyryl fentanyl': [('PA', 328),  
 ('VA', 253),  
 ('OH', 112),  
 ('KY', 3),  
 ('WV', 2)],  
 'Phenyl fentanyl': [('OH', 54), ('PA', 9), ('WV', 1)],  
 'Alphaprodine': [('PA', 1)],  
 'Isobutyryl fentanyl': [('WV', 3), ('OH', 1)],  
 'U-47700': [('OH', 1096), ('PA', 315), ('VA', 90), ('KY', 80), ('WV', 11)],  
 'Butorphanol': [('VA', 6), ('PA', 1), ('OH', 1)]}

## Substance Distribution by States (separated by years)

{2010: {'Desmethyprodine ': [],  
 'Buprenorphine': [('PA', 1119),  
 ('OH', 623),  
 ('VA', 471),  
 ('KY', 460),  
 ('WV', 72)],  
 'Butyryl fentanyl': [],  
 'Dextropropoxyphene': [('OH', 27), ('WV', 16), ('PA', 2)],  
 '3,4-Methylenedioxy U-47700': [],  
 'Meperidine': [('VA', 15), ('PA', 6), ('OH', 5), ('KY', 1)],  
 'Pentazocine': [('KY', 4), ('VA', 3), ('WV', 2)],  
 'Morphine': [('OH', 458), ('VA', 412), ('PA', 311), ('KY', 237), ('WV', 95)],  
 '3-Fluorofentanyl': [],  
 'Opium': [('VA', 1)],  
 '3-Methylfentanyl': [],  
 'U-51754': [],  
 'U-48800': [],  
 'Dihydromorphone': [('PA', 1)],

'o-Fluorofentanyl': [],  
'Propoxyphene': [('OH', 102), ('PA', 80), ('VA', 59), ('KY', 31)],  
'Oxymorphone': [('OH', 141), ('PA', 82), ('VA', 56), ('KY', 48), ('WV', 17)],  
'Fluoroisobutyryl fentanyl': [],  
'Crotonyl fentanyl': [],  
'Mitragynine': [],  
'Tramadol': [('VA', 137), ('KY', 115), ('OH', 97), ('PA', 56)],  
'Metazocine': [],  
'Valeryl fentanyl': [],  
'Dihydrocodeine': [('PA', 2), ('WV', 1)],  
'Acetyldihydrocodeine': [],  
'Fentanyl': [('PA', 57), ('OH', 56), ('VA', 41), ('KY', 17), ('WV', 8)],  
'Fluorofentanyl': [],  
'Heroin': [('PA', 12102),  
(('OH', 9301),  
(('VA', 2298),  
(('WV', 902),  
(('KY', 629)],  
'Methadone': [('KY', 480),  
(('OH', 449),  
(('VA', 403),  
(('PA', 370),  
(('WV', 19)],  
'Levorphanol': [],  
'Acryl fentanyl': [],  
'MT-45': [],  
'p-Fluorofentanyl': [],  
'p-methoxybutyryl fentanyl': [],  
'Thebaine': [('WV', 1), ('KY', 1)],  
'ANPP': [],  
'cis-3-methylfentanyl': [],  
'Hydromorphone': [('VA', 337),  
(('OH', 142),  
(('KY', 71),  
(('WV', 70),  
(('PA', 45)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('KY', 2863),  
(('OH', 2229),  
(('VA', 1612),  
(('PA', 1229),  
(('WV', 561)],  
'Hydrocodeinone': [],

'Methorphan': [('KY', 21), ('PA', 11), ('VA', 4), ('OH', 3), ('WV', 2)],  
 'Pethidine': [('KY', 4), ('PA', 3)],  
 'Acetylcodeine': [('WV', 5), ('PA', 1)],  
 'Methoxyacetyl fentanyl': [],  
 'trans-3-Methylfentanyl': [],  
 'Cyclopropyl/Crotonyl Fentanyl': [],  
 'Furanyl fentanyl': [],  
 'Codeine': [('PA', 361), ('OH', 150), ('VA', 80), ('KY', 56), ('WV', 5)],  
 'Opiates': [('OH', 18)],  
 'Cyclopentyl fentanyl': [],  
 'Remifentanil': [],  
 'Acetyl fentanyl': [],  
 'Fluorobutyryl fentanyl ': [],  
 'U-49900': [],  
 'Oxycodone': [('OH', 5906),  
 ('KY', 5415),  
 ('PA', 3975),  
 ('VA', 2752),  
 ('WV', 1114)],  
 'Nalbuphine': [],  
 'p-Fluorobutyryl fentanyl': [],  
 'Carfentanil': [],  
 'Cyclopropyl fentanyl': [],  
 '4-Methylfentanyl': [],  
 'Tetrahydrofuran fentanyl': [],  
 'Furanyl/3-Furanyl fentanyl': [],  
 '4-Fluoroisobutyryl fentanyl': [],  
 'Phenyl fentanyl': [],  
 'Alphaprodine': [('PA', 1)],  
 'Isobutyryl fentanyl': [],  
 'U-47700': [],  
 'Butorphanol': [('VA', 4)]},  
 2011: {'Desmethyprodine ': [('OH', 5), ('KY', 5), ('VA', 2)],  
 'Buprenorphine': [('PA', 1187),  
 ('OH', 628),  
 ('KY', 419),  
 ('VA', 418),  
 ('WV', 91)],  
 'Butyryl fentanyl': [],  
 'Dextropropoxyphene': [('WV', 11), ('OH', 4), ('PA', 2)],  
 '3,4-Methylenedioxy U-47700': [],  
 'Meperidine': [('OH', 7), ('VA', 6), ('WV', 2), ('KY', 2), ('PA', 2)],  
 'Pentazocine': [('KY', 4), ('VA', 2), ('WV', 2), ('OH', 2), ('PA', 1)],

