

Introducing Web to “No Answer” Cell Phone Numbers: A Pilot for the Behavioral Risk Factor Surveillance System (BRFSS)

Ting Yan, Gina Shkodriani, Reanne Townsend, Westat

Machell Town, William Garvin, Centers for Disease Control and Prevention

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Disclaimer

- › The findings and conclusions in this presentation are those of the authors and should not be construed to represent any official CDC determination or policy.

Behavioral Risk Factor Surveillance System (BRFSS)

- › Nation's premier system of health-related telephone surveys
- › Collects state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services
- › Since 2011, the BRFSS has been conducting both landline telephone- and cell phone-based surveys
 - Dual frames: landline and cell phone RDD
 - Computer-assisted Telephone Interviewing (CATI)

BRFSS (2)

› Declining response rates

- 2021 response rates range from 24% to 61% with a mean of 45% (CDC, 2022)
- Close to half of sampled cell phone numbers were not reached and had an unknown eligibility status (CDC, 2022)
 - “no answer,” “cell blocking,” “answering device” and so on

State	2021 RR	% eligibility unknown
TN	36.2	52.5
AZ	40.5	53.3
WA	41.7	54.6
WV	42.6	51.8
OK	45.4	42.5
WI	51.2	39.0

BRFSS (3)

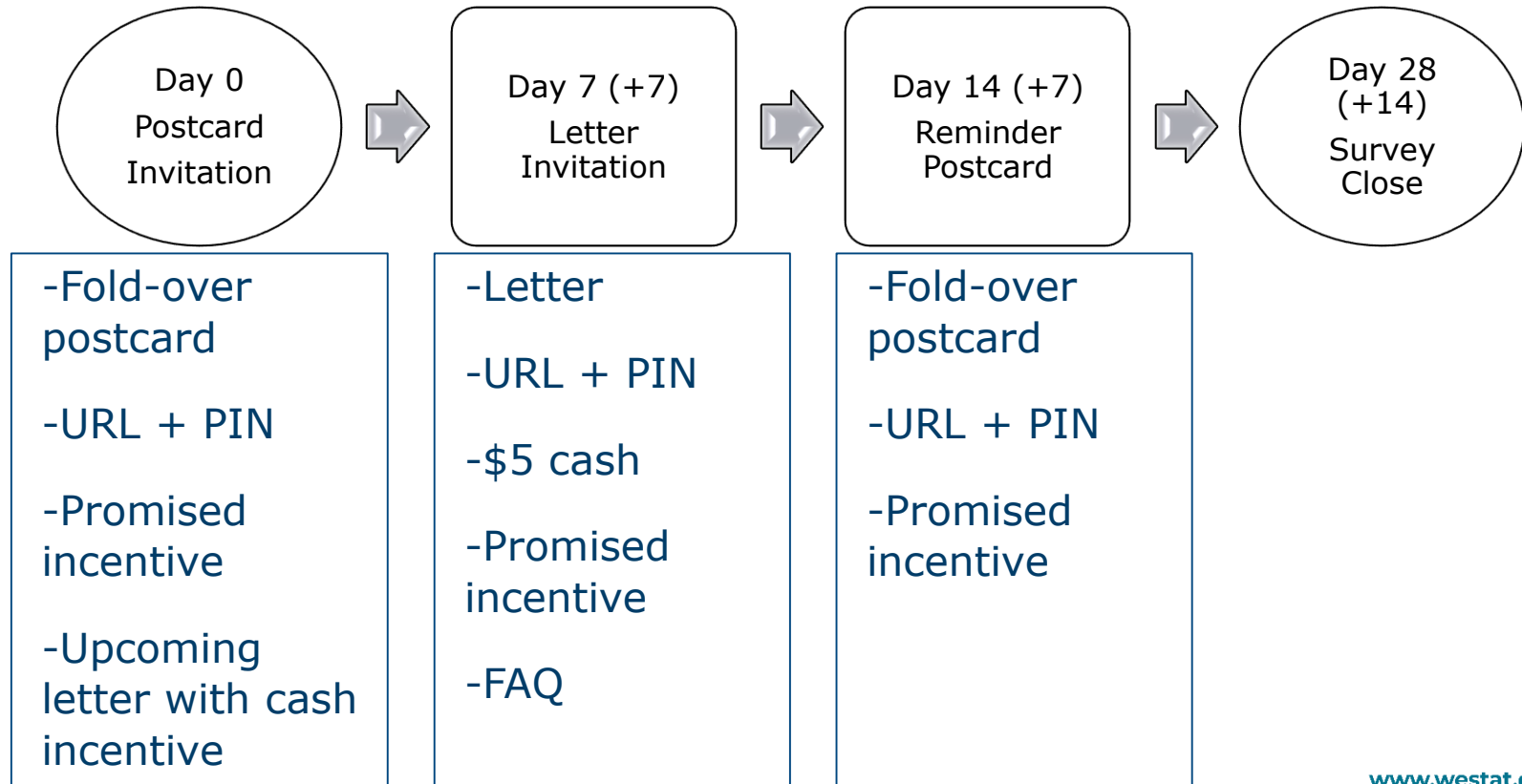
- A pilot study was conducted to test how feasible it was to invite cell phone numbers finalized as “no answer” to complete BRFSS online
 - Response rate
 - Address quality
 - Breakoffs

