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| **Supplemental Digital Content 4. Predicted Probabilities for Nine Co-Positivity Regression Models** | | | | | | | | | | | |
| Year Collected | Regions | Methamphetamine | Benzodiazepine | Buprenorphine | Cocaine | Alcohol | Fentanyl | Heroin | Methadone | Other Opioids | THC |
| 2014 | East North Central | negative | 0.129 [0.124-0.133] | 0.054 [0.051-0.058] | 0.037 [0.034-0.039] | 0.123 [0.118-0.128] | 0.011 [0.01-0.013] | 0.016 [0.015-0.018] | 0.018 [0.016-0.02] | 0.218 [0.212-0.225] | 0.179 [0.174-0.184] |
| 2014 | East North Central | positive | 0.217 [0.161-0.287] | 0.118 [0.075-0.18] | 0.077 [0.05-0.116] | 0.127 [0.079-0.198] | 0.021 [0.008-0.053] | 0.06 [0.038-0.094] | 0.056 [0.032-0.096] | 0.497 [0.404-0.59] | 0.35 [0.281-0.427] |
| 2014 | East South Central | negative | 0.152 [0.146-0.159] | 0.042 [0.038-0.046] | 0.023 [0.021-0.025] | 0.117 [0.109-0.125] | 0.006 [0.005-0.008] | 0.004 [0.003-0.005] | 0.014 [0.013-0.016] | 0.209 [0.201-0.217] | 0.125 [0.12-0.131] |
| 2014 | East South Central | positive | 0.34 [0.285-0.399] | 0.105 [0.076-0.143] | 0.049 [0.033-0.072] | 0.15 [0.102-0.216] | 0.011 [0.004-0.029] | 0.011 [0.005-0.025] | 0.039 [0.024-0.063] | 0.362 [0.302-0.427] | 0.282 [0.235-0.334] |
| 2014 | Mid Atlantic | negative | 0.149 [0.144-0.154] | 0.065 [0.062-0.069] | 0.059 [0.056-0.062] | 0.16 [0.154-0.167] | 0.008 [0.007-0.01] | 0.022 [0.02-0.024] | 0.035 [0.033-0.038] | 0.211 [0.205-0.218] | 0.169 [0.163-0.175] |
| 2014 | Mid Atlantic | positive | 0.325 [0.235-0.429] | 0.147 [0.092-0.226] | 0.142 [0.092-0.212] | 0.222 [0.123-0.368] | 0.008 [0.001-0.043] | 0.06 [0.034-0.104] | 0.059 [0.03-0.115] | 0.401 [0.296-0.515] | 0.336 [0.236-0.452] |
| 2014 | Mountain | negative | 0.155 [0.149-0.161] | 0.021 [0.018-0.023] | 0.017 [0.015-0.019] | 0.131 [0.125-0.137] | 0.009 [0.007-0.01] | 0.007 [0.006-0.009] | 0.019 [0.017-0.021] | 0.222 [0.214-0.231] | 0.149 [0.144-0.155] |
| 2014 | Mountain | positive | 0.208 [0.181-0.238] | 0.027 [0.018-0.039] | 0.047 [0.035-0.061] | 0.173 [0.146-0.203] | 0.005 [0.002-0.013] | 0.054 [0.042-0.07] | 0.041 [0.03-0.057] | 0.368 [0.327-0.412] | 0.292 [0.26-0.325] |
| 2014 | New England | negative | 0.161 [0.15-0.173] | 0.087 [0.079-0.097] | 0.039 [0.034-0.045] | 0.152 [0.141-0.164] | 0.015 [0.012-0.019] | 0.013 [0.01-0.016] | 0.02 [0.016-0.025] | 0.191 [0.176-0.206] | 0.217 [0.204-0.231] |
| 2014 | New England | positive | 0.138 [0.022-0.535] | 0.24 [0.048-0.666] | 0.16 [0.033-0.515] | 0.256 [0.049-0.696] | 0.021 [0.001-0.445] | 0.059 [0.007-0.37] | 0.03 [0.001-0.525] | 0.417 [0.12-0.79] | 0.344 [0.098-0.717] |
| 2014 | Pacific | negative | 0.138 [0.133-0.143] | 0.02 [0.019-0.022] | 0.011 [0.01-0.012] | 0.137 [0.132-0.143] | 0.007 [0.006-0.008] | 0.004 [0.003-0.004] | 0.017 [0.015-0.019] | 0.146 [0.14-0.152] | 0.167 [0.162-0.173] |
| 2014 | Pacific | positive | 0.193 [0.172-0.217] | 0.025 [0.019-0.033] | 0.025 [0.02-0.033] | 0.182 [0.16-0.206] | 0.004 [0.002-0.009] | 0.042 [0.035-0.051] | 0.036 [0.028-0.047] | 0.372 [0.341-0.404] | 0.346 [0.318-0.375] |
| 2014 | South Atlantic | negative | 0.163 [0.159-0.167] | 0.048 [0.046-0.05] | 0.041 [0.039-0.042] | 0.148 [0.144-0.153] | 0.011 [0.01-0.012] | 0.008 [0.007-0.009] | 0.019 [0.018-0.021] | 0.198 [0.193-0.203] | 0.145 [0.141-0.149] |
