

Improving Response Rates using a Mixed-Mode Approach: Results from the National Health Care Interview Survey

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About the NHCIS Project

- The National Health Care Interview Survey (NHCIS) was designed as a follow-back survey to the 2012 National Health Interview Survey.
 - Goals of the NHCIS included testing the feasibility of using multiple modes of data collection, and to test the use of incentives to encourage response.
 - Another goal was to better understand changes in health care and health care coverage in the US, and to pilot test new questions pertaining to these topics.

Characteristics of NHIS

- The National Health Interview Survey is sponsored by the National Center for Health Statistics and has been conducted every year since 1957.
- Data are collected via in-person interviews by the U.S. Census Bureau.
- Some questions are asked of all household members; most are asked of a randomly selected, sample adult respondent. There is also a sample child component.
- Topics covered include health status, health insurance, and access to health care.

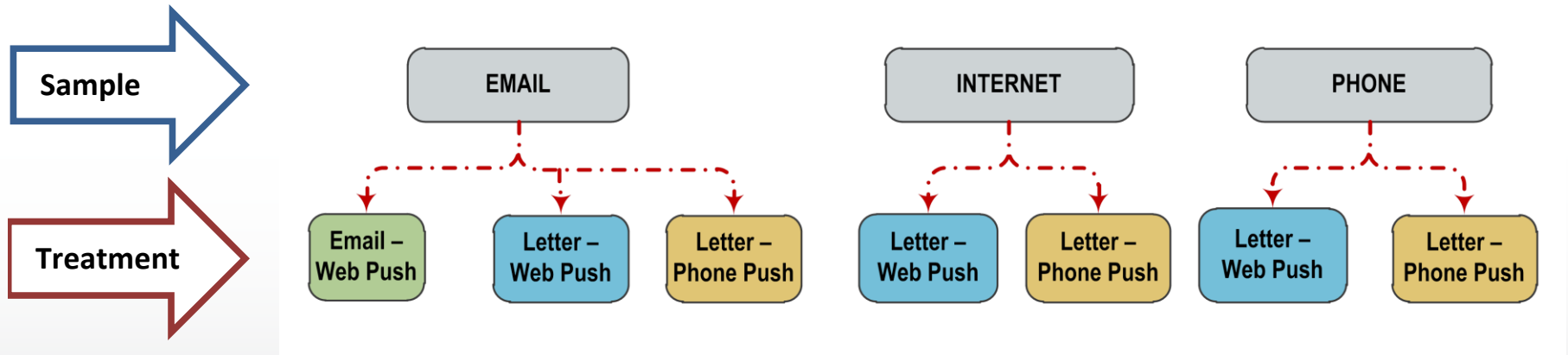
Implementation of NHCIS

- The NHCIS was conducted between May 2013 and February 2014.
- Sample Adult respondents were re-contacted approximately 13 months after their original interview.
- The NHCIS was designed as a multi-mode survey with a self-administered web component and a Computer-Assisted Telephone Interview (CATI) component administered by a CATI call center.

NHCIS Sample Groups

- This sample was divided into 3 groups based on their responses to questions about their email and internet usage, and whether or not the respondent provided an email address.
- A total of 12,006 adults who completed the 2012 NHIS were divided as follows:
 - Email (3,844)
 - Internet (3,604)
 - Phone (4,558)

NHCIS Sample Groups



NHCIS Treatment Groups

- Each sample group received 2-3 treatments:
 - Email-Web Response – Received an email encouraging response online (Email sample group only).
 - Letter-Web Response – Received a letter in the mail encouraging response online (All samples).
 - Letter-Phone Response – Received a letter in the mail to inform them that an interviewer would call to complete over the phone (All samples).
- Non-Respondents in all groups received a reminder letter or email after one week.

NHCIS Treatment Groups

- The entire sample was divided into 9 separate data collection periods, each with a 2 month data collection period.
- Web Self-Respondents:
 - 2-week self-response period
 - 6-week CATI follow up for non-respondents
- Phone Response Group:
 - 2 Month period of CATI calls

NHCIS Incentive Groups

- Sample persons were randomly selected to receive \$20, \$10 or no incentive.
- Advance letters and emails included a statement about the incentive and the amount for those in the \$20 and \$10 group.
- Telephone interviewers also mentioned the incentive where applicable.

Questionnaire Content

- Survey was approximately 15 minutes in duration
- Spanish version was available
- Question content included:
 - Financial burden of health care
 - Health status
 - Access and use of health care
 - Satisfaction with care
 - Health insurance
 - Preventative services
 - Health behaviors
 - Family food security
 - Socio-demographics

Response Rate by Mode

	<i>Number</i>	<i>Response %</i>
Completes¹	5,557	46.6
Web	725	6.1
CATI	4,832	40.5
Out of Scope²	72	0.6
Total	12,006	

¹Number of completes include fully complete and sufficient partial cases.