BRFSS Pilot Study

- › Sample for pilot
 - 4,651 cell phone numbers from six states that were part of the BRFSS cell phone samples and finalized as “No Answer”
 - All matched with an address by vendor
- › Invited to complete BRFSS online through a series of three mailings
- › Two experiments included to test impact of wording and framing on response rate
- › Data collection: October 24, 2022 to November 21, 2022

State	Sample Count
TN	500
AZ	1,069
WA	1,029
WV	478
OK	547
WI	1,028

BRFSS Pilot Study (2)



› 2*2 factorial experimental Design

- Incentive wording
 - **Gain:** “In addition to the cash gift, you will also get a \$10 Amazon.com Gift Card for completing the web survey.”
 - **Loss:** “If you choose to not complete the web survey you will lose the opportunity to receive an additional \$10 Amazon.com Gift Card.”
- Framing of survey request
 - **Appeal:** “Your participation in this study is important to ensure that people like you can be heard.”
 - **Loss:** “The information we gather will be less useful if we don’t hear from you.”

BRFSS Pilot Study (4)

> Web instrument verification

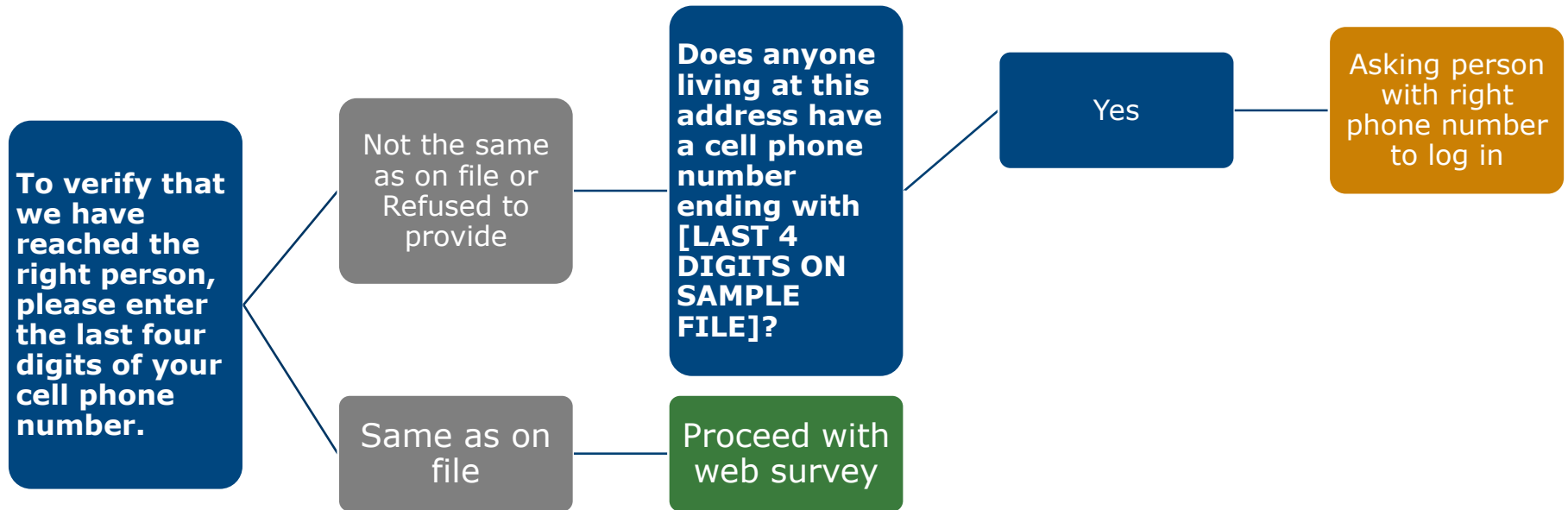
To verify that we have reached the right person, please enter the last four digits of your cell phone number.

