

Differences in Early and Late Respondents: Comparing RDD and ABS Telephone Designs

1. Introduction/State of Literature

- Studies comparing early/late respondents find mixed evidence for differences in both demographic and substantive survey estimates
- Important to note that the evidence is mixed
- Demographic
- Late respondents more likely younger or older depending on the study, nonwhite, male, less educated, less likely to be married currently (Voigt et al., 2003)
- Health
- Late respondents tend to have poorer health behaviors and health outcomes such as
- higher alcohol consumption (Novo et al., 1999);
- greater likelihood of being a smoker (Voigt et al., 2003; Paganini-Hill et al., 1993);
- worse self-reported health (mental, emotional, and physical) (Grotzinger et al., 1994; Etter & Perneger, 1997);
- lower likelihood of reporting some forms of health care utilization (Etter & Perneger, 1997); and
- greater likelihood of having history of diabetes (Voigt et al., 2003; Paganini-Hill et al., 1993)
- Most studies on early vs. late respondents have used mail or RDD administration
- Differences between early and late responders in two-stage ABS survey designs have not been examined

2. Study Background

AF4Q Background

- The Aligning Forces for Quality (AF4Q) initiative is a key effort by the Robert Wood Johnson Foundation to
- Increase the overall quality of health care in targeted communities
- Reduce racial and ethnic disparities
- Provide models of national reform.
- The AF4Q Consumer Surveys are designed to evaluate the initiative by
- Interviewing chronically ill consumers of health care
- Interviewing them in targeted geographic markets Ranging in size from single counties to entire states
- Including a national comparison sample.
- The AF4Q evaluation team is led by Penn State University's Center for Health Care and Policy Research (CHCPR).
- Previous rounds of the AF4Q surveys used either landline only or dual-frame (landline and wireless) RDD designs.

3. AF4Q Methodology — Past

- RDD designs
- Low incidence in chronic conditions contributed to a large, expensive level of effort (this was expected).
- Screening
- Contacting
- Pinpointing cell numbers to small geographic areas was a critical issue. Introducing cell phones in a dual frame design exacerbated the problem.
- Inefficient
- Undercoverage

4. AF4Q Methodology—Present

- A wave of the study with only three markets Known sample addresses
- Better geographic accuracy Greater uniformity in coverage for advance materials (letters, etc.)
- Increased efficiencies for sampling and weighting
- Phone number matching
- Allows immediate outbound computer-assisted telephone interview (CATI) calls to a proportion of the sample
- Multistage effort for "unmatched" cases
- Letter and short household information screener
- Postcard reminders Reminder packets

5. Data/Measures for Analyses

- Chronic conditions
- Self-reported health status
- Gender
- Employment status
- # people in household
- Age 65+
- Non-Hispanic White
- Education
- Early/late respondent
- Matched
- Early: 1–5 calls

6. Results

	ABS Unm	natched Sa	mple			
Screener Outcome (%)	Early		Middle		Late	
Diabetes	5.8	(2.7)	5.5	(1.6)	8.8	(2.3)
Hypertension	9.3	(3.2)	18.2	(3.3)	13.8	(2.3)
Heart disease	0.5	(0.5)	3.0	(1.3)	2.9	(1.2)
Asthma	21.1	(10.9)	10.0	(2.5)	10.0	(2.5)
Depression	26.8	(7.7) ^c	15.9	(3.6)	11.1	(2.3) ^a
Eligibility	49.5	(10.2)	35.1	(4.5)	31.9	(3.9)
Rated their health as fair or poor	35.7	(9.7) ^c	20.7	(3.7)	14.8	(2.7) ^a
Male	36.6	(8.8) ^c	47.2	(5.0)	58.2	(4.4) ^a
Employed	64.5	(8.5)	68.4	(4.5)	73.4	(3.6)
One person households	17.0	(4.6)	19.9	(3.4)	20.4	(3.1)
Aged 65+	3.5	(1.2) ^{b,c}	7.9	(1.7) ^a	8.3	(1.7) ^a
Non-Hispanic White	46.7	(10.0) ^c	64.3	(4.4)	68.0	(3.9) ^a
Married	31.9	(8.5)	33.5	(4.7)	44.0	(4.6)
College education	30.0	(7.5) ^{b,c}	52.3	(5.0) ^a	49.6	(4.5) ^a
¹ In the unmatched sample, response tin response tine is defined based on the n	ne is define umber of o	d based on t utbound calls	he number o s.	of mailings. I	n the matcl	ned sample,
Reported estimates are percentages, an	d standard	errors are in	parenthese	S.		
Contrasts within sample type that are sig	gnficant at t	the alpha=0.0	05 level are	represented	with super	scripts

(a=early, b=middle, c=late).