| 2014 | South Atlantic | positive | 0.291 [0.249-0.336] | 0.067 [0.05-0.089] | 0.09 [0.071-0.113] | 0.173 [0.133-0.221] | 0.013 [0.006-0.028] | 0.022 [0.014-0.034] | 0.048 [0.033-0.068] | 0.403 [0.352-0.456] | 0.297 [0.257-0.341] |
| 2014 | West North Central | negative | 0.101 [0.093-0.111] | 0.017 [0.014-0.021] | 0.012 [0.01-0.015] | 0.113 [0.103-0.124] | 0.003 [0.002-0.005] | 0.002 [0.001-0.003] | 0.017 [0.014-0.021] | 0.109 [0.099-0.121] | 0.133 [0.123-0.144] |
| 2014 | West North Central | positive | 0.166 [0.131-0.21] | 0.012 [0.006-0.023] | 0.015 [0.008-0.027] | 0.139 [0.103-0.185] | 0.006 [0.002-0.017] | 0.005 [0.002-0.012] | 0.024 [0.014-0.043] | 0.194 [0.151-0.245] | 0.331 [0.279-0.388] |
| 2014 | West South Central | negative | 0.136 [0.13-0.141] | 0.028 [0.024-0.031] | 0.025 [0.023-0.027] | 0.138 [0.131-0.145] | 0.009 [0.007-0.011] | 0.002 [0.001-0.003] | 0.008 [0.007-0.01] | 0.163 [0.157-0.17] | 0.11 [0.106-0.115] |
| 2014 | West South Central | positive | 0.301 [0.257-0.349] | 0.042 [0.026-0.066] | 0.067 [0.05-0.088] | 0.195 [0.153-0.246] | 0.005 [0.001-0.022] | 0.011 [0.006-0.023] | 0.026 [0.016-0.044] | 0.317 [0.268-0.371] | 0.337 [0.296-0.38] |
| 2015 | East North Central | negative | 0.125 [0.121-0.129] | 0.057 [0.054-0.06] | 0.047 [0.044-0.049] | 0.135 [0.13-0.141] | 0.021 [0.019-0.024] | 0.024 [0.022-0.026] | 0.013 [0.012-0.014] | 0.235 [0.229-0.242] | 0.194 [0.189-0.199] |
| 2015 | East North Central | positive | 0.228 [0.188-0.273] | 0.103 [0.079-0.134] | 0.108 [0.085-0.136] | 0.115 [0.083-0.157] | 0.072 [0.052-0.099] | 0.072 [0.055-0.094] | 0.022 [0.012-0.038] | 0.528 [0.47-0.587] | 0.351 [0.3-0.405] |
| 2015 | East South Central | negative | 0.137 [0.131-0.142] | 0.04 [0.037-0.043] | 0.026 [0.024-0.029] | 0.122 [0.116-0.13] | 0.009 [0.008-0.011] | 0.006 [0.005-0.007] | 0.014 [0.012-0.016] | 0.204 [0.196-0.212] | 0.135 [0.13-0.14] |
| 2015 | East South Central | positive | 0.279 [0.243-0.319] | 0.076 [0.06-0.095] | 0.046 [0.035-0.061] | 0.156 [0.123-0.195] | 0.018 [0.011-0.029] | 0.024 [0.016-0.034] | 0.033 [0.022-0.048] | 0.381 [0.336-0.427] | 0.332 [0.295-0.372] |
| 2015 | Mid Atlantic | negative | 0.128 [0.123-0.134] | 0.046 [0.043-0.05] | 0.044 [0.042-0.047] | 0.138 [0.132-0.145] | 0.012 [0.011-0.014] | 0.015 [0.014-0.017] | 0.029 [0.026-0.031] | 0.195 [0.188-0.202] | 0.166 [0.159-0.173] |
| 2015 | Mid Atlantic | positive | 0.239 [0.166-0.332] | 0.114 [0.066-0.19] | 0.099 [0.062-0.154] | 0.082 [0.033-0.189] | 0.036 [0.016-0.082] | 0.06 [0.035-0.101] | 0.044 [0.02-0.093] | 0.479 [0.373-0.588] | 0.299 [0.203-0.416] |
| 2015 | Mountain | negative | 0.133 [0.127-0.138] | 0.02 [0.018-0.023] | 0.016 [0.014-0.018] | 0.137 [0.131-0.144] | 0.009 [0.008-0.011] | 0.008 [0.007-0.01] | 0.017 [0.015-0.019] | 0.217 [0.208-0.226] | 0.157 [0.151-0.164] |
| 2015 | Mountain | positive | 0.187 [0.163-0.214] | 0.032 [0.024-0.044] | 0.033 [0.025-0.044] | 0.165 [0.141-0.192] | 0.006 [0.002-0.013] | 0.089 [0.074-0.106] | 0.04 [0.029-0.054] | 0.431 [0.392-0.472] | 0.293 [0.263-0.324] |