Same as on file

Proceed with web survey

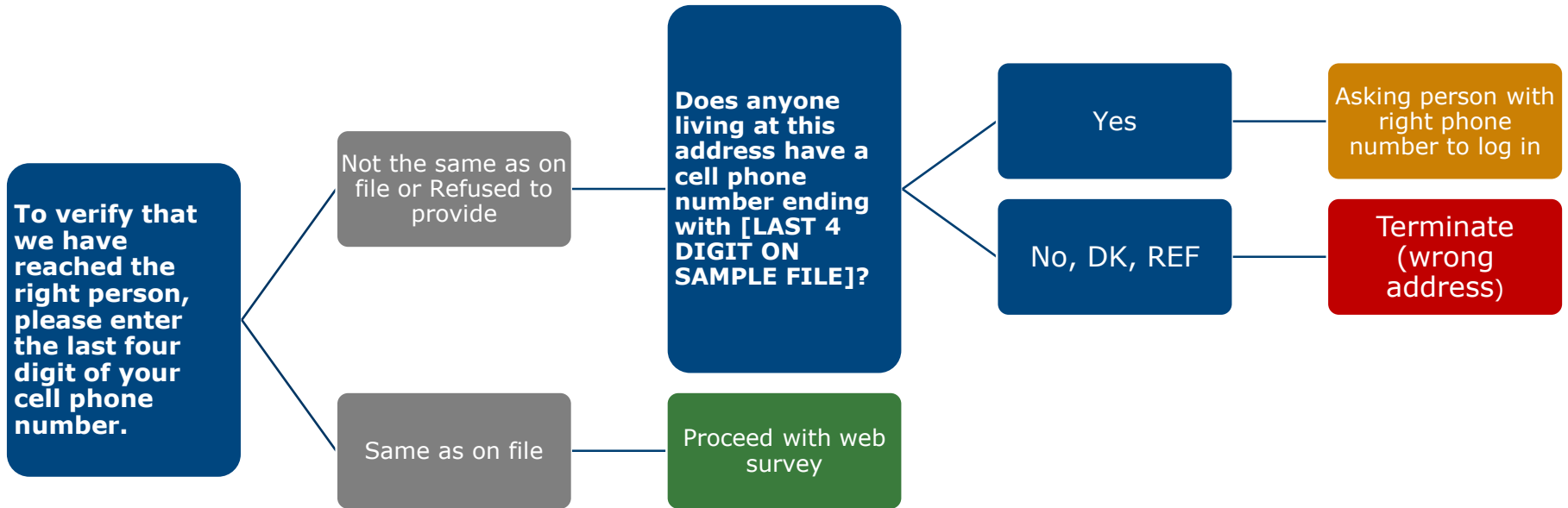
BRFSS Pilot Study (4)

> Web instrument verification



BRFSS Pilot Study (4)

