Effects of Adverse Weather on Surface Transportation Mobility

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Does adverse weather affect mobility of Iowa Medicaid members?

- **Impact of precipitation, temperature and snow**

- **Activities**
  1. Medical visits
  2. Drug store
  3. Child/adult care
  4. School/training
  5. Work
  6. Grocery shopping
  7. Department store
  8. Business errands
  9. Religious
  10. Social visits
  11. Leisure
  12. Other
Medicaid Members

- Survey Responses
  - 563 Disabled
  - 499 Elderly
  - 1026 General

- 2088 Total

- Nov 2007
  - thru
  - Apr 2008
Weather Stations

- Data
- Total Precipitation
- Min Temperature
- Total Snow
Methodology

- Multilevel Fixed Effect Model
  - Accounts for grouping of data
    - Level 1 – Member categories
      - Disabled
      - Elderly
      - General
    - Level 2 – Area type
      - Rural
      - Urban with transit access
      - Urban no transit access
  - Controlled
    - Age, gender, and vehicle ownership
<table>
<thead>
<tr>
<th>Activity</th>
<th>Total Precipitation ($\Delta 1''$)</th>
<th>Min Temperature ($\Delta 10 , ^\circ F$)</th>
<th>Total Snow ($\Delta 1''$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>medical visits</td>
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<tr>
<td>drug store</td>
<td></td>
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<tr>
<td>child/adult care</td>
<td>0.3%</td>
<td>0.12%</td>
<td>0.43%</td>
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<td>business errands</td>
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<td>social visits</td>
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<tr>
<td>other</td>
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<td>0.10%</td>
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