Agenda

• Study Motivation
• Rationale for Method
• Method
• Results
• Research Implications and Next Steps
• Policy Relevance
Study Motivation: Health Reform

- **2010**
  - ACA Enacted
  - Private insurance coverage changes

- **2011**
  - Medical Loss Ratio
  - Private insurance payment reforms

- **2012**
  - Medicare reform
  - Private insurance reform

- **2014**
  - Medicaid Expansion
  - Health Insurance Exchanges
  - Individual Mandate

- **2015**
  - Employer Mandate

- **2016**
  - Innovation Waivers End

- **2017**
  - Cadillac Tax goes into Effect

- **2018**
  - Close Coverage Gap

- **2020**
  - Medicare reform
  - Private insurance reform
Study Motivation:
Key Questions

• How do people feel about the Affordable Care Act (ACA)?

• Do people with different views use different language to talk about the ACA?

• Who is taking part in, or influencing, the dialogue about the ACA?
## Rationale for Method: Selecting a Qualitative Method

<table>
<thead>
<tr>
<th>Qualitative Method</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>Key Informant Interviews</td>
<td>Data richness</td>
<td>Expensive</td>
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<td>Small n</td>
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<td>Time lag</td>
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<tr>
<td>Focus Groups</td>
<td>Data richness</td>
<td>Expensive</td>
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<td>Multiple views captured</td>
<td>Limited topic saturation</td>
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<td>Time lag</td>
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<td>Survey</td>
<td>Varied cost by mode</td>
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<td>Standardized information</td>
<td>Data saturation</td>
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<td>Multiple views captured</td>
<td>Mode effects</td>
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<td>Large n</td>
<td>Low response rates</td>
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Twitter

- Content sharing
  - Tweets
  - Retweets (RT)
  - User Mentions (@)
- Keyword reference and search
  - Hashtags (#)
- Media sharing
  - Webpages
  - Media (video, pictures)
Rationale for Method:
Using Twitter to Mine Public Opinion

Twitter is used as a:
• Microdiary/microblogging
• Social tool
• News aggregator
• Promotional tool (news, branding, etc.)

Twitter data are:
• Rich
• Diverse
• Large n

Twitter can be used for:
• Content Analysis
• Sentiment Analysis
• Social Network Analysis
Methodology:
Data Collection, Cleaning, and Preparation

Select keywords (#aca, #Obamacare, affordable care act, health reform, healthcare reform, Obamacare)


De-identify private user data and clean dataset

Select random 1% sample for n-Gram based content analysis
Methodology:
Analysis

Code 1% sample tweets “positive,” “negative,” “neutral”

Calculate
• Frequencies by search term (total, per day)
• N-Gram frequencies
Results:
Total Tweets Referencing ACA

<table>
<thead>
<tr>
<th>Date</th>
<th>Total Tweets</th>
</tr>
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<tbody>
<tr>
<td>6/16</td>
<td>5324</td>
</tr>
<tr>
<td>6/18</td>
<td>15201</td>
</tr>
<tr>
<td>6/20</td>
<td>18850</td>
</tr>
<tr>
<td>6/22</td>
<td>18958</td>
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<tr>
<td>6/24</td>
<td>8315</td>
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<tr>
<td>6/26</td>
<td>13674</td>
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<tr>
<td>6/28</td>
<td>15880</td>
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<tr>
<td>7/2</td>
<td>23508</td>
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<td>7/4</td>
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<td>7/6</td>
<td>12197</td>
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<td>19319</td>
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<td>7/10</td>
<td>18198</td>
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<td>7/12</td>
<td>13333</td>
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</tbody>
</table>

Total Tweets

- 6/16: 5324
- 6/18: 15201
- 6/20: 18850
- 6/22: 18958
- 6/24: 8315
- 6/26: 13674
- 6/28: 15880
- 7/2: 23508
- 7/4: 11732
- 7/6: 12197
- 7/8: 19319
- 7/10: 18198
- 7/12: 13333

Total Tweets Referencing ACA
## Results:
### Public Sentiment about ACA

<table>
<thead>
<tr>
<th>Concept</th>
<th>% of Sample</th>
<th>Sentiment</th>
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<tbody>
<tr>
<td>Senators Cruz and Lee introduce bill to defund Affordable Care Act</td>
<td>21.48%</td>
<td>Negative</td>
</tr>
<tr>
<td>Employer Mandate Extended</td>
<td>15.05%</td>
<td>Mixed</td>
</tr>
<tr>
<td>Koch brothers invest millions into Obamacare misinformation campaign</td>
<td>13.64%</td>
<td>Mixed</td>
</tr>
<tr>
<td>Demystifying affordable care act</td>
<td>11.38%</td>
<td>Positive</td>
</tr>
<tr>
<td>Obamacare delay - onus on honor system</td>
<td>10.39%</td>
<td>Negative</td>
</tr>
</tbody>
</table>
Results:
Distribution of Tweets about the ACA (n=411,916)

- Obamacare/ #obamacare: 83%
- #aca: 7%
- Affordable Care Act: 5%
- Health reform / Healthcare Reform: 5%
Results:
Influence varies by measure but reflects some trends

Most RTs
- Kathleen Sebelius
- userID-10921
- Sen. Mike Lee
- Marco Rubio
- Sean Hannity

Most User Mentions
- WebMD
- Forbes
- theHill
- Sen. Ted Cruz

Greatest Reach
- WebMD
- The White House
- Fox News
- HHS.gov

Most Timeline Deliveries
- The White House
- Mayo Clinic
- WebMD
- CSPAN
Implications and Next Steps

Policy Relevance

- **New opportunities** for the use of Big Data in public policy research
- **Monitor public opinion** on relevant policy issues or questions
- **Shape public opinion** by understanding levers of influence
Thank you

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