'Morphine': [('OH', 431),  
('VA', 403),  
('PA', 300),  
('KY', 261),  
('WV', 116)],  
'3-Fluorofentanyl': [],  
'Opium': [('VA', 1), ('PA', 1)],  
'3-Methylfentanyl': [],  
'U-51754': [],  
'U-48800': [],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [],  
'Propoxyphene': [('PA', 40), ('OH', 33), ('VA', 24), ('KY', 12)],  
'Oxymorphone': [('OH', 470),  
('KY', 462),  
('WV', 217),  
('PA', 185),  
('VA', 162)],  
'Fluoroisobutyl fentanyl': [],  
'Crotonyl fentanyl': [],  
'Mitragynine': [('KY', 1)],  
'Tramadol': [('VA', 130), ('KY', 119), ('PA', 105), ('OH', 76)],  
'Metazocine': [],  
'Valeryl fentanyl': [],  
'Dihydrocodeine': [('KY', 1)],  
'Acetyldihydrocodeine': [],  
'Fentanyl': [('OH', 52), ('PA', 49), ('VA', 41), ('KY', 31), ('WV', 12)],  
'Fluorofentanyl': [],  
'Heroin': [('PA', 11741),  
('OH', 11004),  
('VA', 1193),  
('WV', 949),  
('KY', 899)],  
'Methadone': [('OH', 426),  
('KY', 385),  
('VA', 380),  
('PA', 296),  
('WV', 29)],  
'Levorphanol': [],  
'Acryl fentanyl': [],  
'MT-45': [],  
'p-Fluorofentanyl': [],  
'p-methoxybutyl fentanyl': [],

'Thebaine': [('PA', 2)],  
'ANPP': [('PA', 1)],  
'cis-3-methylfentanyl': [],  
'Hydromorphone': [('VA', 277),  
( 'OH', 168),  
( 'WV', 119),  
( 'KY', 98),  
( 'PA', 64)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('KY', 2750),  
( 'OH', 2143),  
( 'VA', 1481),  
( 'PA', 1172),  
( 'WV', 433)],  
'Hydrocodeinone': [],  
'Methorphan': [('KY', 28), ( 'OH', 20), ( 'VA', 12), ( 'PA', 10), ( 'WV', 5)],  
'Pethidine': [('VA', 1), ( 'OH', 1), ( 'KY', 1)],  
'Acetylcodeine': [('VA', 1)],  
'Methoxyacetyl fentanyl': [],  
'trans-3-Methylfentanyl': [],  
'Cyclopropyl/Crotonyl Fentanyl': [],  
'Furanyl fentanyl': [],  
'Codeine': [('PA', 379), ( 'OH', 110), ( 'VA', 61), ( 'KY', 37), ( 'WV', 10)],  
'Opiates': [( 'OH', 10)],  
'Cyclopentyl fentanyl': [],  
'Remifentanil': [],  
'Acetyl fentanyl': [],  
'Fluorobutyryl fentanyl ': [],  
'U-49900': [],  
'Oxycodone': [('KY', 4774),  
( 'OH', 4740),  
( 'PA', 4450),  
( 'VA', 2153),  
( 'WV', 1275)],  
'Nalbuphine': [( 'VA', 1)],  
'p-Fluorobutyryl fentanyl': [],  
'Carfentanil': [],  
'Cyclopropyl fentanyl': [],  
'4-Methylfentanyl': [],  
'Tetrahydrofuran fentanyl': [],  
'Furanyl/3-Furanyl fentanyl': [],  
'4-Fluoroisobutyryl fentanyl': [],  
'Phenyl fentanyl': [],