| 2015 | New England | negative | 0.147 [0.136-0.158] | 0.104 [0.095-0.114] | 0.038 [0.033-0.043] | 0.159 [0.147-0.171] | 0.025 [0.021-0.03] | 0.013 [0.01-0.015] | 0.019 [0.015-0.023] | 0.184 [0.17-0.198] | 0.241 [0.227-0.256] |
| 2015 | New England | positive | 0.179 [0.071-0.385] | 0.112 [0.038-0.29] | 0.089 [0.032-0.225] | 0.104 [0.027-0.327] | 0.144 [0.055-0.327] | 0.041 [0.012-0.133] | 0.009 [0-0.24] | 0.368 [0.186-0.598] | 0.327 [0.154-0.565] |
| 2015 | Pacific | negative | 0.123 [0.118-0.128] | 0.017 [0.016-0.019] | 0.011 [0.01-0.012] | 0.145 [0.14-0.151] | 0.006 [0.005-0.007] | 0.004 [0.003-0.004] | 0.013 [0.012-0.015] | 0.141 [0.135-0.147] | 0.189 [0.183-0.195] |
| 2015 | Pacific | positive | 0.175 [0.158-0.193] | 0.029 [0.024-0.035] | 0.024 [0.02-0.03] | 0.184 [0.166-0.204] | 0.005 [0.003-0.009] | 0.041 [0.035-0.048] | 0.025 [0.019-0.033] | 0.384 [0.358-0.412] | 0.367 [0.343-0.391] |
| 2015 | South Atlantic | negative | 0.155 [0.151-0.16] | 0.043 [0.041-0.045] | 0.044 [0.042-0.046] | 0.169 [0.164-0.174] | 0.017 [0.015-0.018] | 0.012 [0.011-0.013] | 0.02 [0.019-0.022] | 0.213 [0.207-0.218] | 0.165 [0.161-0.17] |
| 2015 | South Atlantic | positive | 0.261 [0.23-0.295] | 0.054 [0.042-0.07] | 0.069 [0.056-0.084] | 0.179 [0.148-0.213] | 0.023 [0.014-0.036] | 0.022 [0.016-0.031] | 0.033 [0.023-0.047] | 0.38 [0.341-0.42] | 0.336 [0.301-0.372] |
| 2015 | West North Central | negative | 0.108 [0.101-0.115] | 0.008 [0.007-0.01] | 0.014 [0.012-0.017] | 0.123 [0.115-0.132] | 0.004 [0.003-0.006] | 0.004 [0.003-0.005] | 0.016 [0.013-0.019] | 0.107 [0.099-0.116] | 0.165 [0.156-0.174] |
| 2015 | West North Central | positive | 0.173 [0.15-0.199] | 0.012 [0.008-0.018] | 0.014 [0.01-0.02] | 0.16 [0.136-0.187] | 0.006 [0.003-0.011] | 0.012 [0.008-0.016] | 0.019 [0.013-0.028] | 0.23 [0.201-0.262] | 0.364 [0.331-0.399] |
| 2015 | West South Central | negative | 0.124 [0.118-0.13] | 0.014 [0.012-0.017] | 0.023 [0.021-0.026] | 0.137 [0.13-0.144] | 0.006 [0.004-0.007] | 0.002 [0.001-0.003] | 0.007 [0.006-0.009] | 0.144 [0.137-0.151] | 0.135 [0.129-0.14] |
| 2015 | West South Central | positive | 0.239 [0.211-0.27] | 0.022 [0.015-0.032] | 0.044 [0.034-0.056] | 0.163 [0.136-0.194] | 0.004 [0.002-0.011] | 0.006 [0.003-0.011] | 0.024 [0.016-0.036] | 0.261 [0.228-0.298] | 0.357 [0.325-0.39] |
| 2016 | East North Central | negative | 0.12 [0.115-0.126] | 0.065 [0.061-0.069] | 0.053 [0.05-0.056] | 0.133 [0.127-0.14] | 0.037 [0.034-0.041] | 0.022 [0.02-0.024] | 0.021 [0.019-0.023] | 0.235 [0.227-0.244] | 0.189 [0.182-0.196] |
| 2016 | East North Central | positive | 0.213 [0.177-0.255] | 0.118 [0.094-0.148] | 0.141 [0.115-0.171] | 0.121 [0.092-0.157] | 0.132 [0.105-0.163] | 0.073 [0.057-0.093] | 0.019 [0.01-0.034] | 0.511 [0.459-0.564] | 0.337 [0.292-0.385] |
| 2016 | East South Central | negative | 0.14 [0.132-0.148] | 0.042 [0.038-0.046] | 0.027 [0.024-0.03] | 0.127 [0.119-0.135] | 0.013 [0.011-0.015] | 0.005 [0.004-0.007] | 0.007 [0.006-0.009] | 0.198 [0.188-0.208] | 0.149 [0.142-0.157] |
| 2016 | East South Central | positive | 0.273 [0.238-0.31] | 0.067 [0.054-0.084] | 0.05 [0.038-0.064] | 0.152 [0.124-0.185] | 0.046 [0.034-0.061] | 0.027 [0.02-0.036] | 0.016 [0.01-0.027] | 0.371 [0.33-0.413] | 0.336 [0.3-0.374] |
