Text Message Follow-up for Cell-Phone Respondents to a National Survey

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Jennifer Vanicek, NORC at the University of Chicago
Michael Stern, NORC at the University of Chicago
Christopher Ward, NORC at the University of Chicago
Carla Black, Centers for Disease Control and Prevention
Cindi Knighton, Centers for Disease Control and Prevention

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention or NORC at the University of Chicago.

Introduction

- Increased reliance of RDD surveys on cell phone sample
  - Greater coverage of minority, low income, and younger populations than landline sample (Blumberg and Luke, 2012)
  - Low address match rates limit contact mode to telephone (no mail)
- Greater interest in multimode design with web response option
  - Multimode surveys can be more efficient (Smyth, et al 2010; Stern, et al 2014)
  - Technology-savvy population
  - How can cell phone respondents be directed to a web survey?
    - Use text messages to provide a web link to survey
- Nearly all Americans (80%) use text messages
  - 97% of 18-29 year olds and 92% of 30-49 year olds
  - 56% of Americans (77% age 18-29, 69% age 30-49) access internet on phone (Uggen and Raisa, 2012)

Research Questions

1. Are text messages an effective refusal conversion technique for cell phone sample?
2. Can text messages drive cell-phone respondents to complete the survey online?

National Immunization Survey (NIS)

- National, dual-frame RDD survey sponsored by the Centers for Disease Control and Prevention (CDC)
- Screens for households with children:
  - 19 to 35 months (NIS)
  - 13 to 17 years (NIS-Teen)
- Two components:
  - Main survey: collects demographic data, vaccination provider contact information, and consent to contact providers
  - Provider Record Check: survey mailed to healthcare providers to collect vaccination histories
Overview of Methods

- National Immunization Survey Multimode Experiments
- NIS and NIS-Teen samples
- Quarter 3, 2013
- Offered opportunity to complete survey by phone or web
  - Mailing with web mode offered as response option for address-matched landline sample
  - Text message follow-up for non-matched cell phone sample

Text Message Follow Up for Cell Phone Respondents to a National Survey

Criteria for sending text messages:
- Flagged to receive text message (randomly assigned),
- Confirmed eligibility for NIS or Teen survey,
- Breakoff occurred within the main interview, and
- Consent to receive text message collected in screener:
  Before we continue, I'd like you to know that taking part in this research is voluntary. You may choose not to answer any questions you don't wish to answer, or end the interview at any time with no impact on the benefits you may receive. We are required by Federal laws to develop and follow strict procedures to protect your information and use your answers only for statistical research. I can describe these laws if you wish. In order to review my work, this call will be recorded and my supervisor may listen as I ask the questions. In the event we get disconnected or need additional information, we may follow up with you to complete the interview. The follow-up may consist of a call or text with options for completing the survey by alternative means. I'd like to continue now unless you have any questions.

- Consent rate of 99.3%

Text Message Experiment Design

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>NIS-Eligible</th>
<th>Teen-Eligible*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Toll Free Number Only</td>
<td>79</td>
<td>298</td>
<td>377</td>
</tr>
<tr>
<td>2. Toll Free Number + Incentive Offer</td>
<td>72</td>
<td>303</td>
<td>375</td>
</tr>
<tr>
<td>Messages with Toll Free Number</td>
<td>151</td>
<td>601</td>
<td>752</td>
</tr>
<tr>
<td>3. Web Survey Only</td>
<td>81</td>
<td>302</td>
<td>383</td>
</tr>
<tr>
<td>4. Web Survey + Incentive Offer</td>
<td>73</td>
<td>310</td>
<td>383</td>
</tr>
<tr>
<td>Messages with Web Survey Link</td>
<td>154</td>
<td>612</td>
<td>766</td>
</tr>
<tr>
<td>Control (No Message Sent)</td>
<td>170</td>
<td>806</td>
<td>776</td>
</tr>
<tr>
<td>Total Messages Sent</td>
<td>305</td>
<td>1213</td>
<td>1518</td>
</tr>
</tbody>
</table>

* This category includes those potentially eligible for Teen survey (children's ages not confirmed).
Sending Text Messages

- AT&T Global Smart Messaging Suite (GSMS)
  - Automated messages with customizable fields
- Identify and send messages Mondays and Thursdays
  - 4 week field period
  - Cases put on hold for 1 week after message sent before redial
- Web Survey and Smartphones
  - Users could click directly on the link in the message to open the main survey page on their smartphone
- Text message
  - 160 characters
  - Must include "Reply HELP for help" (effective limit=141)
  - Some SMS bounced back as rejected or failed
    - Plan/company/user blocks or doesn’t allow messages

Results: Response

- Web login (among those sent web URL):
  - NIS: 8%, Teen: 1%
- Web completion (among those sent web URL):
  - NIS: 2.6%, Teen: 0.5%
- Calls to 800 number:
  - less than 0.5% of those receiving 800 number
- Response to text messages
  - Fewer than 20 active responses by text
    - Most were HELP and STOP
    - One business phone, a few "Take me off the list" requests, one hostile refusal
  - No major negative effect on response
**Results: Effect of Text Messages**

![Graph showing converted to higher status by eligibility.](image)

- **Converted to Higher Status by Eligibility**
  - NIS Eligible: 25.0%
  - Teen Eligible: 25.2%

**Limitations**

- Text messages only as follow up to breakoff, not as method of first contact
- Legal restrictions (consent)
- Interface did not allow for secure export of paradata
- Tracking rejected messages
- System not notified of all rejections
- Messages sent only where interview broken off
- Results of this experimental design for a survey of parents of young children and teenagers may not be applicable to other types of surveys

**Conclusions**

- Text messages are relatively inexpensive, and may have been helpful in gaining cooperation after break off
  - May direct reluctant respondents to web or increase interest
  - Monetary incentives had marginal effect for web response
  - Not effective for phone follow-up
  - Novelty: few surveys interact this way with respondents
- Characteristics of NIS and NIS-Teen
  - Difficult to complete on mobile devices (phones and tablets)
  - Respondents may be reluctant to provide sensitive medical information in a web survey

**Recommendations**

- Further research needed using text messages to link cell phone respondents to a web survey
  - Larger sample size
  - Less complex or shorter survey
- Using text messages in other contexts
  - Courtesy reminder for upcoming appointment
  - Prior to determining eligibility – direct to web for screening
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References


Contact: vanicek-jennifer@norc.org

Thank You!