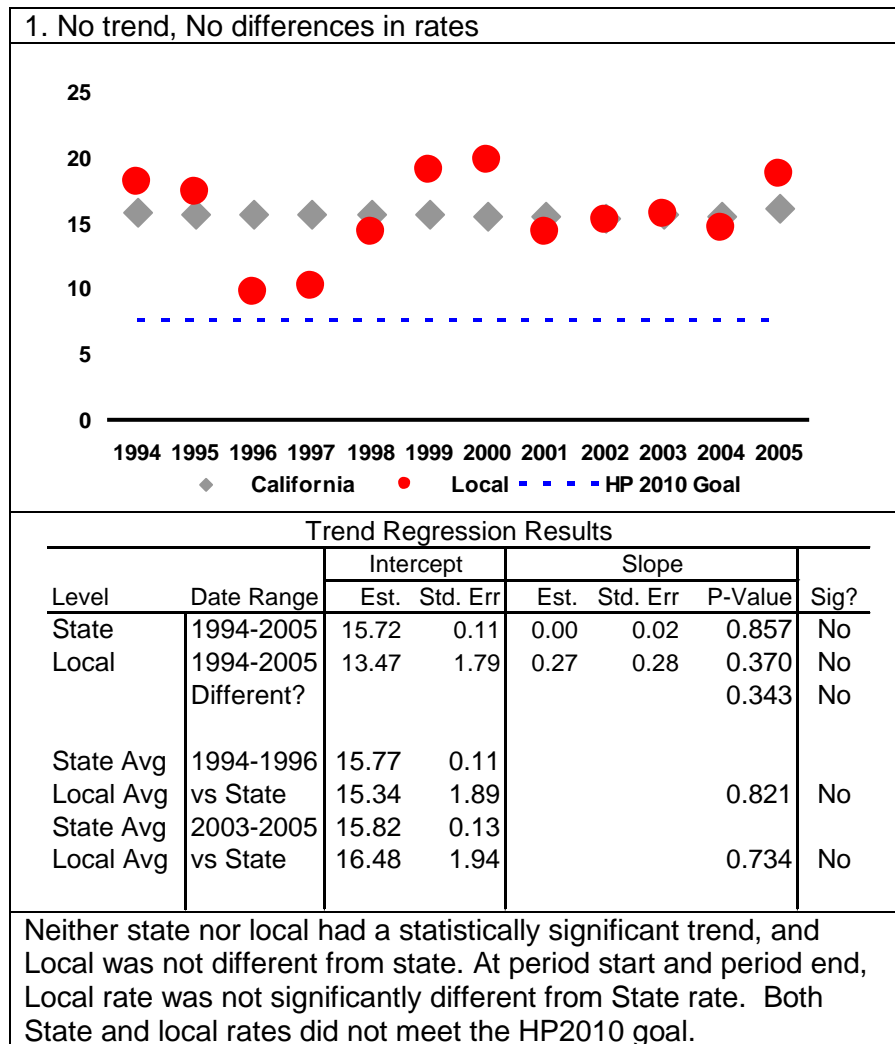


## Why Trend Analysis?

- Allows us to look at rates over the time period of 1994-2005 and see if there are significant upward or downward trends on key indicators (as oppose to the inaccurate eyeballing approach)
- Useful for identifying and monitoring trends in disparities among racial/ethnic groups
- Allows for comparisons with the statewide trends on key indicators for different racial/ethnic groups
- Useful for identifying whether a problem is affecting people across groups or disproportionately impacting subgroups
- Allows local health jurisdictions to track their progress toward reaching Healthy People 2010 Goals

## What do the trend charts and tables tell us?

- If there are significant upward or downward trends in rates over time in the local jurisdiction
- If there are significant upward or downward trends in rates over time in the local jurisdiction
- If the local trend and the state trend are significantly different
- If the local or state trend is curvilinear (as opposed to linear). Note: When the state or local has a curvilinear trend, it is not possible to test whether the curvilinear trend is significantly different from a linear trend or another curvilinear trend.
- Were the average rates at the beginning time period from 1994-1996 at the local level significantly different from the average rates at the state level
- Were the average rates at the end of the time period from 2003-2005 at the local level significantly different from the average rates at the state level



Look here to see if there is a significant:

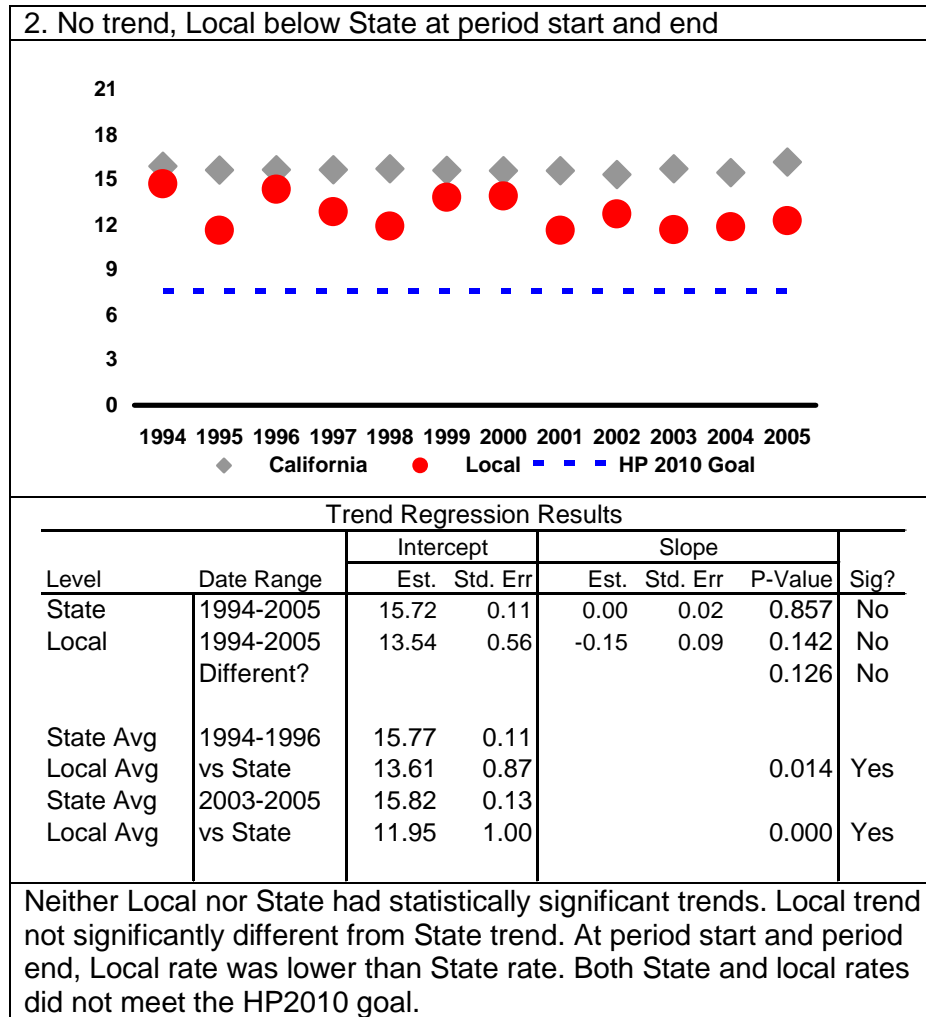
- state trend (No)
- local trend (No)
- and if they differ significantly from each other (No)

Look here to see if state and local average rates differed significantly in:

- 1994-1996 (No)
- 2003-2005 (No)

Example bullet:

- There is no significant upward or downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL and in the state from 1994-2005. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 15.34 and did not differ significantly from the state rate of 17.77 for this group. For 2003-2005, the average LOCAL rate was 16.48 and did not differ significantly from the state rate of 15.82. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.



Look here to see if there is a significant:

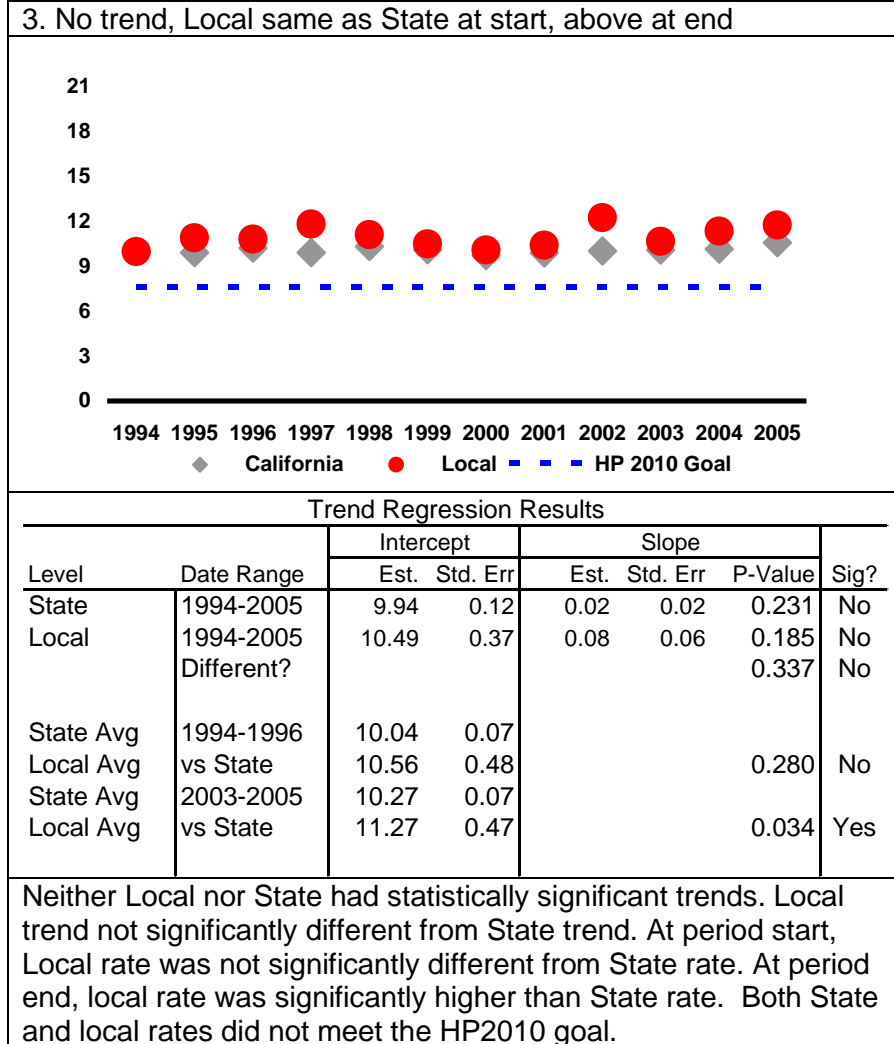
- state trend (No)
- local trend (No)
- and if they differ significantly from each other (No)

Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (YES)

Example bullet:

- There is no significant upward or downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL and in the state from 1994-2005. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 13.61 and was significantly lower than the state rate of 15.77 for this group. For 2003-2005, the average LOCAL rate of 11.95 was significantly lower than the state rate of 15.82. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.



Look here to see if there is a significant:

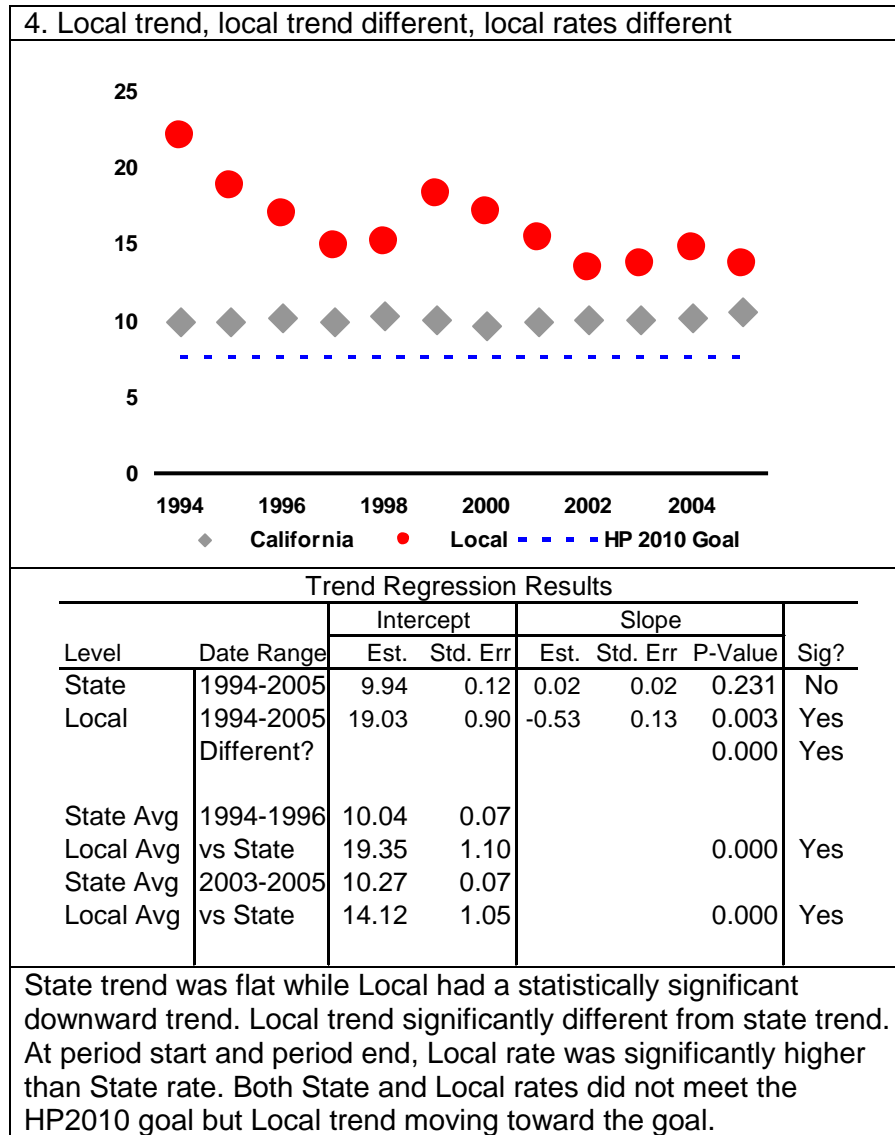
- state trend (No)
- local trend (No)
- and if they differ significantly from each other (No)

Look here to see if state and local average rates differed significantly in:

- 1994-1996 (No)
- 2003-2005 (Yes)

Example bullet:

- There is no significant upward or downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL and in the state from 1994-2005. The average preterm rate for 1994-1996 RACE/ETHNIC group in LOCAL was 10.56 and did not differ significantly from the state rate of 10.04 for this group. For 2003-2005, the average LOCAL rate of 11.27 was significantly higher than the state rate of 10.27. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.