> Web instrument verification

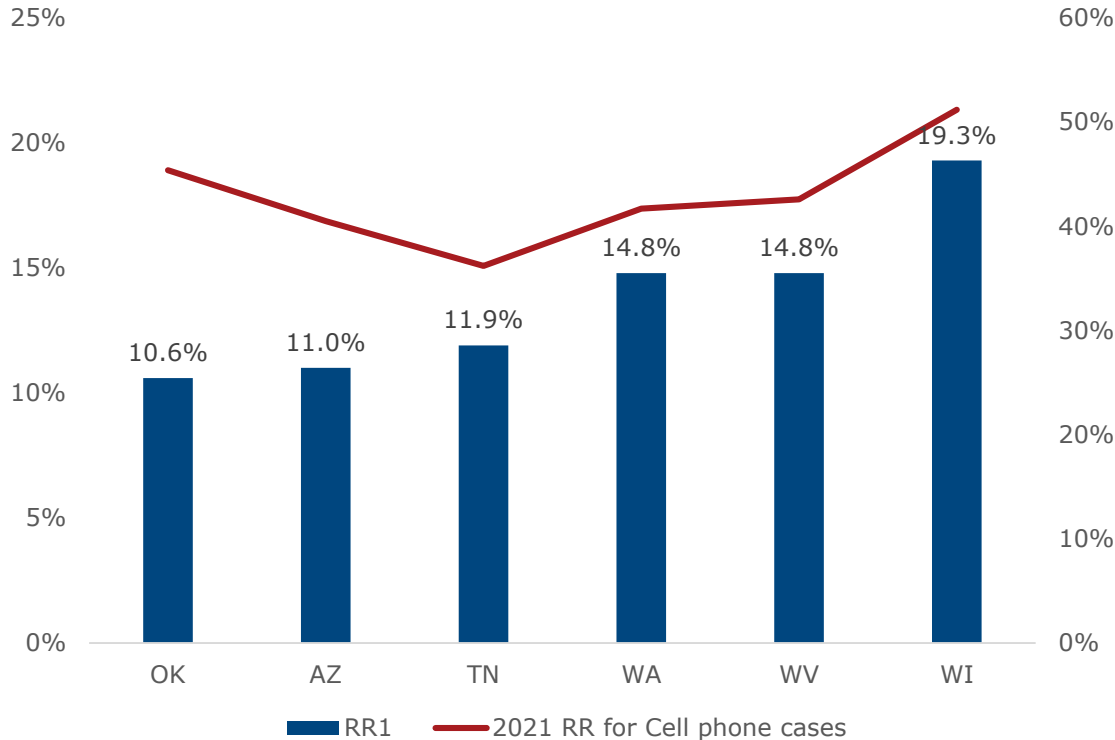


Result: Response Rate

Response Status and Overall Response Rate

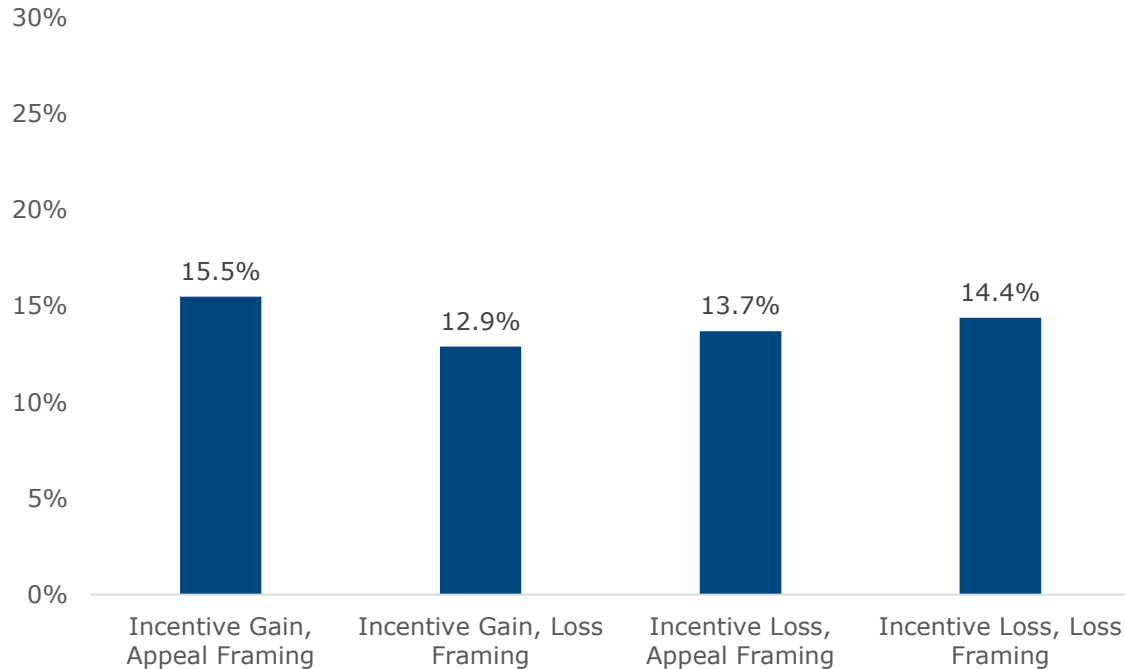
Status	Number of addresses (%)		Response Rate (RR1)
Completes	602	(13%)	14.1%
Nonresponse	3,661	(79%)	
Ineligible: Wrong address	265	(6%)	
Ineligible: Postal Undeliverable	123	(3%)	
Total	4,659		