| 2016 | Mid Atlantic | negative | 0.136 [0.128-0.145] | 0.073 [0.066-0.08] | 0.044 [0.04-0.049] | 0.138 [0.129-0.147] | 0.019 [0.016-0.022] | 0.013 [0.011-0.016] | 0.016 [0.014-0.019] | 0.188 [0.178-0.199] | 0.173 [0.163-0.183] |
| 2016 | Mid Atlantic | positive | 0.291 [0.204-0.397] | 0.14 [0.079-0.237] | 0.123 [0.076-0.192] | 0.152 [0.086-0.255] | 0.107 [0.062-0.177] | 0.079 [0.045-0.133] | 0.026 [0.008-0.075] | 0.476 [0.352-0.602] | 0.297 [0.204-0.411] |
| 2016 | Mountain | negative | 0.12 [0.113-0.128] | 0.022 [0.018-0.026] | 0.017 [0.015-0.02] | 0.145 [0.137-0.153] | 0.009 [0.007-0.011] | 0.008 [0.007-0.01] | 0.024 [0.021-0.028] | 0.206 [0.194-0.218] | 0.171 [0.163-0.18] |
| 2016 | Mountain | positive | 0.196 [0.165-0.232] | 0.037 [0.026-0.053] | 0.043 [0.032-0.058] | 0.18 [0.148-0.215] | 0.005 [0.002-0.014] | 0.082 [0.066-0.102] | 0.075 [0.057-0.098] | 0.447 [0.395-0.5] | 0.333 [0.296-0.373] |
| 2016 | New England | negative | 0.141 [0.124-0.16] | 0.117 [0.101-0.135] | 0.047 [0.039-0.056] | 0.149 [0.131-0.169] | 0.045 [0.037-0.055] | 0.007 [0.005-0.011] | 0.021 [0.016-0.029] | 0.162 [0.142-0.184] | 0.27 [0.247-0.294] |
| 2016 | New England | positive | 0.321 [0.152-0.555] | 0.155 [0.054-0.37] | 0.148 [0.06-0.321] | 0.118 [0.031-0.363] | 0.315 [0.162-0.522] | 0.048 [0.013-0.163] | 0.033 [0.004-0.214] | 0.383 [0.178-0.64] | 0.39 [0.187-0.639] |
| 2016 | Pacific | negative | 0.11 [0.105-0.116] | 0.017 [0.015-0.018] | 0.011 [0.01-0.012] | 0.149 [0.143-0.155] | 0.006 [0.005-0.007] | 0.004 [0.004-0.005] | 0.012 [0.01-0.013] | 0.137 [0.13-0.144] | 0.213 [0.206-0.221] |
| 2016 | Pacific | positive | 0.131 [0.115-0.147] | 0.023 [0.019-0.029] | 0.025 [0.021-0.031] | 0.175 [0.158-0.194] | 0.005 [0.003-0.008] | 0.053 [0.046-0.061] | 0.023 [0.017-0.029] | 0.387 [0.36-0.415] | 0.372 [0.349-0.396] |
| 2016 | South Atlantic | negative | 0.148 [0.142-0.154] | 0.037 [0.034-0.04] | 0.044 [0.041-0.047] | 0.167 [0.16-0.175] | 0.021 [0.018-0.023] | 0.01 [0.008-0.011] | 0.023 [0.021-0.026] | 0.193 [0.185-0.201] | 0.169 [0.162-0.175] |
| 2016 | South Atlantic | positive | 0.243 [0.204-0.287] | 0.049 [0.035-0.068] | 0.089 [0.07-0.112] | 0.171 [0.135-0.215] | 0.039 [0.026-0.057] | 0.024 [0.017-0.035] | 0.036 [0.023-0.054] | 0.369 [0.319-0.422] | 0.319 [0.278-0.363] |
| 2016 | West North Central | negative | 0.122 [0.114-0.131] | 0.01 [0.008-0.012] | 0.018 [0.015-0.02] | 0.133 [0.124-0.142] | 0.008 [0.007-0.01] | 0.006 [0.005-0.007] | 0.016 [0.013-0.019] | 0.133 [0.123-0.145] | 0.168 [0.159-0.178] |
| 2016 | West North Central | positive | 0.188 [0.166-0.212] | 0.013 [0.009-0.018] | 0.016 [0.012-0.022] | 0.158 [0.137-0.18] | 0.017 [0.013-0.024] | 0.015 [0.011-0.019] | 0.017 [0.012-0.025] | 0.288 [0.258-0.32] | 0.386 [0.357-0.416] |
| 2016 | West South Central | negative | 0.115 [0.107-0.123] | 0.022 [0.018-0.027] | 0.021 [0.018-0.024] | 0.137 [0.127-0.147] | 0.006 [0.004-0.008] | 0.002 [0.001-0.003] | 0.008 [0.006-0.01] | 0.13 [0.12-0.14] | 0.142 [0.134-0.151] |
| 2016 | West South Central | positive | 0.229 [0.192-0.271] | 0.029 [0.019-0.045] | 0.036 [0.025-0.051] | 0.178 [0.143-0.219] | 0.003 [0.001-0.011] | 0.009 [0.005-0.016] | 0.025 [0.015-0.04] | 0.236 [0.195-0.283] | 0.38 [0.337-0.424] |