Look here to see if there is a significant:

- state trend (No)
- local trend (YES)
- and if they differ significantly from each other (YES)

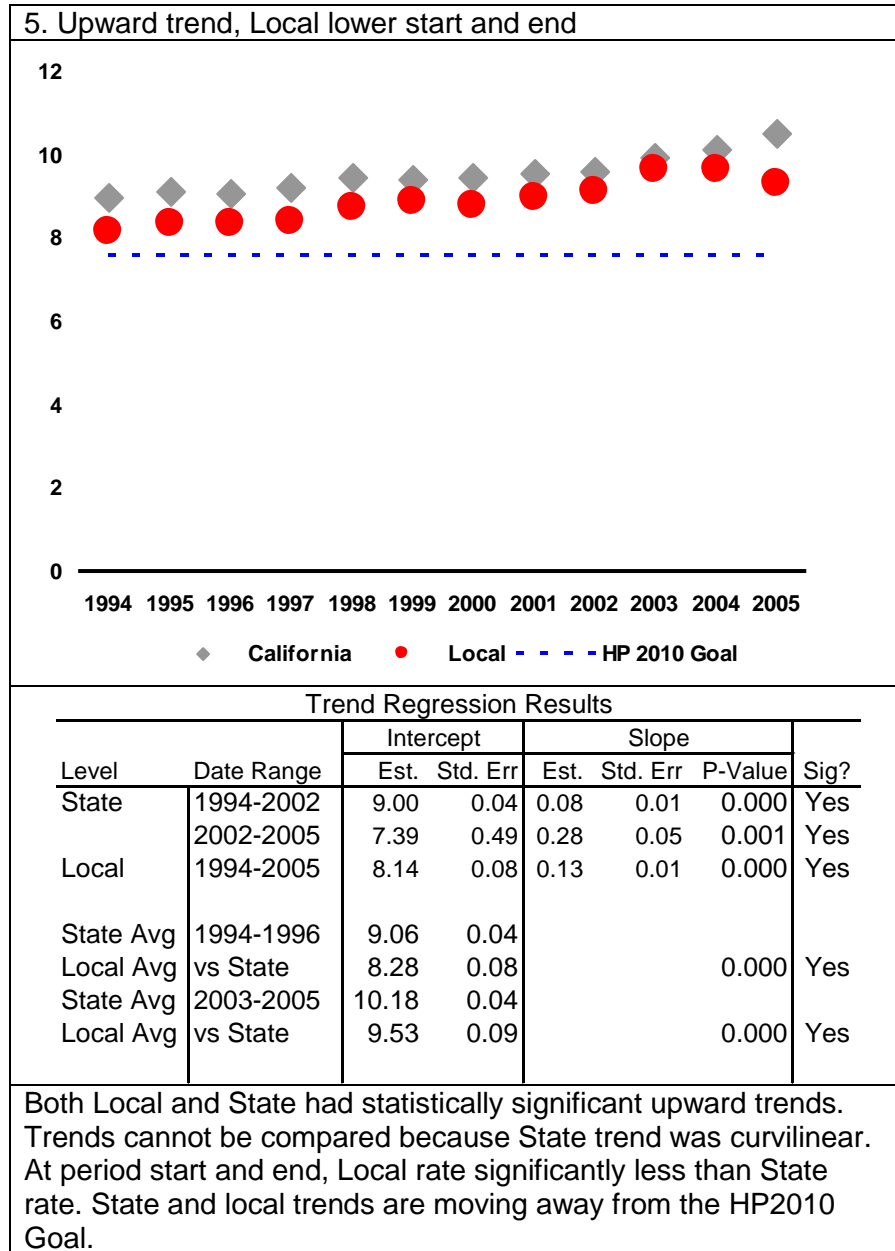
Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (YES)

Example bullet:

- There was a significant downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL but local rates were significantly higher than state rates which remained fairly flat from 1994-2005. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 19.35 and was significantly higher than the state rate of 10.04 for this group. For 2003-2005, the average LOCAL rate of 14.12 was significantly higher than the state rate of 10.27. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.

## Example with a curvilinear trend



Look here to see if there is a significant:

- state trend (YES – but note dates are broken into 2 ranges and each range has a different slope (0.08 and 0.28) indicating there is a curvilinear trend)
- local trend (YES)
- NOTE that there is no test to see if the state and local trends are different because you can't test to see if a curvilinear trend is statistically different from a linear trend

