

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

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## Abstract

Mixed-mode data collection is increasingly becoming a standard in survey research methods, especially when inclusion of Web-based data collection is anticipated to increase data quality (de Leeuw, 2005; Dillman, 2007; Schaefer and Dillman, 1998). However, offering the respondent the choice of mode can lead to unintended results, such as increased complexity or lower response rates (Medway and Fulton, 2012). Although “pushing” a particular mode (e.g., Web) may increase use, it risks lowering overall response rates (Mooney et al., 2012). Thus, there often exists a tension concerning whether, when, and how to transition ongoing collections to a mixed-mode methodology when its origins are single-mode, such as paper form or questionnaire.

The Deaths in Custody Reporting Program (DCRP), a data collection measuring inmate mortality, began in 2000. Authorized by Congress and funded by the Bureau of Justice Statistics (BJS), the DCRP collects data on the circumstances surrounding deaths occurring in state prisons and local jails. It is the only national statistical collection that obtains comprehensive information about deaths in adult correctional facilities.

RTI International and BJS embedded a methodological experiment within the 2012 mailing to test the effects of concurrently offering multiple modes, but with a “push” of the Web option for some respondents. All agencies in the data collection were offered login credentials and information to use the Web option. A treatment of withholding paper forms provided in prior years was introduced, with a control group receiving paper forms. Assignment to treatment and control groups considered prior years’ mode selection. We will examine the results of the experiment—including timing, response rates, data quality measures, and variable costs—associated with the subgroups in the context of a longitudinal establishment study.

**Key Words:** Mixed-mode, Web, response rate, establishment, data collection, paper, mode selection

## 1. Introduction

Each year, approximately 4,000 inmates die while under the custody of the American correctional system (Noonan, 2012). Effectively tracking mortality statistics among this population necessitates complete coverage of the nation’s prisons and jails. Thus, in 2000, the Bureau of Justice Statistics (BJS) established the Deaths in Custody Reporting Program (DCRP) to collect mortality statistics and publish detailed analyses of comparative death rates across demographic categories, offense types, and facility/agency characteristics. Policymakers, correctional administrators, and government officials use

DCRP products to maintain critical oversight and inform new policies, procedures, and budgets.

Since 2009, RTI International has served as BJS's DCRP data collection agent. Using a multimode approach designed to minimize respondent burden, RTI's role is to collect inmate death data from the 50 state prison systems (Departments of Correction [DOCs]) and across approximately 2,800 local jail jurisdictions.

RTI offers respondents the opportunity to complete the study forms on the DCRP Web site (<https://bjsdcrp.rti.org/>), via hard copy (i.e., facsimile [fax] or mail), or by electronic (i.e., bulk file) submission. Additionally, RTI includes e-mail, mail, and telephone prompting steps in the data collection approach for nonresponding agencies and, in some of these cases, data are collected via telephone to further reduce nonresponse. To further ensure high-quality data, such as low item nonresponse, RTI implements a rigorous data quality follow-up process. In addition to soft and hard prompts within the Web forms, this process uses machine and interactive (i.e., statistical) edits to identify inconsistent or missing data within or across death reports. Agencies with resultant data quality issues are recontacted by telephone to resolve any discrepancies.

One of the biggest challenges associated with collecting these data is the reality that correctional administrators manage overcrowded facilities that are understaffed and insufficiently funded, and that routinely balance inmate and staff safety. In short, DCRP respondents must increasingly "do more with less," which among other things means their time to respond to data requests is limited. Despite this challenge, in 2011, RTI achieved a 100% response rate across the 50 state DOCs, a 96.7% response rate across the 150 largest jail jurisdictions, and a 96.8% response rate across the remaining jail jurisdictions.<sup>1</sup> Identification and tracking of the 150 largest jail jurisdictions is a construct BJS and RTI use to facilitate data collection. Along with the DOCs, these jail jurisdictions account for approximately 80% of all inmate deaths and, thus, are tracked separately from the general jail jurisdictions during the data collection.

## 2. Background

Mixed-mode data collection is increasingly becoming a standard in survey research methods, especially when inclusion of Web-based data collection is anticipated to increase data quality, including heightened response rates and decreased coverage issues (de Leeuw, 2005; Dillman, 2007; Schaefer & Dillman, 1998). The recommendation for offering multiple modes is even stronger when soliciting data from businesses or establishments (Dillman, 2007)—such as the jail and prison agencies sampled for the DCRP. Combined, these findings have led researchers to become very comfortable with the approach of multimode data collection.