'Alphaprodine': [],  
'Isobutyryl fentanyl': [],  
'U-47700': [],  
'Butorphanol': []},  
2012: {'Desmethyprodine ': [('OH', 2)],  
'Buprenorphine': [('PA', 988),  
('OH', 725),  
('VA', 618),  
('KY', 540),  
('WV', 114)],  
'Butyryl fentanyl': [],  
'Dextropropoxyphene': [('WV', 4), ('OH', 1)],  
'3,4-Methylenedioxy U-47700': [],  
'Meperidine': [('VA', 7), ('WV', 5), ('PA', 2), ('KY', 1)],  
'Pentazocine': [('VA', 4), ('KY', 3), ('OH', 2), ('PA', 1)],  
'Morphine': [('VA', 473),  
('OH', 436),  
('PA', 329),  
('KY', 324),  
('WV', 155)],  
'3-Fluorofentanyl': [],  
'Opium': [('VA', 1)],  
'3-Methylfentanyl': [],  
'U-51754': [],  
'U-48800': [],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [],  
'Propoxyphene': [('OH', 23), ('PA', 19), ('VA', 12), ('KY', 4)],  
'Oxymorphone': [('KY', 329),  
('OH', 297),  
('VA', 155),  
('WV', 141),  
('PA', 116)],  
'Fluoroisobutyryl fentanyl': [],  
'Crotonyl fentanyl': [],  
'Mitragnine': [('OH', 10), ('PA', 5), ('KY', 2)],  
'Tramadol': [('KY', 139), ('VA', 131), ('PA', 88), ('OH', 64), ('WV', 2)],  
'Metazocine': [],  
'Valeryl fentanyl': [],  
'Dihydrocodeine': [('VA', 2)],  
'Acetyldihydrocodeine': [('PA', 1)],  
'Fentanyl': [('PA', 49), ('OH', 42), ('VA', 39), ('KY', 15), ('WV', 7)],  
'Fluorofentanyl': [],

'Heroin': [('OH', 14633),  
('PA', 13086),  
('KY', 2320),  
('VA', 1709),  
('WV', 1175)],  
'Methadone': [('KY', 412),  
('OH', 365),  
('PA', 287),  
('VA', 283),  
('WV', 24)],  
'Levorphanol': [],  
'Acryl fentanyl': [],  
'MT-45': [],  
'p-Fluorofentanyl': [],  
'p-methoxybutyryl fentanyl': [],  
'Thebaine': [],  
'ANPP': [],  
'cis-3-methylfentanyl': [],  
'Hydromorphone': [('VA', 367),  
('WV', 132),  
('OH', 105),  
('KY', 83),  
('PA', 52)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('KY', 2272),  
('OH', 1886),  
('VA', 1535),  
('PA', 945),  
('WV', 400)],  
'Hydrocodeinone': [],  
'Methorphan': [('KY', 17), ('VA', 13), ('WV', 11), ('OH', 4), ('PA', 2)],  
'Pethidine': [('PA', 1)],  
'Acetylcodeine': [],  
'Methoxyacetyl fentanyl': [],  
'trans-3-Methylfentanyl': [],  
'Cyclopropyl/Crotonyl Fentanyl': [],  
'Furanyl fentanyl': [],  
'Codeine': [('PA', 227), ('OH', 167), ('VA', 103), ('KY', 42), ('WV', 11)],  
'Opiates': [('OH', 12)],  
'Cyclopentyl fentanyl': [],  
'Remifentanil': [('PA', 1)],  
'Acetyl fentanyl': [],  
'Fluorobutyryl fentanyl ': [],

'U-49900': [],  
'Oxycodone': [('OH', 4371),  
('KY', 4219),  
('PA', 3760),  
('VA', 2377),  
('WV', 1195)],  
'Nalbuphine': [],  
'p-Fluorobutyryl fentanyl': [],  
'Carfentanil': [],  
'Cyclopropyl fentanyl': [],  
'4-Methylfentanyl': [],  
'Tetrahydrofuran fentanyl': [],  
'Furanyl/3-Furanyl fentanyl': [],  
'4-Fluoroisobutyryl fentanyl': [],  
'Phenyl fentanyl': [],  
'Alphaprodine': [],  
'Isobutyryl fentanyl': [],  
'U-47700': [],  
'Butorphanol': [('VA', 2)]],  
**2013**: {'Desmethyprodine ': [('OH', 1)]},  
'Buprenorphine': [('OH', 1120),  
('PA', 912),  
('VA', 863),  
('KY', 766),  
('WV', 145)],  
'Butyryl fentanyl': [],  
'Dextropropoxyphene': [('WV', 2)],  
'3,4-Methylenedioxy U-47700': [],  
'Meperidine': [('VA', 9), ('PA', 3), ('OH', 2), ('KY', 2)],  
'Pentazocine': [('VA', 2), ('WV', 2), ('OH', 2), ('KY', 1), ('PA', 1)],  
'Morphine': [('VA', 481), ('OH', 378), ('KY', 341), ('PA', 243), ('WV', 96)],  
'3-Fluorofentanyl': [],  
'Opium': [('VA', 15), ('OH', 1)],  
'3-Methylfentanyl': [],  
'U-51754': [],  
'U-48800': [],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [],  
'Propoxyphene': [('OH', 16), ('VA', 11), ('PA', 10), ('KY', 5), ('WV', 3)],  
'Oxymorphone': [('OH', 120),  
('VA', 115),  
('KY', 99),  
('PA', 80),