| 2017 | East North Central | negative | 0.097 [0.091-0.102] | 0.051 [0.047-0.055] | 0.044 [0.041-0.048] | 0.125 [0.119-0.132] | 0.027 [0.025-0.031] | 0.01 [0.009-0.012] | 0.011 [0.009-0.013] | 0.143 [0.136-0.151] | 0.181 [0.173-0.188] |
| 2017 | East North Central | positive | 0.162 [0.13-0.2] | 0.11 [0.086-0.138] | 0.115 [0.092-0.143] | 0.116 [0.087-0.153] | 0.124 [0.098-0.155] | 0.042 [0.031-0.057] | 0.021 [0.012-0.037] | 0.338 [0.289-0.391] | 0.342 [0.297-0.39] |
| 2017 | East South Central | negative | 0.116 [0.11-0.123] | 0.027 [0.024-0.031] | 0.027 [0.024-0.03] | 0.124 [0.116-0.132] | 0.018 [0.015-0.021] | 0.005 [0.004-0.006] | 0.007 [0.006-0.009] | 0.156 [0.148-0.165] | 0.142 [0.134-0.149] |
| 2017 | East South Central | positive | 0.222 [0.194-0.252] | 0.054 [0.044-0.066] | 0.053 [0.043-0.065] | 0.15 [0.124-0.181] | 0.08 [0.066-0.097] | 0.026 [0.02-0.033] | 0.011 [0.006-0.018] | 0.341 [0.306-0.378] | 0.363 [0.33-0.398] |
| 2017 | Mid Atlantic | negative | 0.112 [0.103-0.122] | 0.066 [0.059-0.075] | 0.045 [0.04-0.051] | 0.134 [0.124-0.145] | 0.019 [0.016-0.023] | 0.008 [0.006-0.011] | 0.014 [0.011-0.018] | 0.154 [0.143-0.167] | 0.172 [0.16-0.185] |
| 2017 | Mid Atlantic | positive | 0.217 [0.124-0.351] | 0.176 [0.093-0.308] | 0.123 [0.066-0.217] | 0.114 [0.051-0.237] | 0.087 [0.04-0.18] | 0.059 [0.026-0.128] | 0.031 [0.008-0.109] | 0.268 [0.157-0.418] | 0.314 [0.203-0.452] |
| 2017 | Mountain | negative | 0.105 [0.098-0.113] | 0.022 [0.019-0.027] | 0.018 [0.015-0.021] | 0.139 [0.13-0.147] | 0.009 [0.007-0.012] | 0.008 [0.006-0.01] | 0.009 [0.007-0.012] | 0.168 [0.157-0.18] | 0.183 [0.173-0.192] |
| 2017 | Mountain | positive | 0.161 [0.132-0.196] | 0.041 [0.029-0.06] | 0.049 [0.036-0.066] | 0.182 [0.149-0.22] | 0.012 [0.006-0.024] | 0.091 [0.073-0.113] | 0.05 [0.035-0.071] | 0.425 [0.374-0.478] | 0.333 [0.293-0.375] |
| 2017 | New England | negative | 0.121 [0.104-0.141] | 0.085 [0.071-0.101] | 0.049 [0.04-0.059] | 0.165 [0.145-0.187] | 0.046 [0.037-0.057] | 0.007 [0.004-0.011] | 0.023 [0.017-0.032] | 0.131 [0.111-0.153] | 0.301 [0.274-0.329] |
| 2017 | New England | positive | 0.221 [0.093-0.44] | 0.169 [0.07-0.355] | 0.136 [0.057-0.292] | 0.142 [0.055-0.319] | 0.306 [0.161-0.503] | 0.018 [0.003-0.101] | 0.031 [0.004-0.204] | 0.22 [0.088-0.453] | 0.575 [0.346-0.775] |
| 2017 | Pacific | negative | 0.091 [0.086-0.096] | 0.016 [0.015-0.018] | 0.012 [0.01-0.013] | 0.137 [0.131-0.143] | 0.005 [0.004-0.006] | 0.003 [0.003-0.004] | 0.01 [0.008-0.011] | 0.113 [0.106-0.12] | 0.225 [0.217-0.233] |
| 2017 | Pacific | positive | 0.091 [0.08-0.104] | 0.028 [0.024-0.033] | 0.021 [0.017-0.025] | 0.157 [0.142-0.174] | 0.008 [0.006-0.012] | 0.052 [0.046-0.06] | 0.023 [0.018-0.029] | 0.368 [0.344-0.393] | 0.388 [0.366-0.41] |
| 2017 | South Atlantic | negative | 0.138 [0.131-0.145] | 0.038 [0.035-0.042] | 0.052 [0.049-0.056] | 0.161 [0.152-0.17] | 0.029 [0.025-0.032] | 0.009 [0.008-0.011] | 0.018 [0.016-0.021] | 0.174 [0.165-0.183] | 0.17 [0.162-0.178] |
| 2017 | South Atlantic | positive | 0.204 [0.162-0.254] | 0.069 [0.047-0.099] | 0.088 [0.067-0.116] | 0.15 [0.107-0.207] | 0.054 [0.037-0.079] | 0.022 [0.014-0.035] | 0.033 [0.02-0.054] | 0.309 [0.255-0.37] | 0.323 [0.271-0.378] |