However, there exist questions within the literature on (a) when to introduce alternate modes, and, related, (b) if it is advantageous to allow for multiple modes of response within a single stage of data collection (e.g., explicitly offering two or more modes at the onset of data collection). For example, offering the respondent the choice of mode can

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<sup>1</sup> Response rates (AAPOR RR2) are specific to the DCRP Annual Summary Form (ASF), which is requested of each agency regardless of incidence or number of inmate deaths. RR2 is applicable to the 2011 DCRP because of a frame verification effort that preceded data collection and, thus, concluded eligibility status for each agency.

lead to the unintended result of perceived increased complexity (on the part of the respondent), which directly or indirectly can lead to lower response rates (Medway & Fulton, 2012). Another concern is that “pushing” a particular mode (e.g., Web) at the onset of data collection may have the desired effect of increasing selection by respondents, but simultaneously have the unintended consequence of lowering overall response rates (Mooney et al., 2012). These concerns call into question the advantages of offering multiple modes and cloud the otherwise default selection of a multimode design. Therefore, there is somewhat of a tension concerning if, when, and how to (a) introduce an alternate mode(s), and (b) how best to transition ongoing collections to a mixed-mode methodology when its origins are single-mode, such as paper form or questionnaire. Thus, a very important decision point in developing a tailored design for any study is when (and if) to offer respondents the choice of mode in a single stage of data collection.

Several years of regular mailings to the entire population of jail jurisdictions and state DOCs have provided the DCRP team with insight into mode delivery and selection preferences of respondents to the study. Traditionally, the DCRP has offered respondents multiple modes from the onset of data collection. Of further consideration is the fact that most DCRP respondents previously indicated openness and even a preference for completing the study’s forms via the Web. This resulted in consideration being given to whether the project could successfully transition its design from an “all modes all the time” approach to one where the Web option was pushed at the onset by way of withholding the paper forms from the introductory mailing. Given the conflicting guidance within the extant literature, the desire for increased Web usage where possible, and seeing a need and an opportunity for an experiment, RTI and BJS determined to test how withholding paper forms from the introductory mailing would affect various facets of the DCRP.

### **3. DCRP Web Push Experiment**

#### **3.1 The DCRP Data Collection Protocol**

The routine data collection protocol for DCRP involves several mailings and prompts to each agency throughout and following the reference year (RY) period (the year for which data are being collected). The DCRP data collection protocol implemented for 2011 included a multistage, multimode design, involving verification calling, introductory and replacement mailings, various reminders and nonresponse prompts, and an extensive data quality follow-up effort (including calling medical examiner offices). *Figure 1* provides an overview of that protocol. *Table 1* details the data collection schedule starting with the mailing of the 2011 ASFs through data collection close-out.

#### **3.2 Genesis of the DCRP Web Push Experiment**

The 2009 and 2010 DCRP protocols involved sending paper versions of forms to all agencies via the introductory mailing (usually in January). The prevalent thought with this approach was that including paper forms highlights the choice of response modes (noting that instructions and login credentials for responding via Web were also included). Providing respondents with explicit choice of mode was intended to facilitate the approved data collection protocol, plus increase response rates. This approach seemed especially appropriate given (a) literature that suggested multiple modes increase unit response rates (Dillman, 2007), (b) the historical precedent on DCRP, and (c) the success experienced on several of RTI’s prominent establishment/employee data collections (which used the same approach).

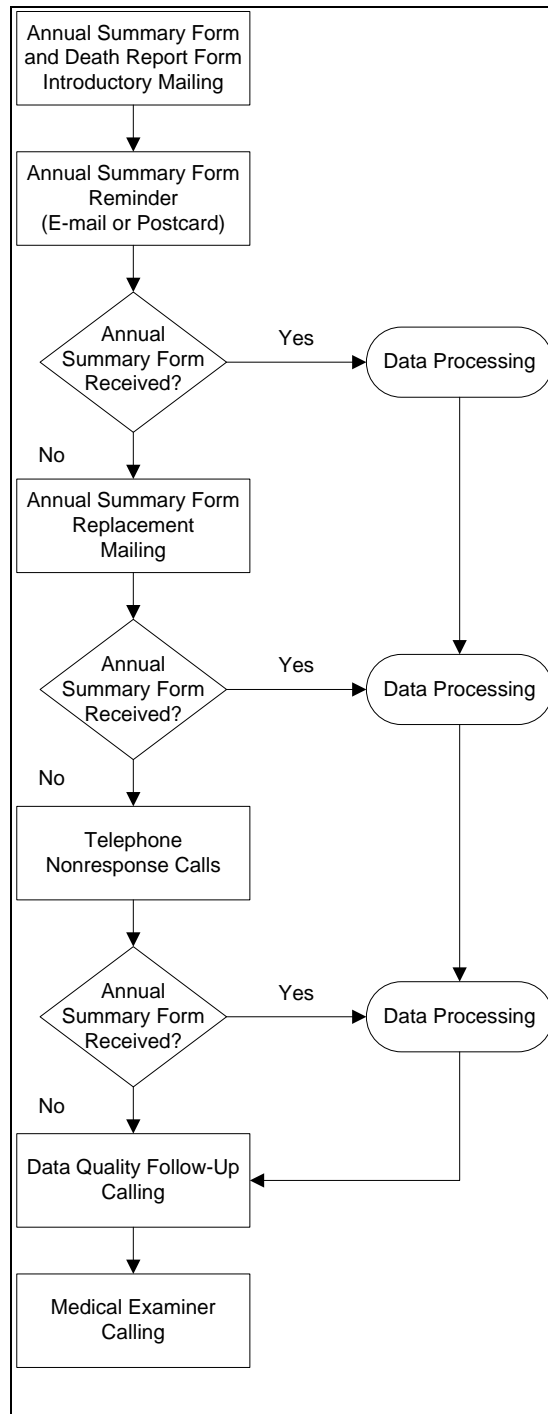
Interestingly, for 2009 and 2010 the majority of DCRP respondents chose to respond via Web (Heinrich et al., 2012). **Table 2** summarizes the modes of response across the 2 years. Although a noteworthy percentage of respondents chose to respond via paper or fax, the majority did choose Web. This led the project team to believe that even more would choose to respond via Web if they were not provided with the initial choice to complete paper forms during the introductory mailing. An additional consideration in planning the experiment was the supposition that data costs (e.g., printing, handling, postage, return postage, data entry) may be significantly decreased if not all DCRP respondents required (or would use) a paper form. A final consideration in conducting the experiment is that the DCRP Web forms include consistency and range checks that simply cannot be replicated via paper. Thus, we hoped that any increase in Web usage we could effect would directly or indirectly increase data quality, too.