²Out of scope cases were cases where the respondent was deceased

Response Rate by Treatment

	Email Web	Letter Web	Letter Phone
Completes*	49.1	46.7	45.4
Web	<i>10.5</i>	<i>10.4</i>	<i>0</i>
CATI	<i>38.6</i>	<i>36.3</i>	<i>45.4</i>
Out of Scope	0.3	0.6	0.8
Total (N)	1,920	5,043	5,043

*Chi² 7.71 p<0.05

Response Rate by Incentive

	No Incentive	\$10 Incentive	\$20 Incentive
Completes*	42.9	46.1	50.7
Web	3.5	6.6	8.1
CATI	39.5	39.5	42.5
Out of Scope	0.6	0.5	0.6
Total (N)	3,996	4,005	4,005

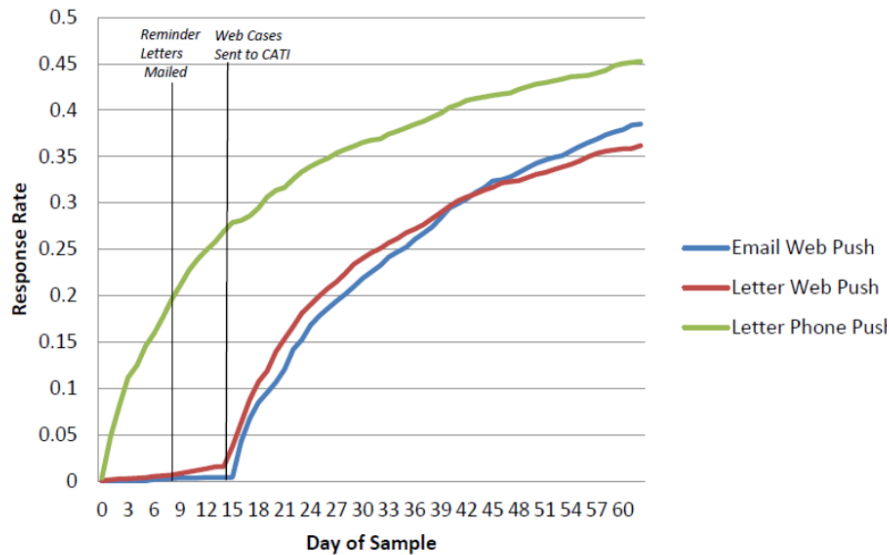
*Chi² 48.76 p<0.01

Logistic Regression Results

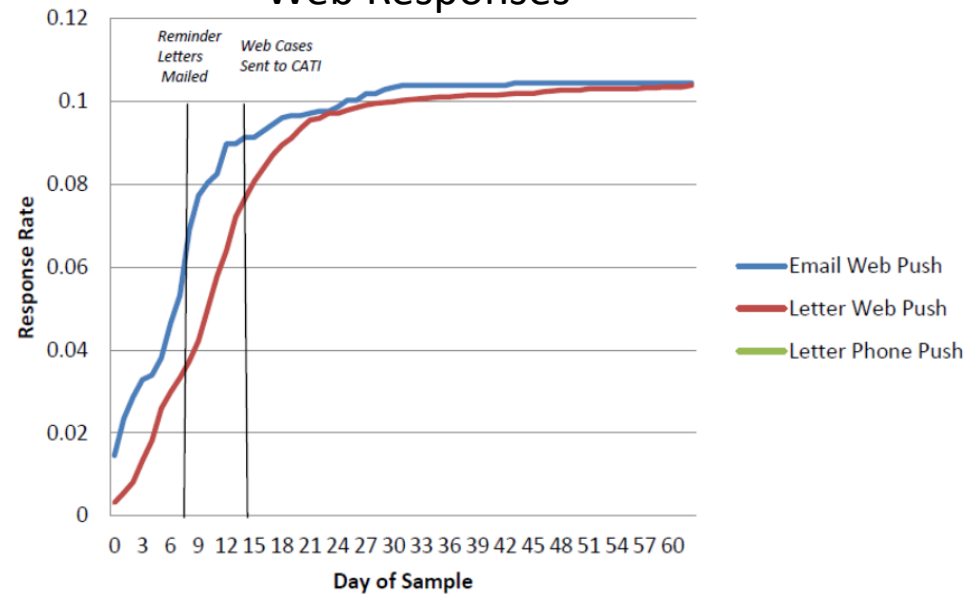
	Estimate	SE	Odds Ratio
<i>Treatment Group:</i>			
Email Web	0.30*	0.07	1.36*
Letter Web	0.05	0.04	1.05
Letter Phone	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
<i>Incentive Group:</i>			
No Incentive	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
\$10 Incentive	0.15*	0.05	1.17*
\$20 Incentive	0.33*	0.05	1.39*
Age in Years	0.03*	0.001	1.026*
Sex	0.01	0.04	1.005
Intercept	-1.62		
LR χ^2	662.68	*Indicates significance at the p<0.05	
Df	6	level	