| 2017 | West North Central | negative | 0.108 [0.098-0.119] | 0.015 [0.012-0.018] | 0.012 [0.01-0.015] | 0.112 [0.102-0.122] | 0.009 [0.006-0.012] | 0.002 [0.001-0.003] | 0.008 [0.006-0.011] | 0.119 [0.106-0.132] | 0.17 [0.158-0.182] |
| 2017 | West North Central | positive | 0.188 [0.158-0.221] | 0.021 [0.014-0.03] | 0.017 [0.012-0.026] | 0.161 [0.134-0.191] | 0.029 [0.02-0.041] | 0.013 [0.008-0.019] | 0.014 [0.008-0.025] | 0.248 [0.209-0.291] | 0.393 [0.355-0.433] |
| 2017 | West South Central | negative | 0.117 [0.108-0.125] | 0.018 [0.015-0.023] | 0.025 [0.022-0.029] | 0.142 [0.133-0.152] | 0.007 [0.005-0.01] | 0.003 [0.002-0.004] | 0.007 [0.005-0.009] | 0.135 [0.124-0.146] | 0.14 [0.131-0.149] |
| 2017 | West South Central | positive | 0.222 [0.183-0.267] | 0.024 [0.015-0.038] | 0.057 [0.042-0.077] | 0.177 [0.141-0.22] | 0.008 [0.004-0.018] | 0.006 [0.003-0.013] | 0.02 [0.011-0.036] | 0.225 [0.183-0.273] | 0.411 [0.363-0.461] |
| 2018 | East North Central | negative | 0.074 [0.07-0.078] | 0.045 [0.042-0.048] | 0.041 [0.038-0.044] | 0.123 [0.117-0.129] | 0.03 [0.028-0.033] | 0.006 [0.006-0.008] | 0.01 [0.009-0.012] | 0.108 [0.102-0.114] | 0.195 [0.188-0.202] |
| 2018 | East North Central | positive | 0.117 [0.097-0.14] | 0.088 [0.074-0.106] | 0.101 [0.085-0.119] | 0.114 [0.092-0.141] | 0.144 [0.123-0.168] | 0.03 [0.023-0.038] | 0.01 [0.005-0.018] | 0.291 [0.257-0.327] | 0.35 [0.315-0.387] |
| 2018 | East South Central | negative | 0.099 [0.093-0.106] | 0.028 [0.025-0.032] | 0.028 [0.026-0.032] | 0.123 [0.115-0.13] | 0.028 [0.025-0.032] | 0.005 [0.004-0.007] | 0.006 [0.005-0.008] | 0.133 [0.125-0.141] | 0.161 [0.153-0.169] |
| 2018 | East South Central | positive | 0.168 [0.146-0.192] | 0.053 [0.044-0.063] | 0.05 [0.041-0.061] | 0.125 [0.105-0.149] | 0.119 [0.102-0.138] | 0.028 [0.022-0.035] | 0.008 [0.004-0.014] | 0.334 [0.301-0.368] | 0.396 [0.364-0.429] |
| 2018 | Mid Atlantic | negative | 0.084 [0.075-0.093] | 0.057 [0.05-0.066] | 0.037 [0.031-0.043] | 0.141 [0.129-0.154] | 0.017 [0.014-0.022] | 0.005 [0.003-0.007] | 0.008 [0.006-0.012] | 0.1 [0.089-0.111] | 0.199 [0.185-0.215] |
| 2018 | Mid Atlantic | positive | 0.215 [0.124-0.344] | 0.256 [0.144-0.412] | 0.105 [0.054-0.193] | 0.116 [0.053-0.237] | 0.101 [0.05-0.194] | 0.036 [0.013-0.095] | 0.017 [0.003-0.091] | 0.27 [0.16-0.418] | 0.372 [0.249-0.514] |
| 2018 | Mountain | negative | 0.084 [0.079-0.09] | 0.017 [0.014-0.02] | 0.013 [0.011-0.016] | 0.143 [0.136-0.151] | 0.01 [0.008-0.013] | 0.006 [0.004-0.007] | 0.014 [0.011-0.016] | 0.133 [0.124-0.142] | 0.205 [0.195-0.215] |
| 2018 | Mountain | positive | 0.141 [0.115-0.173] | 0.043 [0.031-0.061] | 0.041 [0.03-0.057] | 0.195 [0.161-0.234] | 0.02 [0.012-0.034] | 0.1 [0.081-0.123] | 0.044 [0.03-0.064] | 0.366 [0.32-0.414] | 0.357 [0.315-0.4] |
| 2018 | New England | negative | 0.093 [0.075-0.114] | 0.069 [0.055-0.086] | 0.039 [0.03-0.05] | 0.161 [0.137-0.189] | 0.039 [0.03-0.051] | 0.005 [0.003-0.009] | 0.017 [0.011-0.027] | 0.074 [0.058-0.093] | 0.285 [0.257-0.316] |
| 2018 | New England | positive | 0.206 [0.101-0.376] | 0.143 [0.055-0.32] | 0.156 [0.077-0.291] | 0.101 [0.035-0.259] | 0.311 [0.178-0.486] | 0.018 [0.004-0.084] | 0.008 [0-0.204] | 0.229 [0.104-0.43] | 0.554 [0.352-0.741] |