As a result of the high percentage of Web response to the DCRP, the possibility of cost savings and increased data quality, and a desire to contribute to the methods literature concerning establishment survey mode selection, BJS and RTI decided to test the hypothesis that withholding paper forms from the introductory mailing may be done without jeopardizing DCRP response rates and at a cost savings to the project.

### **3.3 Web Push Experiment Methodology**

In consultation with BJS, RTI embedded an experiment into the routine mailing process for the 2011 ASFs, which occurred in January 2012. Overall, the experiment's treatment involved sending the standard introductory mailing to all agencies, but without paper versions of the 2011 ASF and 2012 DR forms. Further specifics on the experiment methodology follow.

First, because of the critical nature of their participation and the amount of contributing data, the 50 state DOCs were excluded at the onset of the experiment (i.e., randomization and analysis, such that they would continue to receive the standard introductory mailing including paper forms). Also excluded from the experiment were 197 jail jurisdictions, which were either nonresponders for 2010 or otherwise deemed exceptional cases for data collection purposes. These exclusions were made in an effort to not unpredictably affect the success of the surrounding and ongoing data collection. Of the 2,687 remaining agencies, RTI randomly assigned the sample to one of six mode cohorts depending on their mode of response in 2010: paper-control, paper-treatment, web-control, web-treatment, mixed-mode-control, mixed-mode-treatment. As shown in **Table 3** the randomization procedure controlled for the 2010 response mode and whether they submitted at least one DR before the end of calendar year 2011. The resultant distributions for agencies eligible for the experiment were those who responded via paper were randomly assigned to a control group (337) or treatment group (338), those who responded via Web were randomly assigned to a control group (887) or treatment group (888), and those who responded via mixed mode were randomly assigned to a control group (118) or treatment group (119). To maintain the integrity of the experiment, all agencies received the same reminder mailing, with e-mails being sent to agencies for which we had an e-mail address and postcards being sent to agencies for which we did not have an e-mail address. The experiment ended with the mailing of replacement materials, which by default included paper versions of the forms for all agencies.



**Figure 1:** 2011 data collection protocol

Note: The data collection protocol depicted in Figure 1 focuses primarily on the DCRP ASF. For completeness' sake, the final protocol step of contacting Medical Examiners—which admittedly relates to the DCRP Death Report (DR) form data, which was not part of the experiment—is included in the flow chart.

**Table 1:** 2011 Data Collection Schedule

Data Collection Activity	Approximate Date
2011 Verification Calls	March–April 2011
2011 Introductory Mailing	January 2012
2011 ASF Reminder by E-mail/Postcard	March 2012
2011 Replacement Forms Mailing	April 2012
2011 Telephone Nonresponse Calls	May 2012
2011 Data Quality Follow-Up Calls	May–July 2012
2011 Medical Examiner Calls	August 2012

Note: Verification calls typically occur in the Fall preceding the launch of a new RY's data collection. For 2011, however, verification calling still occurred prior to the launch of its data collection, but with a greater lead time because of other contractual considerations.