Response Rate by State



- WI highest RR to web survey (also highest 2021 cell phone RR)
- WI's RR sig. higher than TN, AZ, and OK
- OK lowest RR to web survey

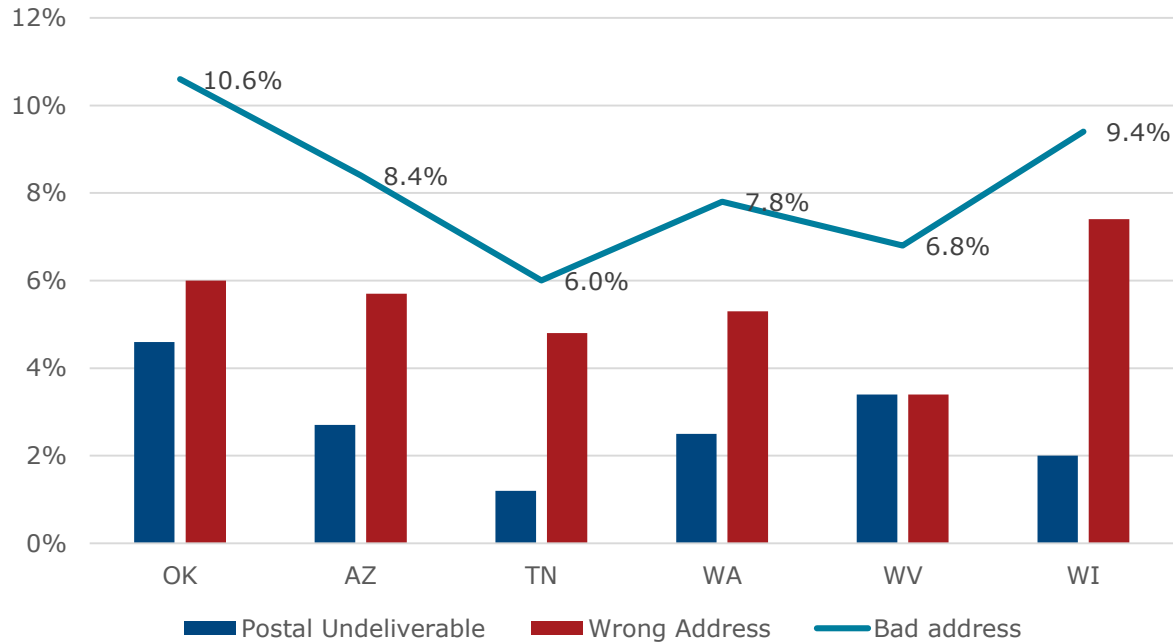
Response Rate by Experimental Conditions



- › RR did not differ by incentive wording
- › RR did not differ by framing of survey request
- › Highest RR for “gain” incentive wording and “appeal” framing
- › Lowest RR for “gain” incentive wording and “loss” framing

