Lessons Learned from Three Years of Data Collection Using an Address Based Sample for a Telephone Survey

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Outline for presentation

Brief background on the Family Health Survey
Implementing CATI data collection with an address based sample
Experience using address based sample for a CATI only data collection
Summary
Outline for presentation

Brief background on the Family Health Survey

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Summary
Survey background: Wisconsin Family Health Survey

The Family Health Survey is a statewide population health survey focusing on:

- Health status
- Use of health care services
- Health insurance coverage

This is a survey of households. We collect data about all household members: including adults, children, relatives, and any non-relatives.

Selection of respondent based on self-reported knowledge
Changing the sample frame for the Family Health Survey

Sample frame before 2012 was an RDD sample of landline telephone numbers only

In 2012 switched to an address based sample

**Reasons for change:**
- sample frame with near 100% coverage of all households
- reliable specific geographic information
- ability to use addresses to increase contacts via the mail

**Issues caused by change:**
- sampling locations **not** phone numbers
- multiple pronged process to collect data
- Increase field & weighting complexity
Current sample structure

- Listed residential addresses only
- Stratified random sampling of addresses with six strata
- Goals for year divided across to two periods - Spring and Fall
- Addresses sampled twice a year - Spring and Fall
- Vendor draws and attempts to match each address to a telephone number
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Summary
Implementing a CATI data collection with address based sample

Sampled Addresses

Can the vendor match the address to a phone?

No

Sampled addresses without phone

Yes

Sampled addresses with phone
Process for addresses **without** a phone number from vendor

Addresses **without** a phone

Mail survey ($2)
  [postcard]
  [survey 2]

No Phone  Phone

Stage One:
Mail a paper surveys to try to get a phone number
Process for addresses without a phone number from vendor

Stage Two:
Cases that return the paper survey with a phone number are fielded in the call center
Process for addresses with a phone number from vendor

1. Call Center
2. Addresses with a phone
3. completed phone surveys
Process for addresses with a phone number from vendor

Addresses with a phone

Randomize into batches

Mail advance letter ($2)

Advance letters mailed in batches to ensure first call comes very close to the time when letters arrive

Call Center

completed phone surveys
Process for addresses with a phone number from vendor

1. Addresses with a phone
2. Randomize into batches
3. Mail advance letter ($2)
4. Call Center
5. Refusals
6. Mail ref. letter
7. Refusal conversion letters mailed if call center requested
8. Completed phone surveys
Process for addresses with a phone number from vendor

Addresses with a phone

Randomize into batches

Mail advance letter ($2)

Call Center

Completed phone surveys

Eligible for $20?

Mail thank you check

Bad phone numbers

Mail survey

DE survey

Phone

No Phone

Paper survey mailed to get a new phone number, if call center requested
Overview of the CATI data collection for address based sample for the Wisconsin Family Health Survey

Addresses without a phone
  - Mail survey ($2) [postcard] [survey]
    - No Phone
    - Phone
      - DE survey

Addresses with a phone
  - Randomize into batches
    - Mail advance letter ($2)
      - Mail survey
        - No Phone
        - Phone
          - DE survey
            - Refusals
              - Mail ref. letter
            - Bad phone numbers
              - Mail survey
        - No Phone
          - Mail thank you check

Completed phone surveys
  - Eligible for $20?
    - Mail thank you check
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Sampled address **without** a phone number by vendor

Percent of the sampled addresses **not** matched to a phone number by vendor

![Bar chart showing the percentage of sampled addresses not matched to a phone number by vendor from 2012 to 2015. The percentages are as follows: 51.9% in 2012, 48.1% in 2014, 53.5% in 2015. The chart compares the number of addresses with a phone from the vendor and those without.](image)
Stage one outcomes for addresses without a vendor phone

Stage One

Addresses without phone

Mail survey ($2)
[postcard]
[survey]

No Phone

Phone

39% return survey with a phone number

47% no returns
14% “other”

Call Center

Eligible $20

completed phone surveys

Mail thank you check

DE survey
Stage two outcomes for addresses without a vendor phone

Addresses without phone:
- Mail survey ($2) [postcard] [survey]
- No Phone

Phone:
- DE survey
- Eligible $20
- completed phone surveys

Mail thank you check

Stage Two:
- 38.5% of not matched cases fielded in call center
- 72% complete phone survey
- 28% of not matched cases completed
Sampled address matched to a phone number by vendor

Percent of sampled addresses with a phone number provided by vendor

- 2012: 51.9%
- 2014: 46.5%
- 2015: 44.9%
Outcomes of addresses with a vendor provided phone number

45% of cases with a vendor provided phone completed the phone survey

- Addresses with phone
  - Mail advance letter ($2)
  - Refusals
    - Mail ref. letter
    - Bad phone numbers
  - Mail survey
  - Phone
  - No Phone
  - DE survey

- Call Center
  - Completed phone surveys
    - If eligible for $20
    - Mail thank you check
Distribution of cases fielded in the call center

Percent of cases fielded in the call center, by source of phone number

- **Phone from vendor**
  - 2012: 73.2%
  - 2014: 69.9%
  - 2015: 67.6%

- **Phone from mail survey**
  - 2012: 26.8%
  - 2014: 30.1%
  - 2015: 32.4%
Completion rates for cases fielded in the call center

Percent of the cases fielded in the call center that result in a completed phone survey, by the source of the phone number:

- **2012**: 49.7% (Phone from vendor) / 75.3% (Phone from mail survey)
- **2014**: 46.1% (Phone from vendor) / 73.7% (Phone from mail survey)
- **2015**: 41.6% (Phone from vendor) / 69.8% (Phone from mail survey)
Share of completed phone surveys

Percent of completed phone surveys by source of phone number

- **2012**
  - Phone from vendor: 60.0%
  - Phone from paper survey: 40.0%

- **2014**
  - Phone from vendor: 56.7%
  - Phone from paper survey: 43.3%

- **2015**
  - Phone from vendor: 52.1%
  - Phone from paper survey: 47.9%
Call center efforts to get a completed phone survey

Two Measures of effort

Calls made per completed phone survey

• increasing number of calls to get one complete
  • up 20.4% overall, from 11.34 in 2012 to 13.65 in 2015
  • 30.3% increase among the cases matched to a phone by vendor
  • 15.2% increase among cases with a phone from mailed survey

Hours on phone per completed phone survey

• a 62.6% increase in the number of hours on the phone per complete
  • from 0.9 hours in 2012 to 1.5 hours in 2015
Contact, cooperation, and response rates

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Rate 1</td>
<td>64.0%</td>
<td>58.1%</td>
<td>54.5%</td>
</tr>
<tr>
<td>Cooperation Rate 1</td>
<td>67.2%</td>
<td>65.4%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Response Rate 1</td>
<td>43.0%</td>
<td>38.0%</td>
<td>35.2%</td>
</tr>
</tbody>
</table>

Explaining the decline in the contact rate:

- Fewer cases with a vendor provided phone are being answered by a person
- Fewer cases without a vendor provided phone are returning the mailed paper survey

The declined has been much steeper among the cases with a phone provided by the vendor
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Summary
Fielding an address based sample for a telephone survey presents new possibilities, as well as challenges – both new and old.

I. Address based sample expanded coverage of the sample frame
   • Bringing in more under represented survey respondents

II. Increased complexity of fielding sample
   • Need multiple contact treatments to obtain phone numbers
   • More moving pieces that need to work together and to monitor
   • Increased field time needed for contacts via the mail
   • Increasing costs due to incentives and sample non-response, etc.

III. Even with the use of multiple mailed contacts and incentives we still have a growing issue of non-response

IV. Looking ahead: adding another mode of data collection may help, but..
Thank You!

For copies of this presentation or more information, contact:

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Please visit us at:
www.uwsc.wisc.edu
Additional materials
Appendix

Percent of sampled addresses that ended in a completed phone survey over three years of data collection, by provided phone number and stratum

<table>
<thead>
<tr>
<th>Strata</th>
<th>No phone from vendor</th>
<th>Phone number from vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milwaukee majority minority</td>
<td>17.1%</td>
<td>30.9%</td>
</tr>
<tr>
<td>Other WI majority minority</td>
<td>22.2%</td>
<td>29.9%</td>
</tr>
<tr>
<td>Milwaukee balance</td>
<td>28.3%</td>
<td>41.5%</td>
</tr>
<tr>
<td>Big 8 balance</td>
<td>31.9%</td>
<td>49.1%</td>
</tr>
<tr>
<td>Medium counties balance</td>
<td>31.5%</td>
<td>48.7%</td>
</tr>
<tr>
<td>Small counties balance</td>
<td>33.3%</td>
<td>49.9%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>27.9%</strong></td>
<td><strong>45.2%</strong></td>
</tr>
</tbody>
</table>
Review of Family Health Survey Sample Outcomes

Yearly rates for address **without** a phone number from the vendor

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Rate 1</td>
<td>48.8%</td>
<td>44.1%</td>
<td>45.4%</td>
</tr>
<tr>
<td>Cooperation Rate 1</td>
<td>68.9%</td>
<td>66.8%</td>
<td>63.4%</td>
</tr>
<tr>
<td>Refusal Rate 1</td>
<td>8.0%</td>
<td>7.0%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Response Rate 1</td>
<td>33.7%</td>
<td>29.5%</td>
<td>28.8%</td>
</tr>
</tbody>
</table>
Review of Family Health Survey Sample Outcomes

Yearly rates for addresses with a phone number from the vendor

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Rate 1</td>
<td>76.7%</td>
<td>73.6%</td>
<td>65.3%</td>
</tr>
<tr>
<td>Cooperation Rate 1</td>
<td>66.3%</td>
<td>64.5%</td>
<td>65.8%</td>
</tr>
<tr>
<td>Refusal Rate 1</td>
<td>19.9%</td>
<td>15.2%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Response Rate 1</td>
<td>50.8%</td>
<td>47.4%</td>
<td>43.0%</td>
</tr>
</tbody>
</table>
Sampled addresses per complete

Addresses sampled per complete are on the rise

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>All sampled addresses</td>
<td>2.49</td>
<td>2.76</td>
<td>2.97</td>
</tr>
<tr>
<td>Addresses with a vendor phone</td>
<td>2.01</td>
<td>2.17</td>
<td>2.40</td>
</tr>
<tr>
<td>Addresses without a vendor phone</td>
<td>3.36</td>
<td>3.63</td>
<td>3.67</td>
</tr>
</tbody>
</table>

19.3% increase in the number of all addresses sampled to get a complete

- 19.4% for addresses matched to a phone number by vendor
- 9.2% for addresses that can not be matched to a phone by vendor