**Table 2:** Historical Modes of Response for DCRP (2009-2010)

Year	Web-only	Paper or Fax	Web and Paper	Other
2009	68.8%	22.0%	5.6%	3.6%
2010	69.4%	28.2%	NA	2.4%

Note: The Other mode category for 2009 indicates the respondent used a combination of Web, paper or fax, and telephone. For 2010, it indicates use of e-mail or telephone.

**Table 3:** Experimental Cohorts

Cohort	2010 Mode	Treatment or Control	Sample Size
1	Paper	Control (Paper Forms)	337
2	Paper	Treatment (No Paper Forms)	338
3	Web	Control (Paper Forms)	887
4	Web	Treatment (No Paper Forms)	888
5	Mixed	Control (Paper Forms)	118
6	Mixed	Treatment (No Paper Forms)	119
Total	—	—	2,687

Subsequent to randomization and the conclusion of the experiment, several jurisdictions were deemed ineligible for analysis because they (a) merged with another jurisdiction for DCRP reporting or (b) responded to the 2011 request for an ASF prior to receiving the experimental mailing. In the latter case, they responded to the DCRP data collection prior to a formal request to do so—most likely because of their familiarity with the program, which has been in existence since 2000, and its recurring Web option. A comparison of the randomized and subsequently analyzed cohorts, including counts and percentage of agencies, is provided in *Table 4*.

**Table 4:** Comparison of Randomized and Analyzed Cohorts

	Randomized				Analyzed			
	Control (Paper Forms)		Treatment (No Paper Forms)		Control (Paper Forms)		Treatment (No Paper Forms)	
2010 Mode	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Paper	337	25.1	338	25.1	332	25.2	335	25.1
Web	887	66.1	888	66.0	873	66.1	880	66.0
Mixed	118	8.8	119	8.9	115	8.7	118	8.9
Totals	1,342	100.0	1,345	100.0	1,320	100.0	1,333	100.0

NOTE: Analyzed totals differ from randomized totals by 34 because (a) some units (13) were deleted from the frame because of ineligibility after randomization and (b) some units (21) responded before they received the mailing.

Other details concerning the experiment related to package contents and mailing dates. All treatment packages included the following:

- 10" x 13" outer mailing envelope
- main cover letter
- DCRP informational handout
- 2011 reporting instructions
- 2012 reporting instructions

All control packages included the following:

- 10" x 13" outer mailing envelope
- main cover letter
- DCRP informational handout
- 2011 inner envelope containing a 2011 cover letter, 2011 reporting instructions, a 2011 ASF, a 2011 DR form, and a business reply envelope
- 2012 inner envelope containing 2012 reporting instructions, a 2012 DR form, and a business reply envelope

Further, materials for the control group were packaged within individual inner year-specific envelopes in an attempt to organize the materials for respondents based on immediate action needed (e.g., reporting instructions and the ASF) and materials for later use (e.g., death forms). All packets were mailed on the same date and at the same time to avoid any systematic differences in response times that otherwise may have occurred.

#### 4. Results

Analysis of the 2,653 eligible cases was conducted to evaluate the effectiveness of the treatment (withholding paper forms from the initial mailing) in increasing respondent self-selection of the Web response mode when compared with the standard (or control) data collection protocol (including paper forms in the mailing). Although increasing use of the Web mode is important for several reasons (reducing data collection costs, the ability to build range checks and other edits into the Web form, etc.) it is also important

to ensure that, should the treatment be successful in influencing the adoption of the Web mode of response, it does not damage the positive characteristics of the existing DCRP data collection. In particular, we endeavored to answer the following questions:

1. Do overall data collection response rates vary between the treatment and control groups?
2. Does the time-to-response vary between the treatment and control groups?
3. What are the cost implications of applying the treatment versus the control protocol to the full set of organizations in the data collection?
4. Does the treatment have an impact on the choice of response mode that respondents self-select?

The response rate and cost analyses include data from the entire collection period. However, the differences between treatment and control procedures ended concurrent with the mailing of replacement forms. (This was done intentionally so as to ensure overall comparability of the 2011 DCRP data collection with its prior years.) Hence, conclusions about the impact of the experiment on time-to-response and mode are drawn from analysis of only those agencies who responded during the experimental period, unless otherwise indicated. The following analyses refer to the control group as the PR (paper received) group, and the treatment group as the WP (Web push) group.

