Accessing Impact of Teen Pregnancy on Health and Wellness of Infants

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Background
Teen Pregnancy has been linked to many negative economic and health outcomes including lower education attainment, worse health outcomes, higher abuse rates, higher poverty rates, etc. This paper will explore the impact of teen pregnancy on the health and wellness outcomes of their infants.

Objectives
We explore the impact of teen pregnancy on the health and wellness outcomes of the teen mothers’ infants (TMIs), by achieving the following:
1. Identify all infants born to Medicaid teen mothers (ages 10-19) and pair them with their appropriate mothers.
2. Match TMI-infants to infants born to adult mothers (ages 20-34) with similar demographics.
3. Determine if there is a difference between the health and wellness outcomes of these TMIs and adult mother infants (AMI).

Methods: Infant-Mother Pairing
The goal of the pairing process was to determine the mother-infant pair accurately.

Methods: Identifying Outcomes

Addition Rates
- Identified by addition related diagnosis codes
- Proportion Test used on contingency tables
- Foster care Rates
- Identified by eligibility code and diagnosis code
- Proportion Test used on contingency tables

Health Status
- Identified using Critical Risk Grouping S/W based on 12 months of claims data
- Chi-Squared Test used on counts of each group

Infant Mortality
- Identified using date of death
- Proportion Test used on contingency tables

Low Birth Weight
- Identified using diagnosis codes
- Proportion Test used on contingency tables

Number of ED Visits Data
- Number of ED visits (count)
- Number of wellness visits (count)

Methods: Teen-Adult Mother Matching
We define the matching step as joining each paired teen mother with an adult mother based on pre-determined important demographics. The purpose of this step is to isolate the causal effects of the age of the mother.

Incremental Matching Process:
- All demographics included: mother’s health status, urbanicity of home city, Medicaid eligibility and mother’s race
- If multiple matches were found then the match was randomly assigned
- For the 48,506 matched tests

For example we see that white AMIs have a higher rate of addiction, white and black teens are more likely to have foster care in foster care. Tenas of all races have significant differences for ED visits and for whites and Hispanics for wellness visits.

Results

Results show that low birth weight is higher among teens, as well as having moderate health with a CRG of medium. Emergency department visits are also higher among teens, even though the number of wellness visits is the same. Addiction rates and foster care rates seem to be the same among both groups, even after the Yates correction was used in the analysis.

Outcome for Urbanicity for Adult Mother Infants (AMI) and Teen Mother Infants (TMI)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>AMI Count</th>
<th>TMI Count</th>
<th>AMI Estimate</th>
<th>TMI Estimate</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED Visits</td>
<td>77,130</td>
<td>181,118</td>
<td>1,311</td>
<td>&lt;0.005</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion
Despite the hypothesis that the wellness of infants would be better with adult moms we did not see clear evidence of that in our results. The number of wellness visits were not as an outcome to assess if the infant was getting proper care (i.e. vaccines and check-ups). Though there was not a difference between teen and adult mothers, the average of 4-4 visits was still well below the recommended 8 visits. Further investigation here could determine the impact of urbanicity on the number of wellness visits. We almost have seen differences among the number of visits between urbanicity groups.

On the health side, our results were consistent with previous literature, and shows a higher risk of low birth weight for teen mothers. We also see that infants born to teen mothers have a slightly lower chance of being healthy (i.e low CRG grouping). Informs us that teen mothers give birth to less healthy babies.

Health and wellness was also assessed through emergency department (ED) visits. The number of ED visits serve as an indicator of accidents, neglect, and/or abuse as well as the overall wellness of the infant. The number of ED visits was more than 30% higher for infants of teen mothers, demonstrating that a lower level of wellness for the infant. Further investigation into the rate of avoidable ED visits, as well as the causes of the visits would provide additional insight into the wellness of the infant.

References