Cumulative Response by Treatment

CATI Responses

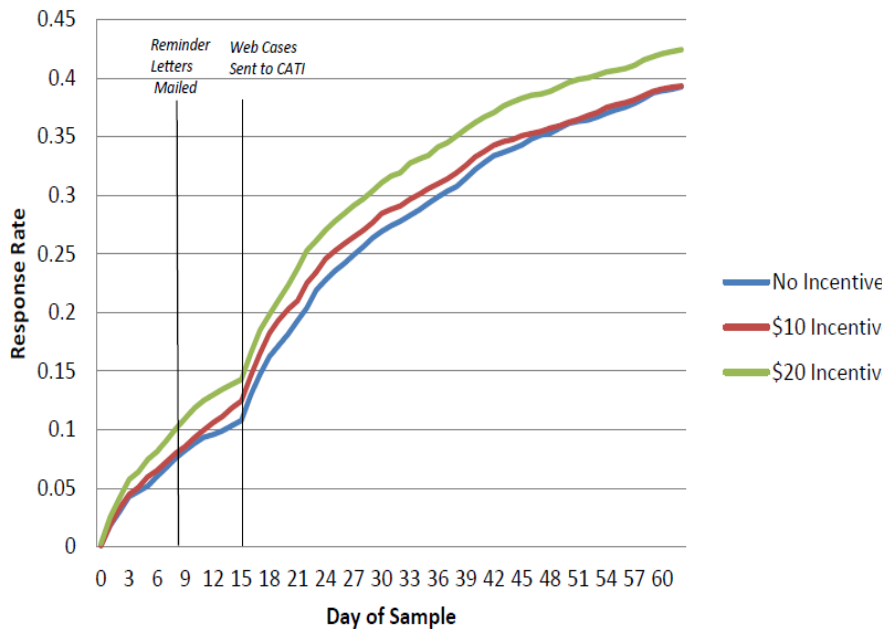


Web Responses

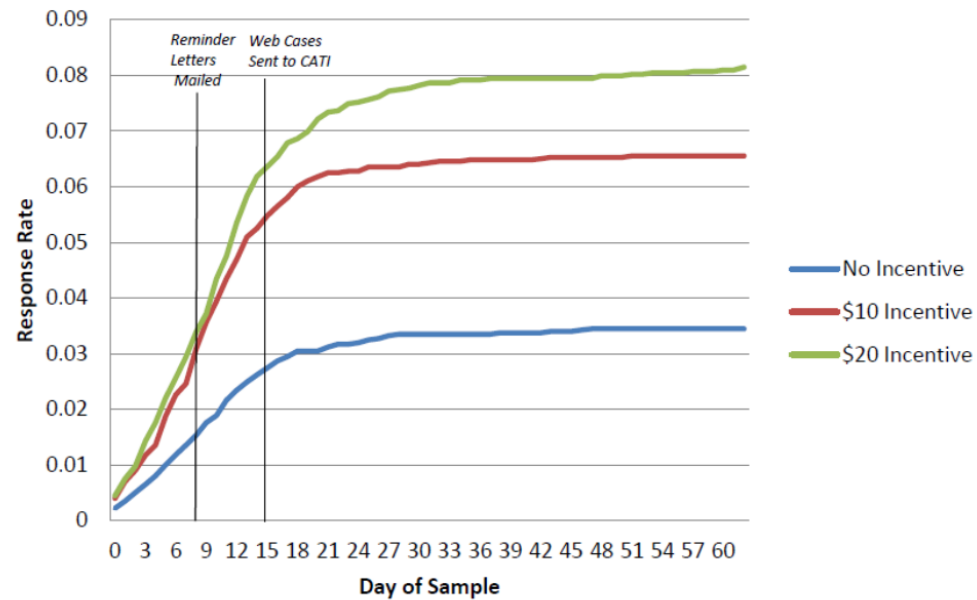


Cumulative Response by Incentive

CATI Responses



Web Responses



Conclusions

- Web self-response rates were lower than CATI response, but did improve overall response rates.
- For web respondents, the use of an emailed prompt was significant and improved response over a mailed advance letter.
- While the mixed-mode data collection design improved response rates in this study, more research is needed to determine the viability of a web option on a larger scale.

Conclusions

- The use of incentives had a positive impact on response rates.
- The amount of the incentive also influenced response rates.
- The results lend support for the use of monetary incentives to encourage response.

Next Steps

- This presentation gives only a portion of the findings related to this project.
- This presentation gave results for response by treatment groups. Additional research is needed to address results by original sample groups (i.e., Email, Internet, and Phone groups).
- This study evaluated web self-response and CATI response as a follow back to previous respondents. Additional research is needed to explore response for follow back versus initial respondents.