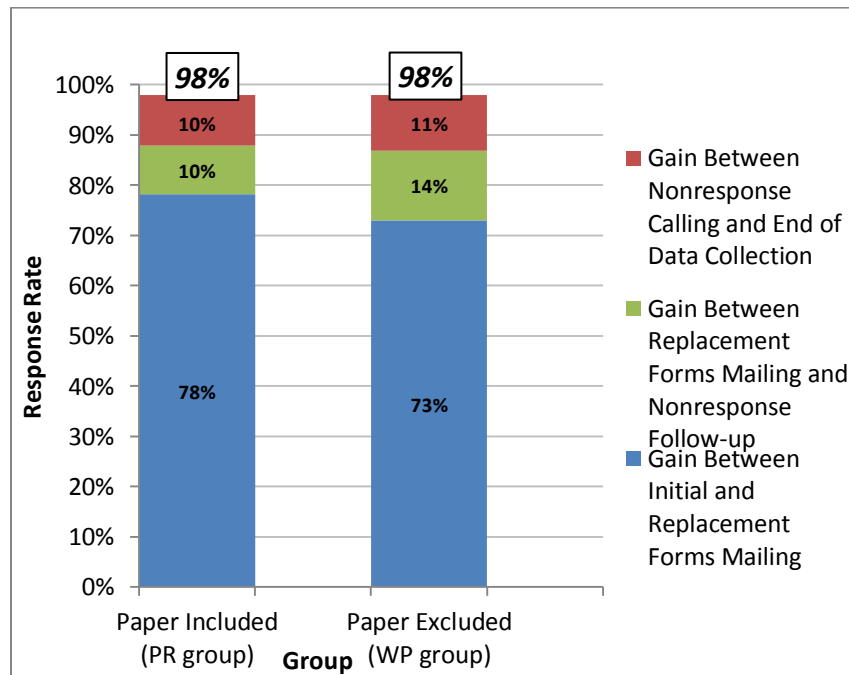
#### 4.1 Response Rates

Focusing on question 1, *Figure 2* displays the response rate by treatment group, divided into sections corresponding to key milestones in the data collection protocol: initial mailing to replacement forms mailing (85-day duration), replacement forms mailing to nonresponse follow-up (15-day duration), and nonresponse follow-up to the end of data collection (110-day duration). Response rates during the experimental analysis period (prior to replacement forms mailing) did vary between the groups, with the 78% response rate recorded for the PR differing significantly from the 73% response rate for the WP ( $t=3.11$ ;  $p=.0019$ ; 2,651 degrees of freedom [ $df$ ]). However, following the replacement forms mailing, response rates evened out between the groups, and were not significantly different at the start of nonresponse follow-up ( $t=0.84$ ;  $p=0.40$ ;  $df=2,651$ ) nor at the end of data collection ( $t=0.10$ ;  $p=0.92$ ;  $df=2,651$ ), where both the PR and WP groups' response rates grew to 98%. Clearly, in this instance, adoption of a data collection protocol that excludes paper forms (but continues the DCRP standard practices otherwise) does not negatively impact response rates.

One point of interest in the response patterns shown in *Figure 2* is what appears to be sensitivity on the part of the respondents to the inclusion of paper forms. This was true during the experimental period, with the PR group seeing a higher initial response rate compared to the WP group (see significance test above). However, confirmation of the importance of eventually providing a paper form also comes from the increase in response experienced between the replacement forms mailing (which included paper forms for both the WP and PR groups) and the start of nonresponse follow-up. In particular, the fact that the WP group response rate catches up with the PR group response rate with only the replacement forms mailing as a stimulus suggests that including a paper form may further induce respondents to submit data. To test this observation, we can treat the pool of nonrespondents after the experimental period as a "fresh" data collection, and evaluate the response rate of this subset prior to nonresponse follow-up. Of the 288 replacement form recipients in the PR group (who, given their



inclusion in the control group, were receiving forms for the second time), 44.8% responded prior to receiving a nonresponse telephone call. Correspondingly, of the 360 replacement forms mailing recipients in the WP group (who were receiving forms for the first time), 51.4% responded prior to a nonresponse telephone call. Although this difference (6.6%) is only marginally statistically significant ( $t=1.67$ ;  $p=0.095$ ;  $df=646$ ), it is significant in practical terms because a lower response to the replacement forms mailing under the WP protocol would add cases to the group requiring nonresponse telephone calls, which would increase the cost of data collection by approximately \$1,000 (see *Costs*, below).



**Figure 2.** Response rates by treatment group

#### 4.2 Time-to-Response

In addition to the overall response rate, it is important to investigate the speed with which respondents provide their data (question 2). In general, the sooner respondents provide the data, the faster they can be in the hands of researchers and policymakers. More specifically, the sooner respondents provide their data, the fewer agencies that require downstream nonresponse prompts or calls (both of which increase data collection costs). So, in introducing a potential new data collection protocol, we need to ensure that the time-to-response (TTR) does not increase. In fact, if the protocol change being tested performs as expected (driving respondents to the Web response mode), we would hope to see a lower TTR in the WP group compared with the PR group. **Table 5** compares the 2010 and 2011 mean and median TTR for the two groups during the experimental period. Based on the data we collected, the WP group responded, on average, 1.6 days faster than the PR group ( $t=1.85$ ;  $p=0.064$ ;  $df=2,003$ ). Similarly, the median time to response for the WP group was 2 days faster when compared to the PR group. Looking at these same respondents' TTR in 2010, a similar difference was noted between the groups. To account for the initial difference in the historical TTR of these respondents, we constructed a simple linear model to examine differences in the 2011 TTR between the groups. The overall model of