| 2018 | Pacific | negative | 0.072 [0.067-0.077] | 0.02 [0.018-0.022] | 0.01 [0.008-0.011] | 0.129 [0.123-0.136] | 0.005 [0.004-0.006] | 0.005 [0.004-0.006] | 0.01 [0.009-0.012] | 0.104 [0.097-0.111] | 0.23 [0.221-0.238] |
| 2018 | Pacific | positive | 0.072 [0.062-0.083] | 0.031 [0.027-0.037] | 0.019 [0.015-0.023] | 0.147 [0.133-0.163] | 0.013 [0.01-0.017] | 0.087 [0.078-0.097] | 0.025 [0.02-0.032] | 0.443 [0.418-0.468] | 0.394 [0.372-0.416] |
| 2018 | South Atlantic | negative | 0.124 [0.117-0.131] | 0.042 [0.038-0.047] | 0.047 [0.043-0.052] | 0.158 [0.149-0.168] | 0.028 [0.025-0.032] | 0.006 [0.004-0.007] | 0.016 [0.013-0.019] | 0.158 [0.149-0.167] | 0.177 [0.169-0.187] |
| 2018 | South Atlantic | positive | 0.168 [0.13-0.214] | 0.05 [0.034-0.075] | 0.109 [0.083-0.141] | 0.183 [0.136-0.243] | 0.069 [0.049-0.096] | 0.026 [0.017-0.04] | 0.028 [0.015-0.05] | 0.307 [0.251-0.369] | 0.371 [0.316-0.429] |
| 2018 | West North Central | negative | 0.096 [0.086-0.108] | 0.022 [0.017-0.027] | 0.009 [0.007-0.013] | 0.102 [0.091-0.113] | 0.007 [0.004-0.01] | 0.001 [0.001-0.003] | 0.008 [0.005-0.012] | 0.079 [0.068-0.093] | 0.163 [0.149-0.177] |
| 2018 | West North Central | positive | 0.18 [0.144-0.222] | 0.043 [0.03-0.064] | 0.022 [0.014-0.036] | 0.125 [0.097-0.16] | 0.065 [0.046-0.09] | 0.023 [0.015-0.035] | 0.015 [0.007-0.032] | 0.278 [0.227-0.335] | 0.401 [0.356-0.449] |
| 2018 | West South Central | negative | 0.105 [0.096-0.115] | 0.017 [0.013-0.022] | 0.021 [0.018-0.026] | 0.135 [0.124-0.146] | 0.008 [0.006-0.011] | 0.003 [0.002-0.005] | 0.007 [0.005-0.01] | 0.132 [0.121-0.145] | 0.137 [0.126-0.149] |
| 2018 | West South Central | positive | 0.215 [0.166-0.272] | 0.017 [0.009-0.031] | 0.037 [0.023-0.06] | 0.162 [0.119-0.218] | 0.009 [0.004-0.024] | 0.009 [0.004-0.02] | 0.017 [0.007-0.038] | 0.2 [0.15-0.261] | 0.423 [0.358-0.492] |
| 2019 | East North Central | negative | 0.065 [0.061-0.069] | 0.037 [0.035-0.04] | 0.048 [0.045-0.051] | 0.119 [0.113-0.125] | 0.046 [0.042-0.05] | 0.006 [0.005-0.007] | 0.029 [0.026-0.032] | 0.104 [0.099-0.11] | 0.211 [0.204-0.219] |
| 2019 | East North Central | positive | 0.107 [0.092-0.124] | 0.063 [0.054-0.075] | 0.098 [0.085-0.112] | 0.1 [0.084-0.119] | 0.173 [0.153-0.194] | 0.028 [0.022-0.034] | 0.047 [0.037-0.059] | 0.291 [0.264-0.32] | 0.362 [0.333-0.391] |
| 2019 | East South Central | negative | 0.081 [0.074-0.088] | 0.034 [0.03-0.038] | 0.027 [0.024-0.031] | 0.117 [0.109-0.126] | 0.041 [0.036-0.046] | 0.006 [0.005-0.008] | 0.012 [0.009-0.015] | 0.134 [0.125-0.144] | 0.147 [0.138-0.157] |
| 2019 | East South Central | positive | 0.125 [0.106-0.146] | 0.061 [0.052-0.072] | 0.045 [0.036-0.055] | 0.116 [0.097-0.139] | 0.144 [0.126-0.164] | 0.027 [0.022-0.034] | 0.013 [0.008-0.02] | 0.306 [0.275-0.34] | 0.325 [0.296-0.356] |
| 2019 | Mid Atlantic | negative | 0.068 [0.061-0.077] | 0.053 [0.046-0.062] | 0.034 [0.029-0.04] | 0.135 [0.123-0.147] | 0.014 [0.011-0.019] | 0.004 [0.002-0.006] | 0.006 [0.004-0.009] | 0.076 [0.068-0.086] | 0.247 [0.231-0.263] |
| 2019 | Mid Atlantic | positive | 0.124 [0.068-0.215] | 0.254 [0.153-0.391] | 0.092 [0.051-0.16] | 0.151 [0.082-0.26] | 0.082 [0.043-0.152] | 0.018 [0.006-0.055] | 0.012 [0.002-0.067] | 0.15 [0.083-0.256] | 0.371 [0.262-0.495] |