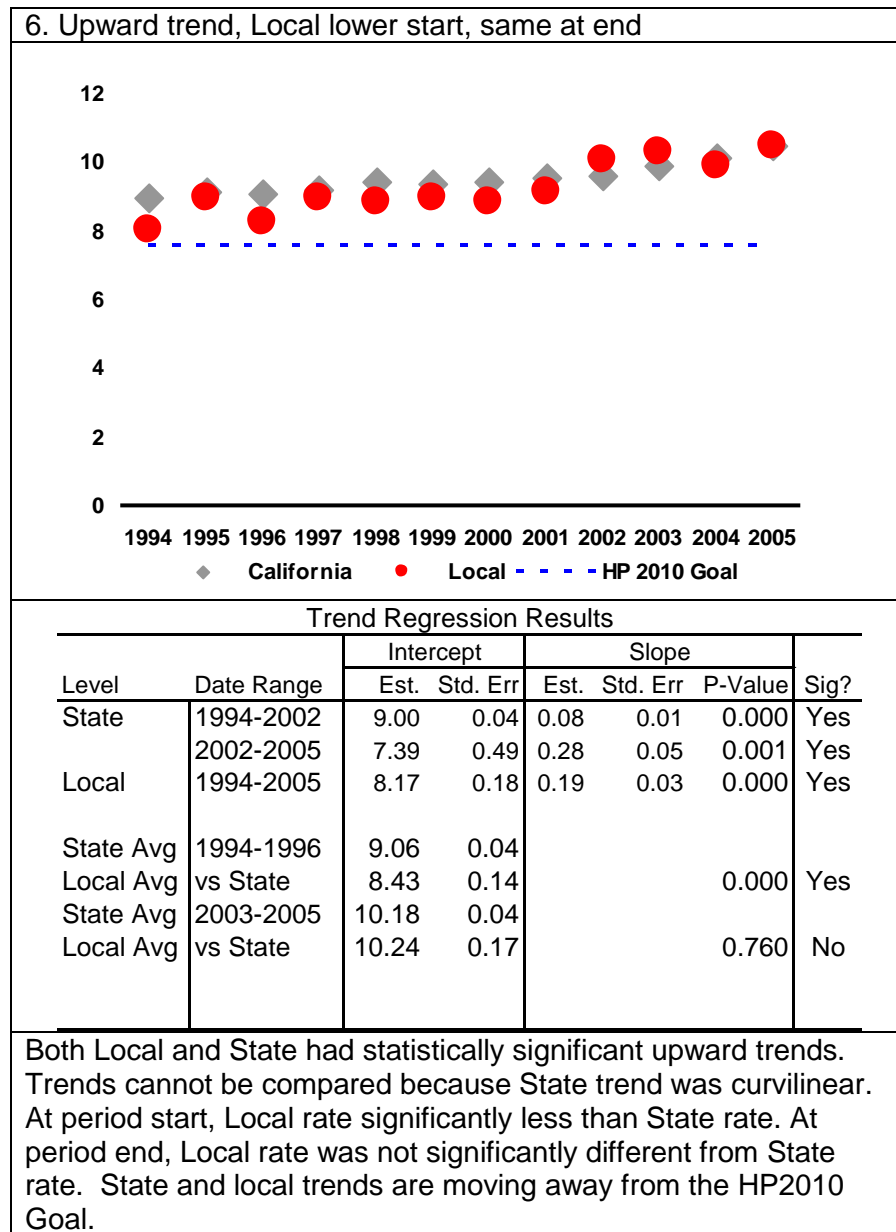
Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (YES)

Example bullet:

- There were significant upward trends in preterm birth rates for RACE/ETHNIC group in both LOCAL and in the state from 1994-2005. LOCAL had a linear upward trend while the state trend was curvilinear trend and therefore the trends cannot be compared. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 8.28 and was significantly lower than the state rate of 9.06 for this group. For 2003-2005, the average LOCAL rate was 9.53 and was also significantly lower than the state rate of 10.18. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.

## Example with a curvilinear trend



Look here to see if there is a significant:

- state trend (YES – but note dates are broken into 2 ranges and each range has a different slope - indicating there is a curvilinear trend)
- local trend (YES)
- NOTE that there is no test to see if the state and local trends are different because you can't test to see if a curvilinear trend is statistically different from a linear trend

