eTable 7. Joinpoint results by ICD-10 opioid type for the white population, 1999-2015

# White population by ICD-10 type, 1999-2015

## Average APC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Race | Outcome | Time period | Average APC (95% CI) | *P* value |
| White | Heroin | 1999-2016 | 13.04 (10.24, 15.92) | < 0.001 |
| White | Methadone | 1999-2016 | 8.34 (5.71, 11.04) | < 0.001 |
| White | Natural | 1999-2016 | 9.10 (7.96, 10.26) | < 0.001 |
| White | Other | 1999-2016 | -0.24 (-0.75, 0.28) | = 0.34 |
| White | Synthetic | 1999-2016 | 20.59 (17.16, 24.11) | < 0.001 |

## Joinpoint Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Race | Outcome | Time period | APC (95% CI) | *P* value |
| White | Heroin | 1999-2005 | 0.76 (-3.20, 4.89) | = 0.67 |
| White | Heroin | 2005-2010 | 11.52 (4.55, 18.95) | < .01 |
| White | Heroin | 2010-2014 | 33.47 (24.80, 42.75) | < 0.001 |
| White | Heroin | 2014-2016 | 18.42 (8.41, 29.36) | < .01 |
| White | Methadone | 1999-2003 | 42.82 (33.15, 53.19) | < 0.001 |
| White | Methadone | 2003-2006 | 21.06 (6.97, 37.00) | < .01 |
| White | Methadone | 2006-2016 | -6.17 (-7.09, -5.25) | < 0.001 |
| White | Natural | 1999-2009 | 13.40 (11.65, 15.19) | < 0.001 |
| White | Natural | 2009-2016 | 3.23 (1.47, 5.03) | < .01 |
| White | Other | 1999-2016 | -0.24 (-0.75, 0.28) | = 0.34 |
| White | Synthetic | 1999-2006 | 17.88 (11.53, 24.59) | < 0.001 |
| White | Synthetic | 2006-2013 | 2.75 (-2.04, 7.78) | = 0.23 |
| White | Synthetic | 2013-2016 | 84.70 (71.66, 98.74) | < 0.001 |

## Joinpoint Model Estimates

### Estimates

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Year (95% CI) | Intercept (SE) | Intercept *P* Value | Slope (SE) | Slope *P* Value | Change in Slope (SE) | Slope Change *P* Value |
| Heroin | 1999 (Starting year) | -15.58 (33.96) | = 0.66 | 0.01 (0.02) | = 0.67 | NA | NA |
| Heroin | 2005 (2001, 2008) | -218.93 (54.76) | < .01 | 0.11 (0.03) | < .01 | 0.10 (0.03) | < .05 |
| Heroin | 2010 (2009, 2011) | -580.09 (57.19) | < 0.001 | 0.29 (0.03) | < 0.001 | 0.18 (0.04) | < .01 |
| Heroin | 2014 (2012, 2014) | -339.18 (75.28) | < .01 | 0.17 (0.04) | < .01 | -0.12 (0.05) | < .05 |
| Methadone | 1999 (Starting year) | -713.67 (62.98) | < 0.001 | 0.36 (0.03) | < 0.001 | NA | NA |
| Methadone | 2003 (2001, 2005) | -382.55 (111.28) | < .01 | 0.19 (0.06) | < .01 | -0.17 (0.06) | < .05 |
| Methadone | 2006 (2005, 2008) | 128.63 (8.86) | < 0.001 | -0.06 (0.00) | < 0.001 | -0.25 (0.06) | < .01 |
| Natural | 1999 (Starting year) | -251.37 (14.50) | < 0.001 | 0.13 (0.01) | < 0.001 | NA | NA |
| Natural | 2009 (2007, 2011) | -62.56 (16.04) | < .01 | 0.03 (0.01) | < .01 | -0.09 (0.01) | < 0.001 |
| Other | 1999 (Starting year) | 4.76 (4.90) | = 0.35 | -0.00 (0.00) | = 0.34 | NA | NA |
| Synthetic | 1999 (Starting year) | -330.10 (49.77) | < 0.001 | 0.16 (0.02) | < 0.001 | NA | NA |
| Synthetic | 2006 (2003, 2010) | -54.51 (43.08) | = 0.23 | 0.03 (0.02) | = 0.23 | -0.14 (0.03) | < .01 |
| Synthetic | 2013 (2012, 2014) | -1235.02 (66.25) | < 0.001 | 0.61 (0.03) | < 0.001 | 0.59 (0.04) | < 0.001 |

### Summary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome | Obs. (N) | Parameters | Degrees of Freedom | Sum of squared errors | Mean squared error |
| Heroin | 18 | 8 | 10 | 142.10 | 14.21 |
| Methadone | 18 | 6 | 12 | 86.61 | 7.22 |
| Natural | 18 | 4 | 14 | 287.32 | 20.52 |
| Other | 18 | 2 | 16 | 104.34 | 6.52 |
| Synthetic | 18 | 6 | 12 | 200.40 | 16.70 |