$$\text{TTR}_{2011} = \beta_0 + \beta_1 * \text{group} + \beta_2 * \text{TTR}_{2010}$$

was significant ( $F=10.71$ ;  $p<0.0001$ ; *numerator df*=2; *denominator df*=2,002), and was used to estimate the difference in the mean TTR for 2011 after taking into account the TTR for 2010. The estimated difference was similar (identical when rounded) to the actual difference noted above—the WP group still responded 1.6 days faster than the PR group ( $t=1.81$ ;  $p=0.07$ ;  $df=2,002$ ). So, in all, there does not appear to be a negative impact on response punctuality associated with switching to a protocol that excludes paper forms from the initial mailing. Unfortunately, there does not seem to be a positive impact either, with only a small difference of marginal significance noted between the treatment groups.

**Table 5:** Mean and Median Time to Response (TTR) by Experimental Group, 2011 and 2010

	2011 TTR		2010 TTR	
	Mean	Median	Mean	Median
Paper Included (PR group)	19.0	10	36.5	20.5
Paper Excluded (WP group)	17.4	8	35.4	19.0

### 4.3 Costs

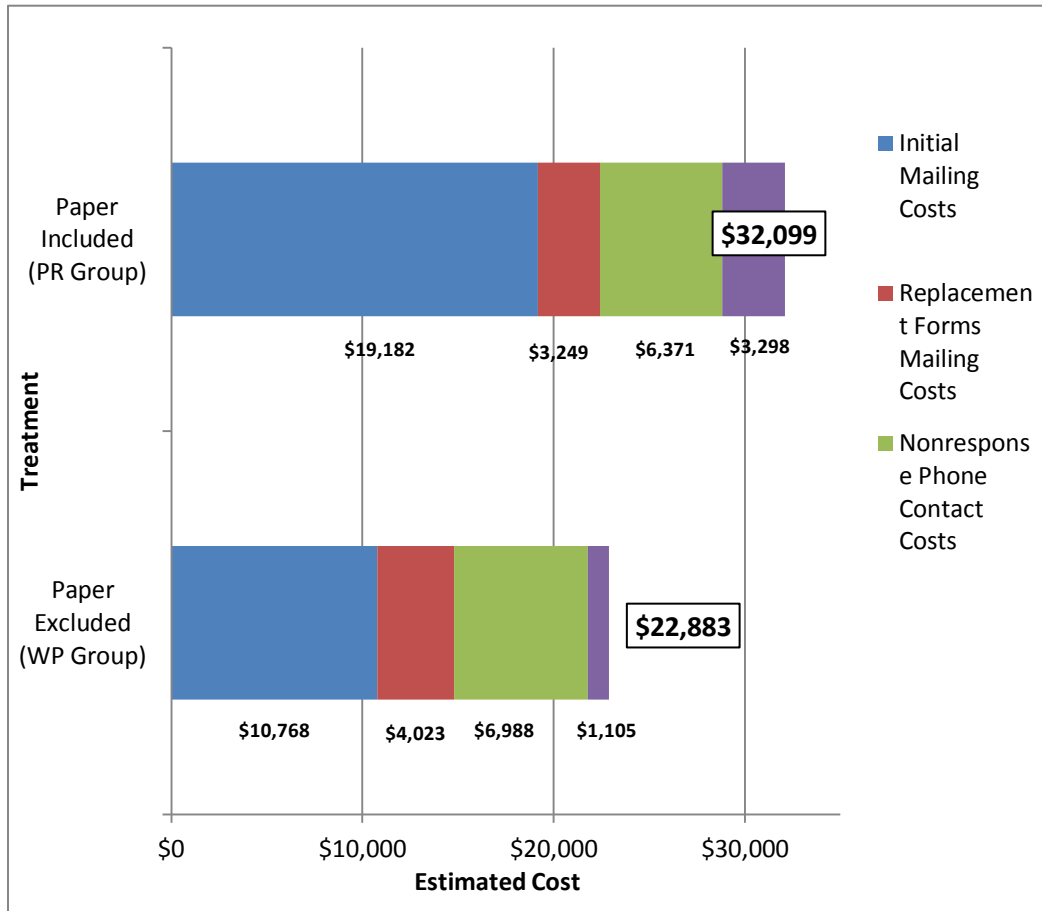
Considering question 3, the cost of conducting data collection, it is important to compare the cost of applying both the PR protocol and the WP protocol to the entire 2011 DCRP universe of 2,942<sup>2</sup> reporting units. To do so, we calculated a cost per case for each of four variable components<sup>3</sup> of the data collection protocol—printing, assembling, and sending the initial mailing; printing, assembling, and sending the replacement forms mailing; contacting lingering nonrespondents by telephone to request participation; and processing responses via paper form (i.e., business reply envelopes and postage, data receipt labor, and data entry labor). Personnel costs were calculated based on typical rates for survey support staff. Because Web-related costs are identical in both protocols (i.e., they do not vary by the number of respondents using the mode), they had a null effect on the cost estimates. To estimate the number of cases to which each component of the data collection protocol would apply, we multiplied the proportion from the PR and WP groups throughout data collection by the appropriate figure from the full 2011 DCRP universe. **Table 6** provides, based on the experiment results, the estimated number of entities that would be included in each component of the data collection protocol. **Figure 3** displays the estimated associated costs by component and experimental group.