('WV', 38)],  
'Fluoroisobutyryl fentanyl': [],  
'Crotonyl fentanyl': [],  
'Mitragynine': [('OH', 41), ('KY', 8)],  
'Tramadol': [('VA', 176), ('PA', 125), ('OH', 89), ('KY', 65), ('WV', 2)],  
'Metazocine': [],  
'Valeryl fentanyl': [],  
'Dihydrocodeine': [],  
'Acetyldihydrocodeine': [],  
'Fentanyl': [('VA', 133), ('OH', 111), ('PA', 86), ('KY', 25), ('WV', 3)],  
'Fluorofentanyl': [],  
'Heroin': [('OH', 18340),  
( 'PA', 14745),  
( 'VA', 4396),  
( 'KY', 4175),  
( 'WV', 1857)],  
'Methadone': [('VA', 364),  
( 'OH', 315),  
( 'KY', 263),  
( 'PA', 212),  
( 'WV', 13)],  
'Levorphanol': [],  
'Acryl fentanyl': [],  
'MT-45': [('PA', 1)],  
'p-Fluorofentanyl': [],  
'p-methoxybutyryl fentanyl': [],  
'Thebaine': [],  
'ANPP': [],  
'cis-3-methylfentanyl': [],  
'Hydromorphone': [('VA', 473),  
( 'WV', 208),  
( 'KY', 94),  
( 'OH', 91),  
( 'PA', 45)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('KY', 1868),  
( 'VA', 1803),  
( 'OH', 1778),  
( 'PA', 778),  
( 'WV', 442)],  
'Hydrocodeinone': [('PA', 2)],  
'Methorphan': [('KY', 14), ('PA', 9), ('WV', 3), ('VA', 1), ('OH', 1)],  
'Pethidine': [],

'Acetylcodeine': [('PA', 1)],  
'Methoxyacetyl fentanyl': [],  
'trans-3-Methylfentanyl': [],  
'Cyclopropyl/Crotonyl Fentanyl': [],  
'Furanyl fentanyl': [],  
'Codeine': [('PA', 191), ('OH', 160), ('VA', 113), ('KY', 37), ('WV', 6)],  
'Opiates': [('OH', 8)],  
'Cyclopentyl fentanyl': [],  
'Remifentanil': [],  
'Acetyl fentanyl': [],  
'Fluorobutyryl fentanyl ': [],  
'U-49900': [],  
'Oxycodone': [('OH', 4272),  
(('KY', 3385),  
(('PA', 2964),  
(('VA', 2720),  
(('WV', 1226))],  
'Nalbuphine': [],  
'p-Fluorobutyryl fentanyl': [],  
'Carfentanil': [],  
'Cyclopropyl fentanyl': [],  
'4-Methylfentanyl': [],  
'Tetrahydrofuran fentanyl': [],  
'Furanyl/3-Furanyl fentanyl': [],  
'4-Fluoroisobutyryl fentanyl': [],  
'Phenyl fentanyl': [],  
'Alphaprodine': [],  
'Isobutyryl fentanyl': [],  
'U-47700': [],  
'Butorphanol': [('PA', 1)]},  
2014: {'Desmethyprodine ': [],  
'Buprenorphine': [('OH', 1629),  
(('PA', 1314),  
(('KY', 1204),  
(('VA', 1008),  
(('WV', 147))],  
'Butyryl fentanyl': [('PA', 1)],  
'Dextropropoxyphene': [('OH', 1), ('PA', 1)],  
'3,4-Methylenedioxy U-47700': [],  
'Meperidine': [('VA', 4), ('OH', 3), ('KY', 2), ('PA', 1)],  
'Pentazocine': [('OH', 5), ('KY', 3), ('VA', 1), ('WV', 1)],  
'Morphine': [('OH', 368), ('VA', 364), ('KY', 268), ('PA', 216), ('WV', 80)],  
'3-Fluorofentanyl': [],