Result: Address Quality

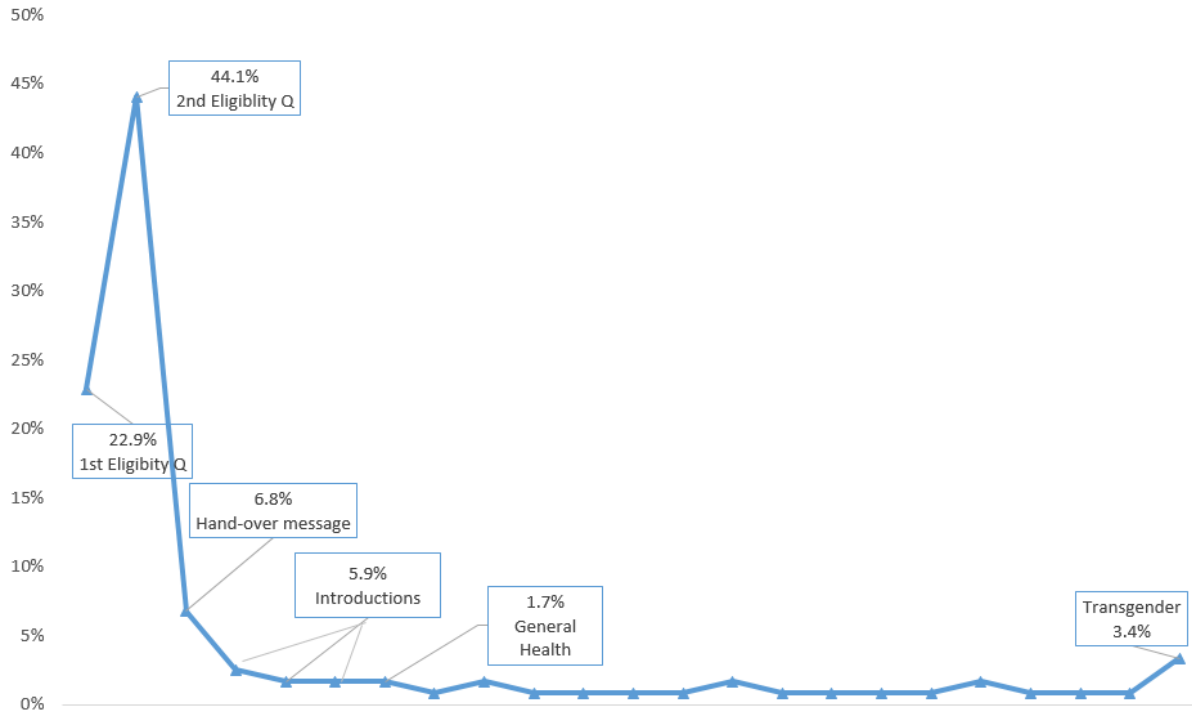
Bad Addresses by State



- › States vary in percent of postal undeliverables and wrong addresses matched to cell phone number
- › OK has the most bad addresses (and lowest RR)