<sup>2</sup> The count of DCRP eligible reporting units is not a static number in part because of the discovery of mid-year organizational changes (e.g., closures, mergers, births) that are discovered during the course of data collection.

<sup>3</sup> Scaling of the variable components of data collection can and does differ according to mode (paper, specifically) and TTR.

**Table 6:** Estimated Number of Reporting Units Included in Each Component of the Data Collection Protocol, by Treatment Group

	Initial Mailout	Replacement Forms Mailout	Nonresponse Telephone Contact	Respondents via Paper Mode
Paper Included (PR Group)	2,942	642	351	633
Paper Excluded (WP Group)	2,942	795	385	212



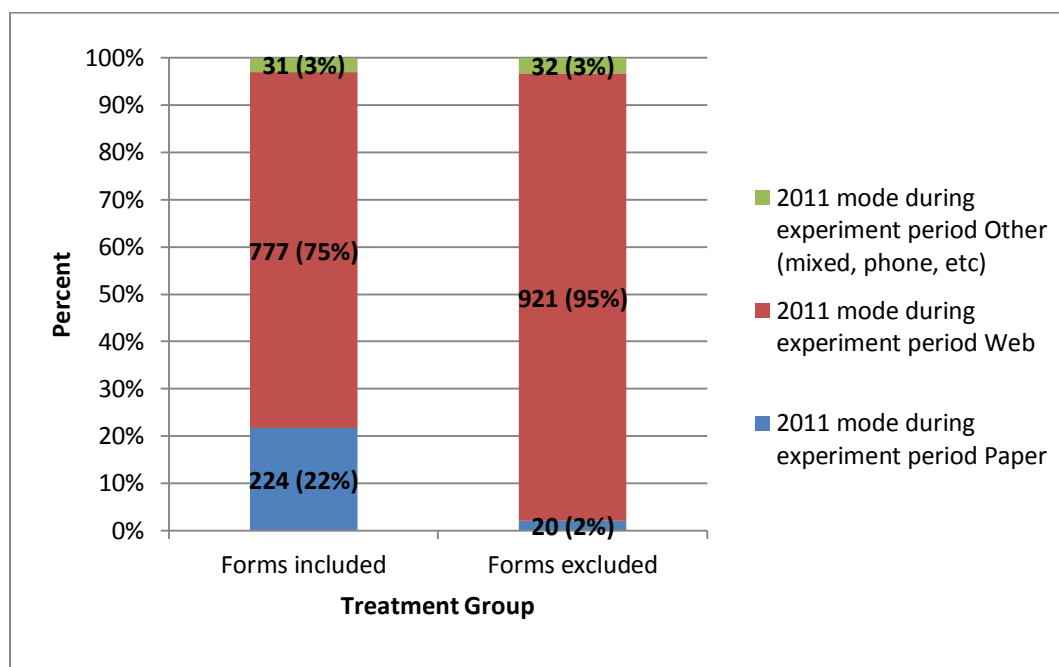
**Figure 3:** Estimated component and total costs by treatment group

By implementing the WP protocol, there would be an overall cost savings of about \$9,200. This savings is primarily attributable to the decrease in costs that would be associated with producing and sending the initial mailing (\$8,400 savings). Based on response rate differentials, there are some slightly higher costs (\$1,400) associated with the replacement forms mailing and nonresponse telephone contact components of the WP protocol, but these higher costs are ameliorated, and further savings are experienced, through the reduction of costs associated with the lower rate of paper response under the WP protocol.

#### 4.4 Mode Selection

Question 4, regarding the influence that the WP protocol might have on respondents' selection of a response mode, was the driver behind the design and conduct of this experiment. This question should be viewed from two perspectives: an overall assessment of the independence of treatment and response mode, and a closer look at “mode changers”—cases that changed mode compared with their 2010 response.