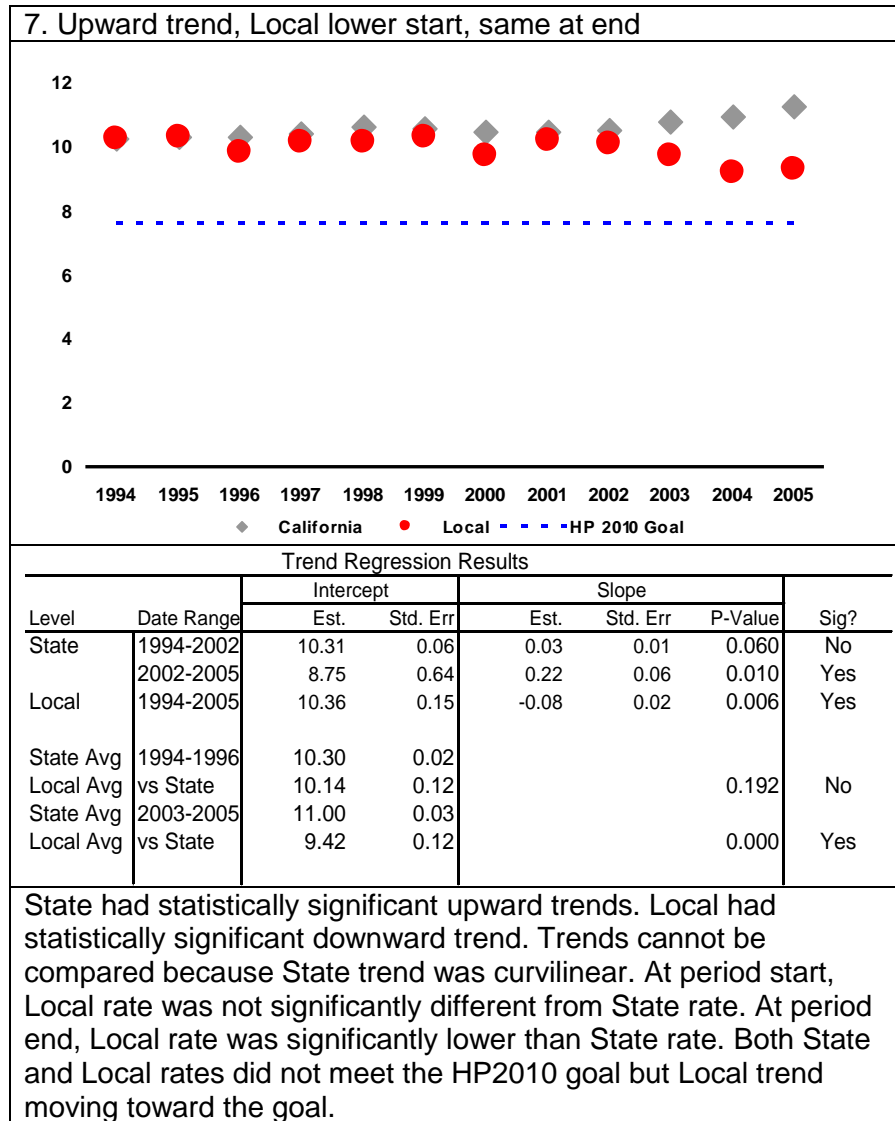
Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (No)

Example bullet:

- There were significant upward trends in preterm birth rates for RACE/ETHNIC group in both LOCAL and in the state from 1994-2005. LOCAL had a linear upward trend while the state trend was curvilinear trend and therefore the trends cannot be compared. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 8.43 and was significantly lower than the state rate of 9.06 for this group. For 2003-2005, the average LOCAL rate was 10.24 and did not differ significantly from the state rate of 10.18. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.

## Example with a curvilinear trend



Look here to see if there is a significant:

- state trend (NO trend for 1994-2002, but YES for 2002-2005. Note dates are broken into 2 ranges and each range has a different slope - indicating there is a curvilinear trend)
- local trend (YES)
- NOTE that there is no test to see if the state and local trends are different because you can't test to see if a curvilinear trend is statistically different from a linear trend

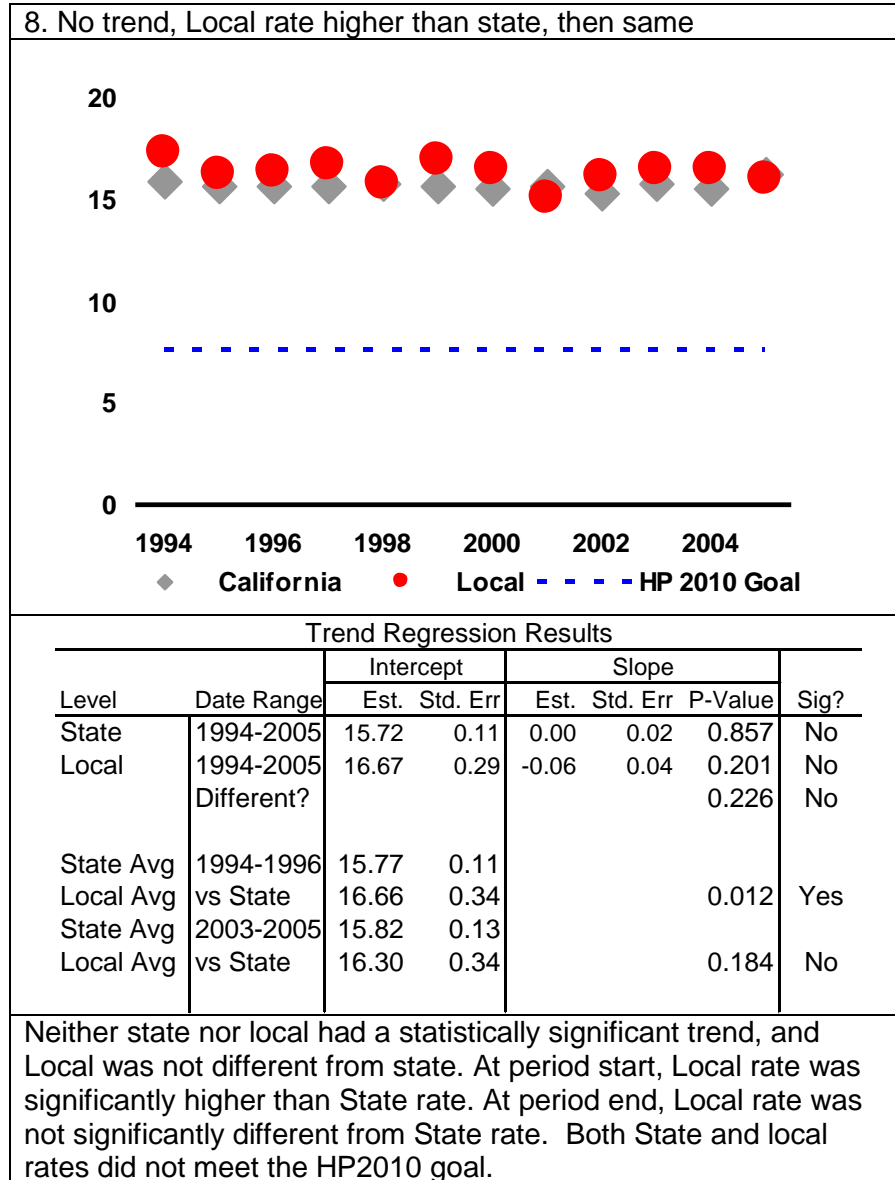
Look here to see if state and local average rates differed significantly in:

- 1994-1996 (No)
- 2003-2005 (YES)

### Example bullet:

- There was significant downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL from 1994-2005, and while flat from 1994-2002, the state trend had a significant upward trend from 2002-2005. LOCAL had a linear upward trend while the state trend was curvilinear trend and therefore the trends cannot be compared. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 10.14 and it did not differ significantly from the state rate of 10.30 for this group. For 2003-2005, the average LOCAL rate was 9.24 and was significantly lower than the state rate of 11.00. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal, but the local trend is moving toward the goal.





Look here to see if there is a significant:

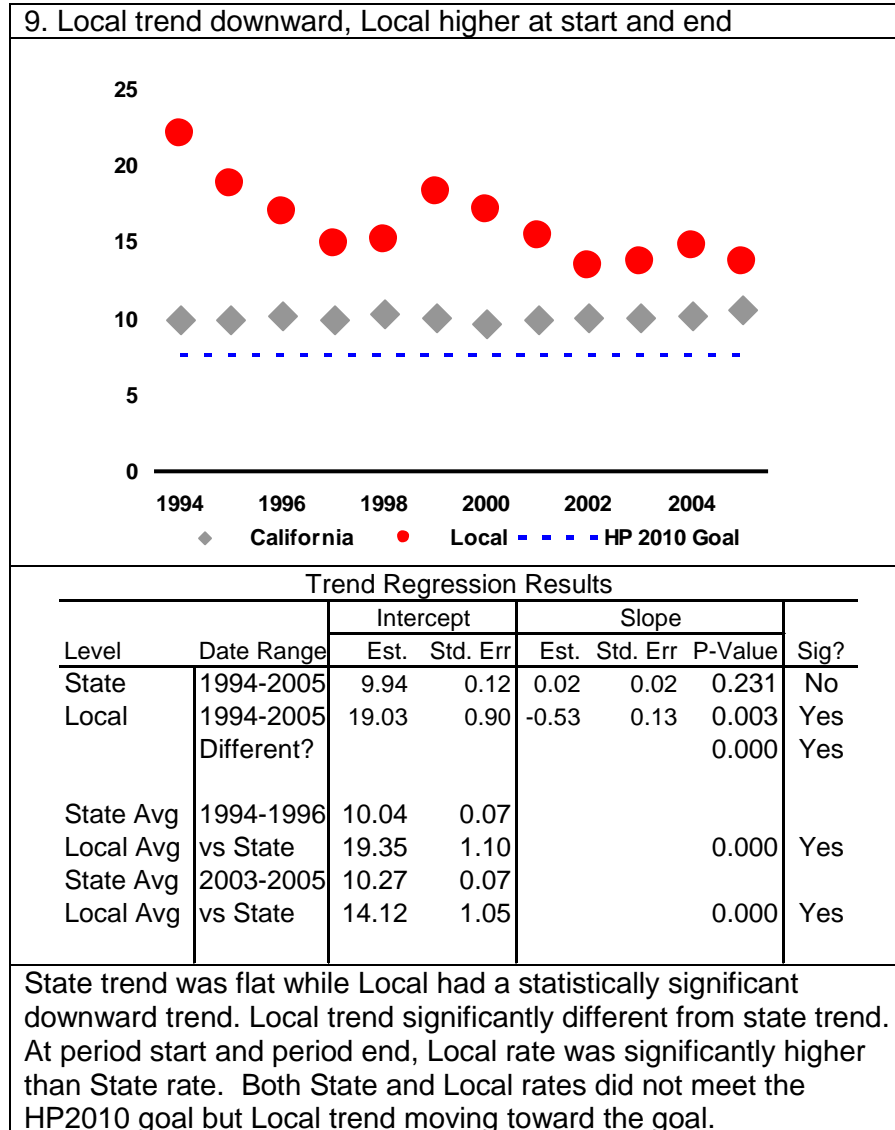
- state trend (No)
- local trend (No)
- and if they differ significantly from each other (No)

Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (No)

Example bullet:

- There is no significant upward or downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL and in the state from 1994-2005. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 16.66 and was significantly higher than the state rate of 15.77 for this group. For 2003-2005, the average LOCAL rate of 16.30 did not differ significantly from the state rate of 15.82. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.