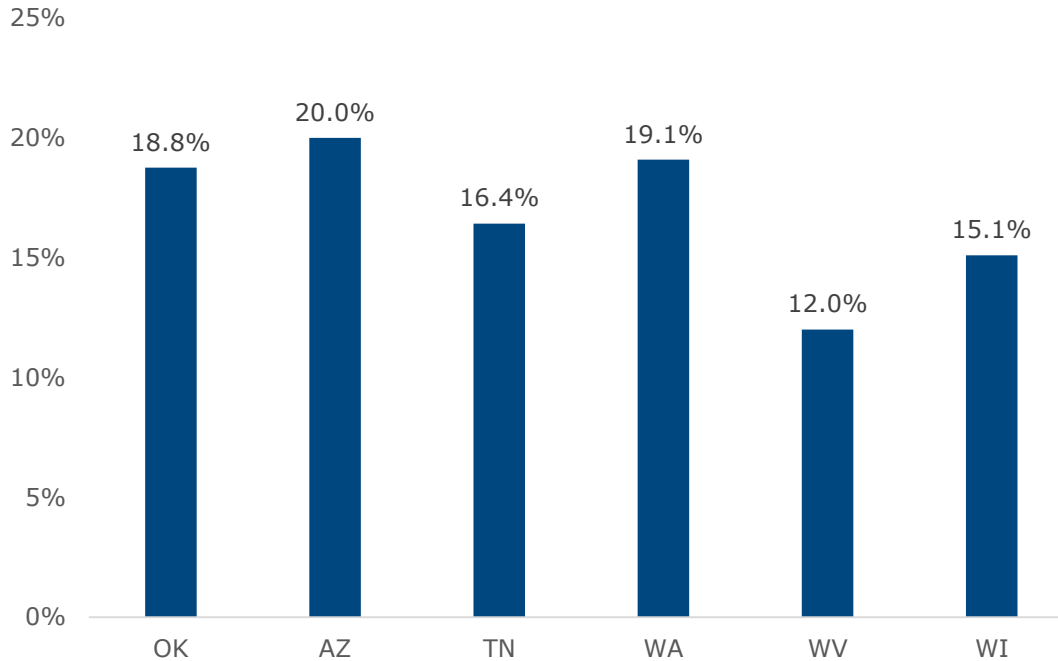
Result: Breakoffs

Overall Breakoff



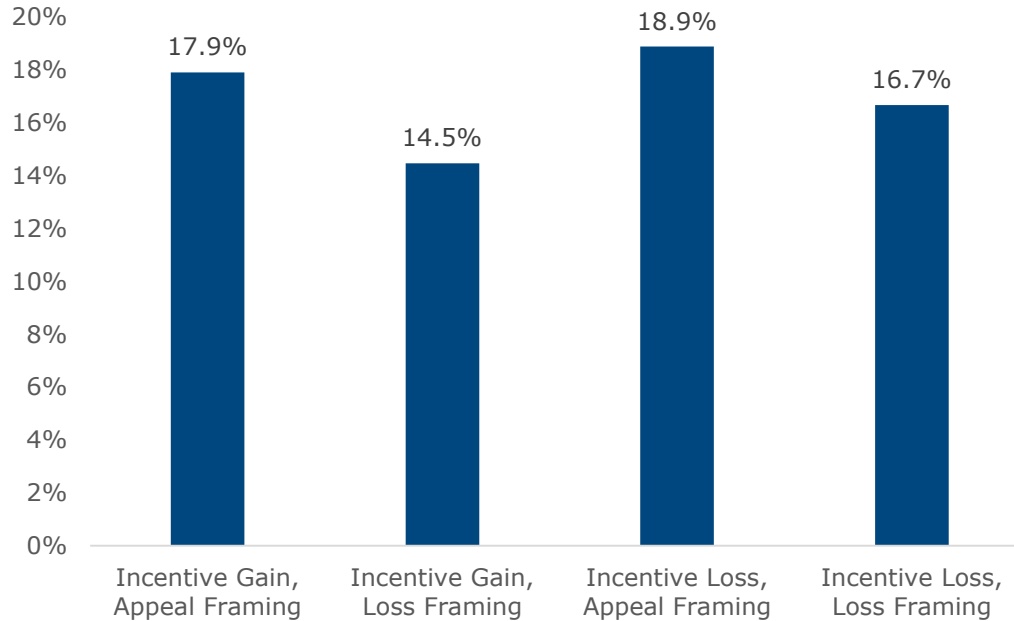
- Among 726 starting the web survey, 124 didn't complete it, a breakoff rate of 17.1%
- Close to 75% of breakoffs occurred at verification stage
- Excluding them leads to a breakoff rate of 5%

Breakoff Rate by State



- WV has the lowest breakoff rate, followed by WI
 - WV and WI also have highest and second highest response rate
- AZ and OK higher breakoff rate, lower response rate

Breakoff Rate by Experimental Conditions



› Breakoff rate did not differ by experimental conditions

Conclusions

- › It is feasible to invite “No Answer” cell phone numbers to complete BRFSS online
 - Overall RR of 14% with three mailings
 - Breakoff rate of 5% if not counting breakoffs at verification stage
- › Close to 10% of matched addresses are not useful
- › Wording of incentive as gain vs. loss did not affect response rate and breakoff rate
- › Framing of survey request as appeal vs. loss did not affect response rate and breakoff rate
- › States vary in response rate and address quality

- › A multimode design for cellphone samples
 - “No Answer” is among the unknown eligibility category, which is about half of sampled phone numbers
 - It is viable to use matched addresses to invite them to a different mode
- › Research needed on how to verify cell phone numbers without incurring breakoffs
- › Continued research on how to improve response rate

Thank You

tingyan@Westat.com