Overall, there is a clear relationship between the treatment group and the mode of response. Looking at **Figure 4**, it is apparent that response mode is not independent of treatment group ( $\chi^2 = 181.2$ ;  $p < 0.0001$ ;  $df = 2$ ). Although the predominant mode in the PR group is still Web response, there is a much higher incidence of paper mode response (22%) compared with the WP group (2%;  $t = 14.09$ ;  $p < .0001$ ;  $df = 2,003$ ). The treatment absolutely has an impact on mode selection, driving 95% of respondents to use the Web mode.



**Figure 4:** Mode of response by treatment group

Further evidence of the impact of the presence of paper forms on mode selection is seen in the mode choices of the replacement forms respondents. WP group members who received paper forms during the replacement forms mailing and responded prior to the start of nonresponse telephone calling showed the same levels of paper response as the PR group members in the same situation (30.8% in WP vs. 33.3% in PR;  $t = 0.47$ ;  $p = 0.64$ ;  $df = 312$ ).

It is also important to consider that respondents to a long-running longitudinal data collection, like the DCRP, may develop a mode preference and be resistant to changing modes. Because our goal is to push respondents toward participation via the Web, we will need to convert prior-round paper respondents into Web respondents while keeping prior-round Web respondents in the Web mode category. The results of this experiment confirm that the WP group is more successful than the PR group at converting

respondents from paper to Web response mode, with 96.1% of the 205 WP mode changers converting to Web response compared with 53.1% of the 193 PR mode changers ( $t=9.72$ ;  $p<0.0001$ ;  $df=396$ ). This leaves a mere 3.9% of WP mode changers converting to paper response mode, while 46.9% of PR mode changers switched to paper.

## 5. Discussion and Conclusions

It is important to note that this experiment involved an annual data collection, involving a topic known to most of the contacted agencies. Because DCRP is a time series collection, there exist historical data (e.g., respondents' inclination toward the Web) that allow for this type of experiment. That said, there are nonetheless some very important findings that contribute to the survey literature on multimode data collection and pushing the preferred mode.

- First, the analysis of mode selection and overall response rates clearly indicates that it is possible to withhold paper forms from the initial mailing without jeopardizing overall response rates. In fact, both experimental groups—treatment and control—reached the same impressive response rate (98%), despite varying methods.
- Second, although the TTR decrease observed among those not initially receiving paper forms was not significant, we can safely conclude that doing so had no negative impact on the data collection schedule.
- Third, when costs over time—including the costs associated with possibly higher interim rates of nonresponse—are taken into consideration, the results from this experiment confirm that savings can be realized by pushing the Web mode. This is encouraging given the Web mode (when determined to be one of the multiple modes being offered to respondents) presents the least amount of fixed costs at the time of launching data collection (e.g., printing, assembly, postage) and the lessened amount of variable costs (e.g., business reply postage, paper forms receipt and processing, data entry).
- Finally, pushing a particular mode clearly influences respondents' selection of a response mode. More specifically, the inclusion of a paper form among control group packages did, in fact, lead to higher rates of paper being selected as the response mode. In particular:
  - Although the predominant mode of the control group remained Web response (as was the case for the entire study prior to the experiment), there was a much higher incidence of paper mode response (22%) compared with the treatment group (2%). Further, the treatment of withholding paper forms absolutely had an impact on mode selection, driving 95% of respondents to use the Web mode.
  - Further evidence of the impact of the presence of paper forms on mode selection was seen in the mode choices of the replacement form respondents, who at that time each received a paper form. Treatment group members who received paper forms during this subsequent mailing (and responded prior to the start of nonresponse telephone calling) showed the same levels of paper response as the control group members in the same situation. Thus, the introduction of paper, even when the Web mode was initially pushed, resulted in increased use of paper during that latter stage of data collection.

Although this study contributes to the methodological literature, there are some limitations that bear mentioning. First, the DCRP survey was established under the 2000

Death in Custody Reporting Act (DICRA; Public Law 106-297). Before DICRA expired in 2006, prison and jail administrators were federally mandated to report inmate mortality data to BJS. Given this mandate, it is likely that the DCRP respondents were and are accustomed to participating despite the law having expired and regardless of how mode options were introduced. Moreover, the DCRP data collection period is longer than most surveys (6 months) with regimented and recurring follow-up prompts built into the protocol. These distinctions may separate DCRP from other establishment surveys and limit the generalizeability of these findings to other surveys. Despite these limitations, this research contributes to the greater body of best survey practices and may serve as an important stepping stone to further research that evaluates the selection of mode in a multimode approach—and, that, among business establishments. Finally, more research is needed to assess whether these findings may be generalized to other establishment survey populations (e.g., private sector respondents, medical communities) and for establishment surveys that (1) are not as well recognized to the field, and (2) do not have as extensive a follow-up period.

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