'Opium': [('VA', 3)],  
'3-Methylfentanyl': [],  
'U-51754': [],  
'U-48800': [],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [],  
'Propoxyphene': [('OH', 11), ('VA', 7), ('PA', 6), ('KY', 1)],  
'Oxymorphone': [('VA', 126),  
( 'OH', 126),  
( 'KY', 124),  
( 'PA', 85),  
( 'WV', 74)],  
'Fluoroisobutyryl fentanyl': [],  
'Crotonyl fentanyl': [],  
'Mitragnine': [('OH', 5), ('KY', 5), ('VA', 3), ('WV', 2)],  
'Tramadol': [('OH', 257), ('VA', 173), ('PA', 126), ('KY', 94), ('WV', 10)],  
'Metazocine': [],  
'Valeryl fentanyl': [],  
'Dihydrocodeine': [('VA', 1), ('OH', 1)],  
'Acetyldihydrocodeine': [],  
'Fentanyl': [('OH', 1353),  
( 'PA', 435),  
( 'KY', 233),  
( 'VA', 172),  
( 'WV', 50)],  
'Fluorofentanyl': [],  
'Heroin': [('OH', 20590),  
( 'PA', 18454),  
( 'KY', 4362),  
( 'VA', 3132),  
( 'WV', 1516)],  
'Methadone': [('OH', 285),  
( 'KY', 233),  
( 'PA', 224),  
( 'VA', 223),  
( 'WV', 16)],  
'Levorphanol': [('PA', 1)],  
'Acryl fentanyl': [],  
'MT-45': [],  
'p-Fluorofentanyl': [],  
'p-methoxybutyryl fentanyl': [],  
'Thebaine': [],  
'ANPP': [('PA', 1)],

'cis-3-methylfentanyl': [],  
'Hydromorphone': [('VA', 352),  
( 'WV', 117),  
( 'KY', 87),  
( 'OH', 81),  
( 'PA', 38)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('OH', 1695),  
( 'KY', 1585),  
( 'VA', 1320),  
( 'PA', 725),  
( 'WV', 279)],  
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'Methorphan': [('KY', 9), ( 'VA', 5), ( 'PA', 4), ( 'WV', 3)],  
'Pethidine': [( 'PA', 1)],  
'Acetylcodeine': [( 'PA', 2)],  
'Methoxyacetyl fentanyl': [],  
'trans-3-Methylfentanyl': [],  
'Cyclopropyl/Crotonyl Fentanyl': [],  
'Furanyl fentanyl': [],  
'Codeine': [( 'OH', 186), ( 'PA', 163), ( 'VA', 69), ( 'KY', 34), ( 'WV', 7)],  
'Opiates': [],  
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'Remifentanil': [],  
'Acetyl fentanyl': [( 'OH', 22), ( 'PA', 3), ( 'VA', 2)],  
'Fluorobutyryl fentanyl ': [],  
'U-49900': [],  
'Oxycodone': [( 'OH', 4242),  
( 'PA', 3103),  
( 'KY', 2837),  
( 'VA', 2072),  
( 'WV', 978)],  
'Nalbuphine': [],  
'p-Fluorobutyryl fentanyl': [],  
'Carfentanil': [],  
'Cyclopropyl fentanyl': [],  
'4-Methylfentanyl': [],  
'Tetrahydrofuran fentanyl': [],  
'Furanyl/3-Furanyl fentanyl': [],  
'4-Fluoroisobutyryl fentanyl': [],  
'Phenyl fentanyl': [],  
'Alphaprodine': [],  
'Isobutyryl fentanyl': [],

'U-47700': [],  
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2015: {'Desmethyprodine ': [],  
'Buprenorphine': [('OH', 1821),  
('VA', 1296),  
('PA', 1274),  
('KY', 1167),  
('WV', 263)],  
'Butyryl fentanyl': [('PA', 10), ('OH', 8), ('VA', 1)],  
'Dextropropoxyphene': [('PA', 1)],  
'3,4-Methylenedioxy U-47700': [],  
'Meperidine': [('VA', 3), ('KY', 3), ('OH', 2)],  
'Pentazocine': [('OH', 1), ('PA', 1)],  
'Morphine': [('OH', 423), ('VA', 292), ('KY', 174), ('PA', 171), ('WV', 41)],  
'3-Fluorofentanyl': [],  
'Opium': [('VA', 1)],  
'3-Methylfentanyl': [],  
'U-51754': [],  
'U-48800': [],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [],  
'Propoxyphene': [('OH', 18), ('KY', 5), ('PA', 5)],  
'Oxymorphone': [('OH', 157),  
('VA', 140),  
('WV', 98),  
('KY', 88),  
('PA', 82)],  
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'Crotonyl fentanyl': [],  
'Mitragynine': [('OH', 4), ('KY', 4), ('PA', 1)],  
'Tramadol': [('OH', 630), ('PA', 216), ('VA', 161), ('KY', 81), ('WV', 15)],  
'Metazocine': [],  
'Valeryl fentanyl': [],  
'Dihydrocodeine': [],  
'Acetyldihydrocodeine': [('PA', 1)],  
'Fentanyl': [('OH', 3992),  
('PA', 1099),  
('KY', 515),  
('VA', 273),  
('WV', 106)],  
'Fluorofentanyl': [],  
'Heroin': [('OH', 23347),  
('PA', 18964),



