## METHODS

### MCH Indicators

**Data Sources**
- 2012 Census population estimates for women 15-19 years old (PE)

### Calculation Methods
- % Low Birth Weight (LBW): # infants 350-499g (BC) ÷ # infants with known birth weight (BC)
- % Very Low Birth Weight (VLBW): # infants 350-1499g (BC) ÷ # infants with known birth weight (BC)
- % Infant Mortality Rate (IMR): # infants < 1 year old (BC) ÷ # live births (BC) × 1000
- % Less Than Adequate Prenatal Care: % infants with known prenatal care utilization (APNCU) index (BC)
- The APNCU index determines adequacy of prenatal care by considering both timing of prenatal care initiation and the number of visits for the gestational age of the infant

### Statistical Methods
- The numerators and denominators for the five indicators were determined for each of the CD quartiles
- A crude bivariate regression was used to assess whether each CD quartile's rate was significantly different from rate in the reference group (the lowest CD quartile)
- All analyses conducted in SAG v 9.4

## RESULTS

### Concentrated Disadvantage

<table>
<thead>
<tr>
<th>Quartile of Concentrated Disadvantage (CD)</th>
<th>Low CD</th>
<th>Low-Medium CD</th>
<th>Medium-High CD</th>
<th>High CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence Rate of LBW</td>
<td>1.21</td>
<td>1.23</td>
<td>1.08</td>
<td>0.95</td>
</tr>
<tr>
<td>Prevalence Rate of VLBW</td>
<td>1.32</td>
<td>1.24</td>
<td>1.06</td>
<td>0.93</td>
</tr>
<tr>
<td>Prevalence Rate of IMR</td>
<td>1.78</td>
<td>1.35</td>
<td>1.04</td>
<td>1.02</td>
</tr>
</tbody>
</table>

### Prevalence of Five MCH Indicators

<table>
<thead>
<tr>
<th>Quartile of Concentrated Disadvantage (CD)</th>
<th>Low CD</th>
<th>Low-Medium CD</th>
<th>Medium-High CD</th>
<th>High CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence Rate of Less Than Adequate PNC</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td>Teen Birth Rate</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

### Interpretation

- In general, the prevalence of the five MCH indicators increased with increasing quartiles of county-level CD.
- For all five outcomes, prevalence among high CD counties was significantly higher than low CD counties.
- For LBW, VLBW, and IMR, the rates for low-medium and medium-high CD counties were similar to each other and not substantially different from the low CD counties.
- Of the five outcomes, teen birth showed the strongest dose-response relationship with CD quartile.
- The rate of less than adequate prenatal care was significantly lower in low-moderate CD counties than low CD counties.

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**REFERENCES**


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**LIMITATIONS & FUTURE RESEARCH**

- Birth data were not associated to the census tract level, so a more granular look at the relation of birth and CD outcomes was not possible.
- The purpose of this study was to identify a simple way to target communities at high risk of adverse MCH outcomes, not to establish the impact of CD separate from other risk factors. Future studies could adjust for individual- and community-level confounders to determine an independent effect.

**CONCLUSIONS & PUBLIC HEALTH IMPLICATIONS**

- High county-level concentrated disadvantage was associated with all five MCH indicators: LBW, VLBW, Infant Mortality, Less Than Adequate Prenatal Care, and Teen Birth
- Because CD was strongly correlated with a variety of MCH indicators, it may be useful for targeting public health programs in communities with high CD
- CD can be calculated at more specific geographic areas than most health indicators (such as census tract), so it may be useful for determining how to allocate resources and programs within a county or within a city.