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6. Results (continued)

ABS Matched Sample											
Diabetes	11.4	(1.5)	11.1	(2.5)	14.1	(2.3)					
Hypertension	24.8	(2.7)	20.3	(3.2)	28.9	(3.0)					
Heart disease	6.4	(1.1)	6.1	(1.8)	7.6	(1.7)					
Asthma	6.3	(1.1)	5.0	(1.6)	9.1	(3.0)					
Depression	9.0	(1.4)	15.7	(3.7)	12.9	(2.3)					
Eligibility	36.1	(2.9) ^c	36.1	(5.0)	47.2	(3.9) ^a					
Rated their health as fair or poor	21.6	(2.7)	19.9	(3.7)	17.8	(2.9)					
Male	45.1	(3.2)	43.5	(6.2)	45.9	(4.0)					
Employed	50.6	(3.2) ^b	72.4	(4.2) ^{a,c}	58.6	(3.9) ^b					
One person households	12.6	(1.2)	9.0	(1.7)	13.5	(1.7)					
Aged 65+	26.5	(2.2) ^{b,c}	14.1	(2.4) ^a	18.7	(2.3) ^a					
Non-Hispanic White	73.7	(2.8)	67.7	(4.9)	66.1	(3.3)					
Married	53.7	(3.2)	50.6	(6.0)	56.9	(3.9)					
College education	30.6	(2.4)	38.7	(5.2)	36.1	(3.5)					

6. Results (continued)

Unmatched Matched 20% 10% Middle

Rates of Chronic Conditions by Late/Early Respondent Type for Matched Cases Respondents



AF4Q Screener Estimates by Sample Type and Response Time¹

Middle: 6–10 calls

Late: 11+ calls

Early: 1 mailing

(invitation packet)

Middle: 2 mailings

Late: 3 mailings

final reminder

(invitation packet +

reminder postcard)

(invitation packet +

reminder postcard +

Unmatched

Eligibility Rates for Unmatched and Matched Sample by Timing of Response

6. Results (continued)

Rates of Chronic Conditions by Late/Early Respondent Type for **Unmatched** Cases



Rates of Respondents Self-Rated Health as Fair or Poor by Matched/ Unmatched Status



Percentage of Respondents Age 65 or Older by Matched/Unmatched Status



6. Eligibility Rates

- Eligibility patterns differed by sample type: Unmatched sample: Eligibility was highest among the earliest responders.
- Matched sample: Eligibility was highest among the latest responders.
- What are potential explanations for these different patterns?
- Unmatched sample members with health conditions relevant to the study's eligibility criteria, who were generally younger, could have been more motivated to respond relatively sooner.
- Matched sample members with health conditions relevant to eligibility appeared, who were generally older, were more difficult to reach via outbound phone calls.

6. Chronic Health Conditions

- Only one significantly different prevalence rate for chronic health conditions was found between early and late responders within a sample type:
- The prevalence rate for depression was significantly greater among the early responders versus the late responders for the unmatched sample
- No other significant differences in chronic health conditions were observed between early or late responders within sample types.
- More significant differences in prevalence rates for chronic health conditions were found across sample types based on response timing: Hypertension rates differed between the unmatched and matched
- sample for both the early and late responder groups.
- Heart disease rates differed between the unmatched and matched sample for both the early and late responder groups.

6. Overall Health

- Only one significant difference in overall health status was found between early and late responders within a sample type:
- The proportion of respondents reporting "poor" or "fair" overall health was significantly higher among the early responders versus the late responders for the unmatched sample.
- No other significant differences in overall health status were observed between early or late responders within sample types.
- No significant differences in the proportions of respondents with "poor" or "fair" overall health were observed across sample types based on response timing.

6. Age Differences

- Differences in the proportions of respondents who were aged 65 or older were observed between early and late responders within both sample types, but with opposite patterns:
- Unmatched sample: The proportion of respondents aged 65 or older was significantly **lower** among the early responders than among middle and late responders.
- Matched sample: The proportion of respondents aged 65 or older was significantly greater among the early responders than among middle and late responders.

6. Age Differences (continued)

- The proportions of respondents who were aged 65 or older also differed significantly <u>across</u> sample types:
- The proportion of respondents aged 65 or older was significantly **<u>greater</u>** in the matched sample for all response timing groups.

7. Conclusions

- Differences in eligibility rates and demographics based on timing of response indicate additional mailing/call efforts likely limited the nonresponse bias potential.
- Ex: Among matched cases, eligibility rates increased from early and middle responders to *late* responders.
- Different patterns in chronic health conditions and demographics between the **unmatched and matched samples** support the need to adequately represent both sample types to avoid coverage bias.
- Ex: Among unmatched cases, a lower proportion of respondents were aged 65 or older and lower proportions of respondents reported having hypertension or a heart condition.

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More Information

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