('KY', 4045),  
('VA', 3583),  
('WV', 1135)],  
'Methadone': [('OH', 249), ('KY', 189), ('PA', 182), ('VA', 158), ('WV', 7)],  
'Levorphanol': [],  
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'MT-45': [],  
'p-Fluorofentanyl': [],  
'p-methoxybutyryl fentanyl': [],  
'Thebaine': [('OH', 2)],  
'ANPP': [('OH', 1)],  
'cis-3-methylfentanyl': [],  
'Hydromorphone': [('VA', 251),  
('WV', 133),  
('OH', 74),  
('KY', 56),  
('PA', 55)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('OH', 1506),  
('KY', 1171),  
('VA', 963),  
('PA', 560),  
('WV', 137)],  
'Hydrocodeinone': [('PA', 1)],  
'Methorphan': [('KY', 10), ('PA', 9), ('VA', 5), ('WV', 1)],  
'Pethidine': [('KY', 1)],  
'Acetylcodeine': [],  
'Methoxyacetyl fentanyl': [],  
'trans-3-Methylfentanyl': [],  
'Cyclopropyl/Crotonyl Fentanyl': [],  
'Furanyl fentanyl': [('OH', 1), ('PA', 1)],  
'Codeine': [('PA', 205), ('OH', 187), ('VA', 62), ('KY', 42), ('WV', 1)],  
'Opiates': [('PA', 1)],  
'Cyclopentyl fentanyl': [],  
'Remifentanil': [],  
'Acetyl fentanyl': [('OH', 341),  
('PA', 194),  
('WV', 49),  
('KY', 21),  
('VA', 18)],  
'Fluorobutyryl fentanyl ': [],  
'U-49900': [],  
'Oxycodone': [('OH', 4360),

('PA', 2618),  
('KY', 2293),  
('VA', 1603),  
('WV', 585)],  
'Nalbuphine': [],  
'p-Fluorobutyryl fentanyl': [('OH', 2)],  
'Carfentanil': [],  
'Cyclopropyl fentanyl': [],  
'4-Methylfentanyl': [],  
'Tetrahydrofuran fentanyl': [],  
'Furanyl/3-Furanyl fentanyl': [],  
'4-Fluoroisobutyryl fentanyl': [],  
'Phenyl fentanyl': [],  
'Alphaprodine': [],  
'Isobutyryl fentanyl': [],  
'U-47700': [],  
'Butorphanol': [('OH', 1)],  
2016: {'Desmethyprodine ': [],  
'Buprenorphine': [('OH', 2149),  
('PA', 1230),  
('VA', 1151),  
('KY', 998),  
('WV', 250)],  
'Butyryl fentanyl': [('PA', 11)],  
'Dextropropoxyphene': [('WV', 3), ('OH', 3)],  
'3,4-Methylenedioxy U-47700': [],  
'Meperidine': [('VA', 2), ('OH', 1), ('KY', 1)],  
'Pentazocine': [('VA', 1), ('OH', 1)],  
'Morphine': [('OH', 371), ('VA', 255), ('PA', 194), ('KY', 139), ('WV', 23)],  
'3-Fluorofentanyl': [('VA', 1)],  
'Opium': [('VA', 2)],  
'3-Methylfentanyl': [('OH', 325), ('PA', 134), ('VA', 8), ('WV', 1)],  
'U-51754': [],  
'U-48800': [],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [('OH', 4), ('VA', 3)],  
'Propoxyphene': [('OH', 17), ('PA', 5), ('VA', 3), ('KY', 1)],  
'Oxymorphone': [('VA', 174),  
('OH', 120),  
('WV', 102),  
('PA', 77),  
('KY', 70)],  
'Fluoroisobutyryl fentanyl': [('OH', 2)],