Look here to see if there is a significant:

- state trend (No)
- local trend (YES)
- and if they differ significantly from each other (YES)

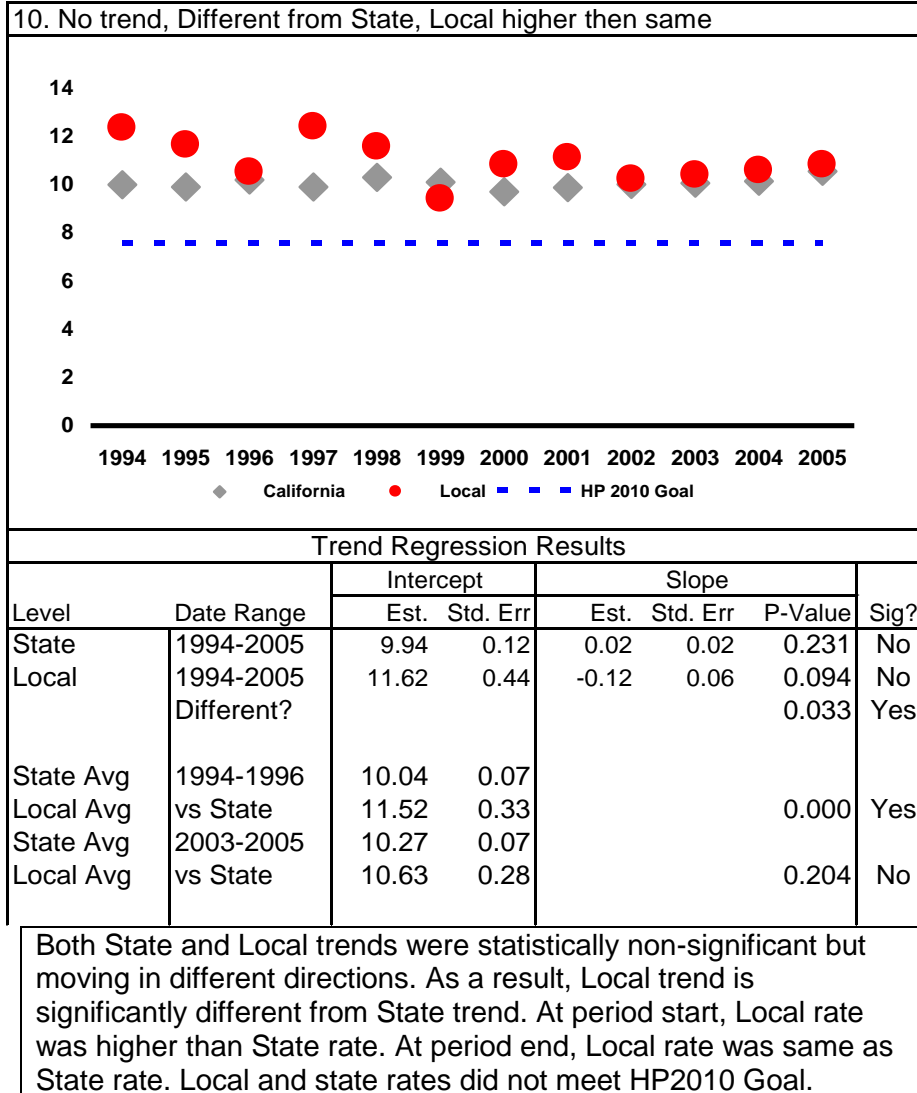
Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (YES)

Example bullet:

- There was a significant downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL but local rates were significantly higher than state rates which remained fairly flat from 1994-2005. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 19.35 and was significantly higher than the state rate of 10.04 for this group. For 2003-2005, the average LOCAL rate was 14.12 and was significantly higher than the state rate of 10.27. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.

10. No Trend, Different from State, Local higher then same



Look here to see if there is a significant:

- state trend (No)
- local trend (No)
- and if they differ significantly from each other (YES)

Look here to see if state and local average rates differed significantly in:

- 1994-1996 (YES)
- 2003-2005 (No)

Example bullet:

- There is no significant upward or downward trend in preterm birth rates for RACE/ETHNIC group in LOCAL and in the state from 1994-2005. However, local rates started higher and moved down while state rates increased slightly, resulting in the LOCAL trend being significantly different from the state trend. The average preterm rate for 1994-1996 for RACE/ETHNIC group in LOCAL was 11.52 and did not differ significantly from the state rate of 10.04 for this group. For 2003-2005, the average LOCAL rate of 10.63 was not significantly different than the state rate of 10.27. Both State and local rates for RACE/ETHNIC group did not meet the HP2010 Goal.