| 2019 | Mountain | negative | 0.085 [0.079-0.09] | 0.023 [0.02-0.026] | 0.013 [0.011-0.015] | 0.14 [0.133-0.148] | 0.015 [0.013-0.018] | 0.004 [0.003-0.006] | 0.012 [0.01-0.014] | 0.119 [0.111-0.127] | 0.213 [0.204-0.222] |
| 2019 | Mountain | positive | 0.107 [0.089-0.129] | 0.048 [0.037-0.061] | 0.038 [0.029-0.049] | 0.16 [0.136-0.188] | 0.054 [0.042-0.069] | 0.073 [0.06-0.088] | 0.033 [0.024-0.047] | 0.346 [0.31-0.383] | 0.337 [0.304-0.371] |
| 2019 | New England | negative | 0.073 [0.058-0.092] | 0.052 [0.04-0.066] | 0.037 [0.028-0.047] | 0.155 [0.13-0.183] | 0.037 [0.028-0.048] | 0.002 [0.001-0.006] | 0.013 [0.008-0.022] | 0.058 [0.045-0.074] | 0.264 [0.237-0.293] |
| 2019 | New England | positive | 0.124 [0.049-0.28] | 0.126 [0.048-0.289] | 0.109 [0.049-0.225] | 0.132 [0.053-0.291] | 0.245 [0.133-0.407] | 0.026 [0.007-0.09] | 0.013 [0.001-0.143] | 0.274 [0.139-0.471] | 0.487 [0.301-0.676] |
| 2019 | Pacific | negative | 0.067 [0.062-0.072] | 0.027 [0.024-0.03] | 0.009 [0.008-0.01] | 0.123 [0.117-0.13] | 0.005 [0.004-0.006] | 0.003 [0.003-0.004] | 0.009 [0.008-0.011] | 0.087 [0.08-0.094] | 0.22 [0.211-0.228] |
| 2019 | Pacific | positive | 0.058 [0.049-0.068] | 0.045 [0.038-0.053] | 0.017 [0.014-0.022] | 0.139 [0.125-0.154] | 0.02 [0.016-0.025] | 0.095 [0.086-0.106] | 0.02 [0.015-0.027] | 0.434 [0.408-0.461] | 0.38 [0.357-0.402] |
| 2019 | South Atlantic | negative | 0.102 [0.097-0.109] | 0.035 [0.031-0.038] | 0.041 [0.038-0.045] | 0.152 [0.144-0.16] | 0.023 [0.021-0.026] | 0.005 [0.004-0.006] | 0.016 [0.013-0.018] | 0.144 [0.137-0.153] | 0.172 [0.164-0.181] |
| 2019 | South Atlantic | positive | 0.156 [0.124-0.194] | 0.045 [0.033-0.063] | 0.099 [0.078-0.124] | 0.158 [0.124-0.199] | 0.074 [0.056-0.097] | 0.029 [0.02-0.042] | 0.027 [0.016-0.045] | 0.281 [0.236-0.331] | 0.348 [0.301-0.398] |
| 2019 | West North Central | negative | 0.081 [0.072-0.091] | 0.022 [0.018-0.028] | 0.013 [0.01-0.017] | 0.104 [0.093-0.115] | 0.012 [0.009-0.016] | 0.003 [0.002-0.005] | 0.008 [0.006-0.012] | 0.072 [0.062-0.083] | 0.145 [0.133-0.158] |
| 2019 | West North Central | positive | 0.131 [0.106-0.162] | 0.03 [0.02-0.044] | 0.034 [0.024-0.048] | 0.155 [0.127-0.188] | 0.063 [0.048-0.083] | 0.021 [0.015-0.031] | 0.021 [0.012-0.037] | 0.186 [0.151-0.227] | 0.405 [0.364-0.448] |
| 2019 | West South Central | negative | 0.085 [0.076-0.094] | 0.017 [0.013-0.022] | 0.021 [0.017-0.026] | 0.131 [0.12-0.143] | 0.009 [0.006-0.012] | 0.003 [0.001-0.005] | 0.005 [0.003-0.008] | 0.111 [0.1-0.124] | 0.125 [0.114-0.136] |
| 2019 | West South Central | positive | 0.178 [0.137-0.229] | 0.027 [0.017-0.042] | 0.045 [0.03-0.068] | 0.165 [0.122-0.218] | 0.019 [0.01-0.035] | 0.014 [0.007-0.026] | 0.009 [0.003-0.026] | 0.214 [0.165-0.273] | 0.41 [0.348-0.474] |

**Supplemental Digital Content 4. Predicted Probabilities for Nine Co-Positivity Regression Models**

*Notes:*

Predicted probabilities [95%CI] for each of the nine co-positivity regression models are shown. Predictions are estimated for each year, census division, and methamphetamine detection status. Other opioids include codeine, hydrocodone, hydromorphone, morphine, oxycodone, and oxymorphone.