'Crotonyl fentanyl': [],  
'Mitragnine': [('KY', 36), ('OH', 27), ('VA', 1)],  
'Tramadol': [('OH', 738), ('VA', 221), ('PA', 215), ('KY', 61), ('WV', 17)],  
'Metazocine': [],  
'Valeryl fentanyl': [('PA', 17), ('OH', 2)],  
'Dihydrocodeine': [('VA', 1), ('OH', 1)],  
'Acetyldihydrocodeine': [('PA', 3)],  
'Fentanyl': [('OH', 9228),  
( 'PA', 3208),  
( 'KY', 1075),  
( 'VA', 799),  
( 'WV', 194)],  
'Fluorofentanyl': [('OH', 2), ('KY', 1)],  
'Heroin': [('OH', 20877),  
( 'PA', 17559),  
( 'VA', 4261),  
( 'KY', 3716),  
( 'WV', 1168)],  
'Methadone': [('OH', 219),  
( 'VA', 208),  
( 'PA', 136),  
( 'KY', 119),  
( 'WV', 18)],  
'Levorphanol': [('PA', 1)],  
'Acryl fentanyl': [('OH', 17), ('KY', 7), ('PA', 3), ('VA', 1), ('WV', 1)],  
'MT-45': [('PA', 1)],  
'p-Fluorofentanyl': [('OH', 6), ('WV', 1)],  
'p-methoxybutyryl fentanyl': [('PA', 1)],  
'Thebaine': [],  
'ANPP': [('OH', 22), ('KY', 1), ('PA', 1)],  
'cis-3-methylfentanyl': [('PA', 14)],  
'Hydromorphone': [('VA', 250),  
( 'WV', 139),  
( 'OH', 71),  
( 'PA', 39),  
( 'KY', 27)],  
'Benzylfentanyl': [],  
'Hydrocodone': [('OH', 1535),  
( 'KY', 1115),  
( 'VA', 859),  
( 'PA', 366),  
( 'WV', 110)],  
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'Methorphan': [('KY', 14), ('PA', 14), ('VA', 5), ('WV', 3), ('OH', 1)],  
 'Pethidine': [],  
 'Acetylcodeine': [('PA', 3)],  
 'Methoxyacetyl fentanyl': [],  
 'trans-3-Methylfentanyl': [('PA', 14)],  
 'Cyclopropyl/Crotonyl Fentanyl': [],  
 'Furanyl fentanyl': [('OH', 642),  
 ('PA', 299),  
 ('VA', 182),  
 ('KY', 60),  
 ('WV', 23)],  
 'Codeine': [('OH', 181), ('PA', 153), ('VA', 70), ('KY', 36), ('WV', 8)],  
 'Opiates': [('OH', 9), ('PA', 2)],  
 'Cyclopentyl fentanyl': [],  
 'Remifentanil': [],  
 'Acetyl fentanyl': [('OH', 447),  
 ('PA', 101),  
 ('VA', 19),  
 ('WV', 5),  
 ('KY', 5)],  
 'Fluorobutyryl fentanyl ': [('WV', 1)],  
 'U-49900': [],  
 'Oxycodone': [('OH', 4298),  
 ('PA', 2185),  
 ('VA', 1693),  
 ('KY', 1549),  
 ('WV', 477)],  
 'Nalbuphine': [],  
 'p-Fluorobutyryl fentanyl': [('PA', 4), ('OH', 1), ('KY', 1)],  
 'Carfentanil': [('OH', 985), ('KY', 45), ('PA', 14), ('VA', 1), ('WV', 1)],  
 'Cyclopropyl fentanyl': [('KY', 1)],  
 '4-Methylfentanyl': [],  
 'Tetrahydrofuran fentanyl': [('OH', 3)],  
 'Furanyl/3-Furanyl fentanyl': [('WV', 1)],  
 '4-Fluoroisobutyryl fentanyl': [('PA', 67), ('VA', 10), ('OH', 1)],  
 'Phenyl fentanyl': [],  
 'Alphaprodine': [],  
 'Isobutyryl fentanyl': [],  
 'U-47700': [('OH', 164), ('PA', 93), ('KY', 15), ('VA', 14), ('WV', 2)],  
 'Butorphanol': []},  
 2017: {'Desmethyprodine ': [],  
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('VA', 1322),  
('KY', 874),  
('WV', 141)],  
'Butyryl fentanyl': [('OH', 213),  
('PA', 110),  
('KY', 17),  
('VA', 5),  
('WV', 3)],  
'Dextropropoxyphene': [],  
'3,4-Methylenedioxy U-47700': [('PA', 3)],  
'Meperidine': [('VA', 3), ('KY', 1), ('PA', 1)],  
'Pentazocine': [('OH', 2), ('KY', 1)],  
'Morphine': [('OH', 315), ('PA', 263), ('VA', 228), ('KY', 108), ('WV', 9)],  
'3-Fluorofentanyl': [],  
'Opium': [('VA', 4), ('KY', 1)],  
'3-Methylfentanyl': [('OH', 616), ('PA', 122), ('WV', 4), ('VA', 2)],  
'U-51754': [('OH', 7)],  
'U-48800': [('OH', 23), ('PA', 12)],  
'Dihydromorphone': [],  
'o-Fluorofentanyl': [],  
'Propoxyphene': [('OH', 3), ('KY', 2), ('PA', 2), ('VA', 1)],  
'Oxymorphone': [('VA', 142), ('OH', 95), ('KY', 58), ('PA', 51), ('WV', 44)],  
'Fluoroisobutyryl fentanyl': [('OH', 101),  
('PA', 36),  
('VA', 12),  
('KY', 4)],  
'Crotonyl fentanyl': [('OH', 39)],  
'Mitragynine': [('OH', 38), ('KY', 2), ('WV', 1)],  
'Tramadol': [('OH', 845), ('PA', 477), ('VA', 210), ('KY', 115), ('WV', 21)],  
'Metazocine': [('PA', 1)],  
'Valeryl fentanyl': [('PA', 2)],  
'Dihydrocodeine': [('OH', 2), ('VA', 1)],  
'Acetyldihydrocodeine': [],  
'Fentanyl': [('OH', 11619),  
('PA', 8208),  
('KY', 2369),  
('VA', 1299),  
('WV', 238)],  
'Fluorofentanyl': [],  
'Heroin': [('OH', 15045),  
('PA', 13256),  
('VA', 3869),  
('KY', 3231),

