The Effects of Pushing Web in a Mixed-mode Establishment Data Collection

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Overview of Presentation

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- Genesis of DCRP Web Push Experiment
- The Problem
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- Results
- Limitations
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  - Todd Heinrich, Systems and Programming Task Leader
  - Scott Ginder, DCRP Analysis and Reporting Task Leader
  - Hope Smiley McDonald, DCRP Jail Universe Task Leader

The views expressed in this presentation do not necessarily reflect the official policies of the U.S. Department of Justice or the Bureau of Justice Statistics; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

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Deaths in Custody Reporting Program

- Primary source of mortality statistics within the American correctional system
  - 50 state departments of correction (DOCs)
  - Approximately 3,000 local jail jurisdictions
- Multimode data collection
  - Respondents are typically prison and jail administrators
  - Self-reporting
  - Two forms: individual death reports and post-hoc annual summary
  - Web, paper, fax, e-mail, bulk data file, and (during NRFU) telephone
Deaths in Custody Reporting Program (cont.)

- “Dillman-esque” data collection protocol implemented throughout post-reference year reporting period
  - Initial lead mailing (including reporting/Web login instructions)
  - Thank you/reminder e-mail or postcard
  - Replacement forms mailing
  - Nonresponse telephone prompts
  - Data quality follow-up calls for critical missing/conflicting items

- 2011 response rates (AAPOR RR2):
  - 100% for 50 state DOCs
  - 96.7% for “Top 150” jail jurisdictions
  - 96.8% for remaining jail jurisdictions

\[ RR2 \% = \frac{I+P}{I+P} + \frac{R+NC+O}{I+P} + \frac{UH+UO}{I+P} \]
Genesis of DCRP Web Push Experiment

- **Study-specific insights**
  - Using concurrent multimode approach, DCRP respondents used the Web for their primary response (Heinrich et al., 2012)
    - 68.8% in 2009
    - 69.4% in 2010
  - An even greater number of respondents indicated willingness to respond via Web
  - Over 90% of agencies had one or more e-mail addresses on file

- **Additional factors**
  - Data quality objectives would be aided by increased Web uptake
  - The reduction of paper form submissions would likely decrease data collection costs
The Problem

- **Study-specific concerns**
  - DCRP study population has known paper-only submitters
  - Further, some remote jails are known to not have computers/IT
  - Historically, DCRP has always offered paper forms

- **Other concerns from the literature**
  - Giving respondents “buffet-like” choice of mode can lead to
    (Medway & Fulton, 2012)
    - Perceived increased complexity, leading to
    - Lower response rates
  - “Pushing” one mode at the onset of data collection may (Mooney et al., 2012)
    - Increase respondents’ selection of mode, but
    - Lower overall response rates
BJS and RTI embedded an experiment in the 2011 data collection cycle (which occurred in 2012 following the CY)

- Treatment: withhold paper forms from the initial survey request (i.e., “push” the Web)
- Control: continue to offer paper forms concurrent with other mode invitations (e.g., Web, bulk data file)

The research questions:
1. Do overall response rates vary when the Web mode is pushed?
2. Does time-to-response (TTR) vary when the Web mode is pushed?
3. What are the cost implications when the Web-push method (and its outcomes) are applied to the entire sample?
4. Does pushing the Web have an impact on mode self-selection?
### Experiment Methodology

- Treatment affected contents of initial January mailing

<table>
<thead>
<tr>
<th>Cohort</th>
<th>2010 Mode</th>
<th>Treatment or Control</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paper</td>
<td>Control (Paper Forms)</td>
<td>337</td>
</tr>
<tr>
<td>2</td>
<td>Paper</td>
<td>Treatment (No Paper)</td>
<td>338</td>
</tr>
<tr>
<td>3</td>
<td>Web</td>
<td>Control (Paper Forms)</td>
<td>887</td>
</tr>
<tr>
<td>4</td>
<td>Web</td>
<td>Treatment (No Paper)</td>
<td>888</td>
</tr>
<tr>
<td>5</td>
<td>Mixed</td>
<td>Control (Paper Forms)</td>
<td>118</td>
</tr>
<tr>
<td>6</td>
<td>Mixed</td>
<td>Treatment (No Paper)</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>2,687</strong></td>
</tr>
</tbody>
</table>

- Randomization controlled for 2010 response mode and speed of response
- DOCs, 2010 nonresponders, and special situations were excluded
Experiment Methodology (cont.)

