Behavior Change Techniques for Reducing Interviewer Contributions to Total Survey Error

Brad Edwards
Westat, bradedwards@westat.com

Follow this and additional works at: http://digitalcommons.unl.edu/sociw

Part of the Quantitative, Qualitative, Comparative, and Historical Methodologies Commons

http://digitalcommons.unl.edu/sociw/1

This Article is brought to you for free and open access by the Sociology, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in 2019 Workshop: Interviewers and Their Effects from a Total Survey Error Perspective by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
Behavior Change Techniques for Reducing Interviewer Contributions to Total Survey Error

Brad Edwards, Hanyu Sun, and Ryan Hubbard

Presented at the Symposium on Interviewer Effects and Total Survey Error, Lincoln, Nebraska February 26, 2019
**Key Words**

- CARI
- Rapid Feedback
- Interviewer Training
- Behavior Coding
- Continuous Quality Improvement

**Talk Outline**

- Background
- Data and Methods
- Rapid Feedback from CARI
- Rapid Feedback of Alerts from Data
- Impact on Key Survey Estimates
- Conclusion
Background

- Most interviewer training delivered *before* data collection, **BUT**
  - Most adults learn better on-the-job, just-in-time, by doing, with peers

- Field interviewers work remotely in face-to-face survey operations, so very hard to see what they are doing, **BUT**
  - Tools available now to bring field operations under much greater control
  - General field interview quality can be improved with rapid feedback (verbal and written combined) of results from behavior coding of CARI recordings
Goals of This Research

❯ Replicate research findings on impact of rapid feedback from CARI behavior coding on *general* interview quality

❯ Determine whether rapid feedback from CARI can impact *specific* interview items that are instrumental in development of key survey statistics

❯ Determine whether rapid feedback from automated analysis of survey data can impact data quality
Thanks for keeping these records. Let me review the records with you first. Please tell me who the record is for, and the type of record you’re looking at, such as a calendar, or a provider or insurance statement, patient portal information, payment records, prescription records such as medicine bottles, or something else.

Do you have a calendar with health entries?

NAVIGATION: Complete the grid in order of respondent’s answers.

1. YES, HAS CALENDAR WITH HEALTH CARE ENTRIES FOR LUCY ANN BROWN
2. NO, DOES NOT HAVE CALENDAR WITH HEALTH CARE ENTRIES FOR LUCY ANN BROWN

Records for RU member

<table>
<thead>
<tr>
<th>CA30_01 Calendar with health care entries</th>
<th>CA30_02 Provider or Insurance Statements</th>
<th>CA30_03 Patient Portal</th>
<th>CA30_04 Payment Records</th>
<th>CA30_05 Rx Records/Bottles</th>
<th>CA30_06 PR/MB Follow-Up</th>
<th>CA30_07 Other</th>
<th>CA30_08 Other Specify</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUCY ANN BROWN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**MEPS: Provider Probes Series**

The next set of questions help make sure we haven't missed any additional health care for any of the people living here.

As I ask the questions, please look at the corresponding show cards and think about any additional health care each person received.

Let's start with hospitals. Looking at card PP-1, since August 15, 2018, were you admitted to the hospital for any period of time?

<table>
<thead>
<tr>
<th>Lucy Ann Brown</th>
<th>No</th>
</tr>
</thead>
</table>

- 1. **YES**
- 2. **NO**
CARIcode Rapid Feedback Process

Interview 1 (Day 0) → CARIcode (Day 1) → Feedback Scheduled (Day 2)

Feedback (Day 3) → Interview 2 (Day 4)
### Both Question Series, CARIcode Results

<table>
<thead>
<tr>
<th>Interviewer Behavior</th>
<th>Before Feedback</th>
<th>After Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Followed Protocol Exactly (Verbatim for PP, Respondent’s Order for CA)</td>
<td>33.4%</td>
<td>43.4%</td>
</tr>
<tr>
<td>Maintained Meaning but Did Not Follow Protocol Exactly</td>
<td>56.8%</td>
<td>52.9%</td>
</tr>
<tr>
<td>Meaning Not Maintained</td>
<td>9.8%</td>
<td>3.7%</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td><strong>3072</strong></td>
<td><strong>2187</strong></td>
</tr>
</tbody>
</table>
Clarification in Feedback Session

Verbatim vs. Meaning Not Maintained: Feedback by Interviewer Clarification

Probability

Before

After

Feedback

Interviewer_Clarification
- Ask for Clarification
- Not Ask for Clarification
Clarification Effect during Feedback Driven by Provider Probes

- Followed protocol vs. Not Followed Protocol for CA Items
- Verbatim vs. Meaning Not Maintained for PP Items

Graphs showing probability before and after feedback with categories for asking for clarification or not.
Rapid Feedback: Discussion

- Interviewer experience did not explain different effects of asking clarification

- CA series’ flexible grid requires “off-the-grid” interviewer navigation
  - perhaps even after getting clarification, some interviewers just don’t get it

- Nature of question content differs between 2 series
  - maybe some interviewers don’t believe CA makes a difference, even after getting clarification
Quality Alerts from Data

❯ Implemented through field supervisor dashboard
❯ Data transmitted overnight from interviewers in the field automatically checked for specific anomalies that needed immediate attention
❯ Anomalies popped up on supervisor dashboard the next morning
❯ Supervisors reviewed anomalies with interviewers and documented status in the alert section of the dashboard
## Data Quality Alert Distribution

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record usage (general) All medical events</td>
<td>1968</td>
<td>84.4</td>
</tr>
<tr>
<td>Record usage Prescribed Medicines (65+)</td>
<td>243</td>
<td>10.4</td>
</tr>
<tr>
<td>Zero night hospital stays (admission and discharge on same day)</td>
<td>117</td>
<td>5.0</td>
</tr>
<tr>
<td>Respondent under 18</td>
<td>4</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2332</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Caseload-adjusted Alert Counts Over Field Period
Alert Occurrence Among Interviewers

Distribution of Alerts Among Interviewers
[Interviewer Counts out of 350-375 Field Interviewers]

- All Types
- All Records
- PM Records
- Zero Nights
- Under 18

- At Least 1 Alert
- Two or More Alerts
- Three or More Alerts
# Key MEPS Statistics: Rx for Older People, 2016

<table>
<thead>
<tr>
<th>Description</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population with expense</td>
<td>46,409,000</td>
</tr>
<tr>
<td>Proportion with expense</td>
<td>90.2%</td>
</tr>
<tr>
<td>Number of prescription events</td>
<td>1,304,000</td>
</tr>
<tr>
<td>Mean events/person</td>
<td>25.4</td>
</tr>
<tr>
<td>Mean expenditures/event</td>
<td>$117</td>
</tr>
<tr>
<td><strong>Mean</strong> expenditures/person w/event</td>
<td><strong>$3,289</strong></td>
</tr>
<tr>
<td><strong>Median</strong> expenditures/person wi/event</td>
<td><strong>$1,100</strong></td>
</tr>
<tr>
<td>Total expenditures</td>
<td>$152,602,000,000</td>
</tr>
</tbody>
</table>
Conclusion

› Rapid feedback on techniques for asking specific questions related to key survey statistics can improve interviewer performance

› Rapid feedback on raw data collected in the interview can improve interviewer performance

› Rapid feedback can be an effective form of interviewer training

› Improved interviewer performance = improved respondent performance

› Rapid feedback can improve the quality of key survey statistics
Thank You

Brad Edwards
bradedwards@westat.com