('WV', 751]],  
'Methadone': [('VA', 163), ('OH', 156), ('PA', 86), ('KY', 62), ('WV', 5)],  
'Levorphanol': [],  
'Acryl fentanyl': [('OH', 1210),  
( 'PA', 60),  
( 'KY', 45),  
( 'WV', 12),  
( 'VA', 9)],  
'MT-45': [],  
'p-Fluorofentanyl': [],  
'p-methoxybutyryl fentanyl': [],  
'Thebaine': [('OH', 5)],  
'ANPP': [('OH', 255), ('KY', 18), ('PA', 18), ('VA', 4), ('WV', 1)],  
'cis-3-methylfentanyl': [('PA', 9), ('KY', 2)],  
'Hydromorphone': [('VA', 165),  
( 'OH', 72),  
( 'WV', 37),  
( 'KY', 19),  
( 'PA', 19)],  
'Benzylfentanyl': [('OH', 115), ('PA', 36), ('VA', 1)],  
'Hydrocodone': [('OH', 1171),  
( 'KY', 916),  
( 'VA', 754),  
( 'PA', 325),  
( 'WV', 98)],  
'Hydrocodeinone': [],  
'Methorphan': [('PA', 20), ('KY', 11), ('VA', 3), ('OH', 1)],  
'Pethidine': [('PA', 1)],  
'Acetylcodeine': [],  
'Methoxyacetyl fentanyl': [('OH', 218),  
( 'PA', 79),  
( 'KY', 17),  
( 'VA', 9),  
( 'WV', 2)],  
'trans-3-Methylfentanyl': [('PA', 7), ('KY', 2)],  
'Cyclopropyl/Crotonyl Fentanyl': [('OH', 26)],  
'Furanyl fentanyl': [('OH', 1095),  
( 'PA', 421),  
( 'VA', 388),  
( 'KY', 88),  
( 'WV', 19)],  
'Codeine': [('OH', 171), ('PA', 155), ('VA', 73), ('KY', 36), ('WV', 5)],  
'Opiates': [],

'Cyclopentyl fentanyl': [('KY', 1)],  
'Remifentanyl': [],  
'Acetyl fentanyl': [('OH', 551),  
( 'PA', 247),  
( 'VA', 11),  
( 'KY', 10),  
( 'WV', 5)],  
'Fluorobutyryl fentanyl ': [('OH', 22)],  
'U-49900': [('OH', 17)],  
'Oxycodone': [('OH', 3799),  
( 'PA', 1772),  
( 'VA', 1365),  
( 'KY', 1114),  
( 'WV', 187)],  
'Nalbuphine': [],  
'p-Fluorobutyryl fentanyl': [('PA', 6), ( 'VA', 2)],  
'Carfentanyl': [('OH', 4430),  
( 'PA', 164),  
( 'KY', 124),  
( 'VA', 57),  
( 'WV', 7)],  
'Cyclopropyl fentanyl': [('OH', 730),  
( 'PA', 102),  
( 'KY', 78),  
( 'VA', 27),  
( 'WV', 3)],  
'4-Methylfentanyl': [('OH', 5)],  
'Tetrahydrofuran fentanyl': [('OH', 2), ( 'PA', 1)],  
'Furanyl/3-Furanyl fentanyl': [('WV', 6)],  
'4-Fluoroisobutyryl fentanyl': [('PA', 261),  
( 'VA', 243),  
( 'OH', 111),  
( 'KY', 3),  
( 'WV', 2)],  
'Phenyl fentanyl': [('OH', 54), ( 'PA', 9), ( 'WV', 1)],  
'Alphaprodine': [],  
'Isobutyryl fentanyl': [('WV', 3), ( 'OH', 1)],  
'U-47700': [('OH', 932), ( 'PA', 222), ( 'VA', 76), ( 'KY', 65), ( 'WV', 9)],  
'Butorphanol': []}}