- The treatment cohort received
  - A DOJ-signed cover letter, with Web login credentials
  - DCRP informational handout
  - 2011 reporting instructions
  - 2012 reporting instructions
  - Enclosed in a 10 x 13 outer mailing envelope

- The control cohort received
  - All of the above, but
  - A 2011-specific inner envelope with those instructions, a business reply envelope, and 2011 paper forms
  - A 2012-specific inner envelope with those instructions, a business reply envelope, and a 2012 paper form

- All mailings were simultaneous to measure TTR
Results* – Response Rates

Response Rates by Treatment Cohort

Gain Between Nonresponse Calling and End of Data Collection
Gain Between Replacement Forms Mailing and Nonresponse Follow-up
Gain Between Initial and Replacement Forms Mailing

* Analysis included 2,653 of the original 2,687 cases
The treatment (Web push) cohort responded 1.6 days faster than the control cohort on average.

That said, the difference was only marginally statistically significant ($p = 0.07$).

Withholding paper certainly did not negatively impact TTR.

* Analysis included 2,653 of the original 2,687 cases
Results* – Mode Selection

Response Mode, by Treatment Cohort

- 2011 mode during experiment period Other (mixed, phone, etc.): 224 (22%)
- 2011 mode during experiment period Web: 777 (75%)
- 2011 mode during experiment period Paper: 921 (95%)
- Forms included: 31 (3%)
- Forms excluded: 32 (3%)

* Analysis included 2,653 of the original 2,687 cases
Not surprisingly, clear correlation between treatment cohort and respondent mode selection

- Inclusion of paper forms increased the incidence of paper mode response by 20 percentage points
- Withholding paper resulted in 95% of respondents choosing Web
- An equal amount responded using mixed or multiple modes (3%)

Paper inclusion led to higher selection of Web response across both cohorts; upon receipt of the replacement forms mailing

- 30.8% of Web push (treatment) members responded via paper
- 33.3% of Paper (control) members responded via paper

The propensity for Web response changed

* Analysis included 2,653 of the original 2,687 cases
## Results* – Costs of Data Collection

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Initial Mailout</th>
<th>Replacement Forms Mailout</th>
<th>Nonresponse Telephone Contact</th>
<th>Respondents via Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Included</td>
<td>2,942</td>
<td>642</td>
<td>351</td>
<td>633</td>
</tr>
<tr>
<td>Paper Excluded</td>
<td>2,942</td>
<td>795</td>
<td>385</td>
<td>212</td>
</tr>
</tbody>
</table>

- To compute the impact on costs:
  - The performance of each cohort was measured according to key data collection components,
  - Noting how many agencies required which types of follow-up, plus
  - How many required paper forms processing

* Analysis included 2,653 of the original 2,687 cases
Results* – Costs of Data Collection (cont.)

Estimated Component and Total Costs, by Treatment Cohort

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Estimated Component Costs</th>
<th>Total Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Included (PR Group)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Mailing Costs</td>
<td>$19,182</td>
<td>$32,099</td>
</tr>
<tr>
<td>Replacement Forms Mailing Costs</td>
<td>$3,249</td>
<td></td>
</tr>
<tr>
<td>Nonresponse Phone Contact Costs</td>
<td>$6,371</td>
<td></td>
</tr>
<tr>
<td>Paper Response Mode Costs</td>
<td>$3,298</td>
<td></td>
</tr>
<tr>
<td>Paper Excluded (WP Group)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Mailing Costs</td>
<td>$10,768</td>
<td>$22,883</td>
</tr>
<tr>
<td>Replacement Forms Mailing Costs</td>
<td>$4,023</td>
<td></td>
</tr>
<tr>
<td>Nonresponse Phone Contact Costs</td>
<td>$6,988</td>
<td></td>
</tr>
<tr>
<td>Paper Response Mode Costs</td>
<td>$1,105</td>
<td></td>
</tr>
</tbody>
</table>

* Analysis included 2,653 of the original 2,687 cases
The Web push (treatment) cohort incurred
- Fewer initial mailing costs (no printing, less postage and handling)
- Slightly more replacement forms mailing costs
- Almost identical nonresponse telephone contacting costs, and
- Fewer paper processing costs (receipt and processing, data entry)

Costs of the two cohorts were computed, as if applied to the entire study

The Web push (treatment) approach would effect a savings of $9,200 (~$3.47 per case)

* Analysis included 2,653 of the original 2,687 cases
Limitations

- Some limitations associated with experiment; the DCRP study
  - Is a time series collection that is well known to the field
  - Was a mandatory collection until 2006
  - Typically enjoys high response rates
  - Employs a robust nonresponse prompting protocol
  - Allows for a multi-month response period
Conclusions

1. Web can be pushed at the onset without jeopardizing overall response rates
2. Implementing this change does not adversely affect TTR
3. Withholding paper forms can lead to cost savings, despite some interim cohort increases
4. Pushing the Web mode clearly influences respondents’ selection
5. Including paper as an initial option led to higher rates of paper being used to respond
Areas for Further Research

- What are the effects of withholding paper from later-stage promptings, too?
- What are the effects of not explicitly offering paper, but instead providing it only upon request?
- Can the results of this experiment be replicated across other establishment surveys?
References


References (cont.)


More Information

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