Mode effects on cigarette smoking estimates: Comparing CAPI and CATI responders in the 2001/02 Current Population Survey

Daniel A. Gundersen, MA[1]
Cristine D. Delnevo, PhD, MPH[1]
Dana C. Momperousse, MPH[2]

[1]Department of Health Education and Behavioral Sciences
School of Public Health
University of Medicine & Dentistry of New Jersey

[2]Global Outcomes Research, Pfizer, Inc.

Introduction

- Declining response rates a problem for survey research
- Mixed mode surveys can facilitate response rates
  - Two or more modes of data collection
  - Can reach people who would not respond to other modes
  - Can provide less costly way for collecting data

Introduction (cont'd)

- Different modes can provide different participatory experiences
  - e.g. self-administered surveys provide greater perceived anonymity than interviewer administered
  - May affect likelihood of providing socially desirable responses
- Need to evaluate how the use of several modes may affect estimates of health outcomes and behaviors

Existing Literature

- Mail vs. Telephone:
  - Mail Respondents
    - Higher overall prevalence of drinking[1]
    - Higher overall prevalence of binge drinking[1]
    - More likely to report recent alcohol use[2]
    - More likely to report recent binge drinking[2]
    - More likely to report illicit drug use in the last year[2]

[1]Gmel (2000)

[2]Beebe et al. (2000)

Existing Literature – Cigarette Smoking

- Computer vs. Paper and Pencil (Youth)[1]
  - Computer respondents more likely to report smoking whole cigarettes before age 13
  - No mode effect on:
    - Lifetime or current cigarette use, quit attempts, or purchased cigarettes in store/gas station
- CAPI vs. CATI Responders[2]
  - Randomized participants to CATI or CAPI from list of telephone numbers
  - No overall mode effect
  - White respondents 12-29 years less likely to report smoking in CATI compared to CAPI

[1]Brener et al. (2006)

[2]St-Pierre & Beland (2004)

Our Objective

- Explore in-person vs. telephone mode effects in nationally representative data

Methods

- Tobacco Use Supplement of 2001/02 Current Population Survey (TUS-CPS)
  - Pooled data from June, November 2001; February 2002
  - Self-reported data from adults (18+)
- Area probability sample
- Rotating Sample
  - In sample 4 months, out 8 months, in 4 months
  - 1st and 5th month-in-sample interviewed in person
  - 2nd thru 4th and 6th thru 8th month-in-sample interviewed by telephone
    - 1995 estimated about 15% self select to be in-person

Methods

- Mixed Mode: Face-to-Face and Telephone
  - N=184,559
    - In-person = 34.5% (63,675)
    - Telephone = 65.5% (120,884)
- Response Rates:
  - June 2001: 61.2%
  - November 2001: 64.8%
  - February 2002: 66.1%
- Data weighted with self-response weights

Smoking Prevalence - Crude Differences

	In-Person	95%CI	Telephone	95%CI
Gender				
Male*	26.2%	0.7	21.7%	0.5
Female*	20.7%	0.5	17.7%	0.3
Age				
18-24*	28.5%	1.4	23.8%	1.0
25-44*	26.5%	0.7	22.5%	0.5
45-64*	24.1%	0.6	19.9%	0.5
65+*	9.6%	0.6	8.8%	0.5
Race				
White*	25.0%	0.5	20.7%	0.4
Black*	24.1%	1.3	18.5%	0.9
Asian	13.2%	1.6	11.5%	1.1
Hispanic*	17.0%	1.1	14.4%	1.0
Other	34.1%	5.8	30.8%	4.2
Education				
<HS*	28.1%	1.1	23.8%	0.8
HS/GED*	28.4%	0.7	25.6%	0.5
Some College*	24.1%	0.9	20.5%	0.5
College Degree*	10.8%	0.6	9.9%	0.4
Total*	**23.4%**	**0.5**	**19.6%**	**0.3**
*p<.05				

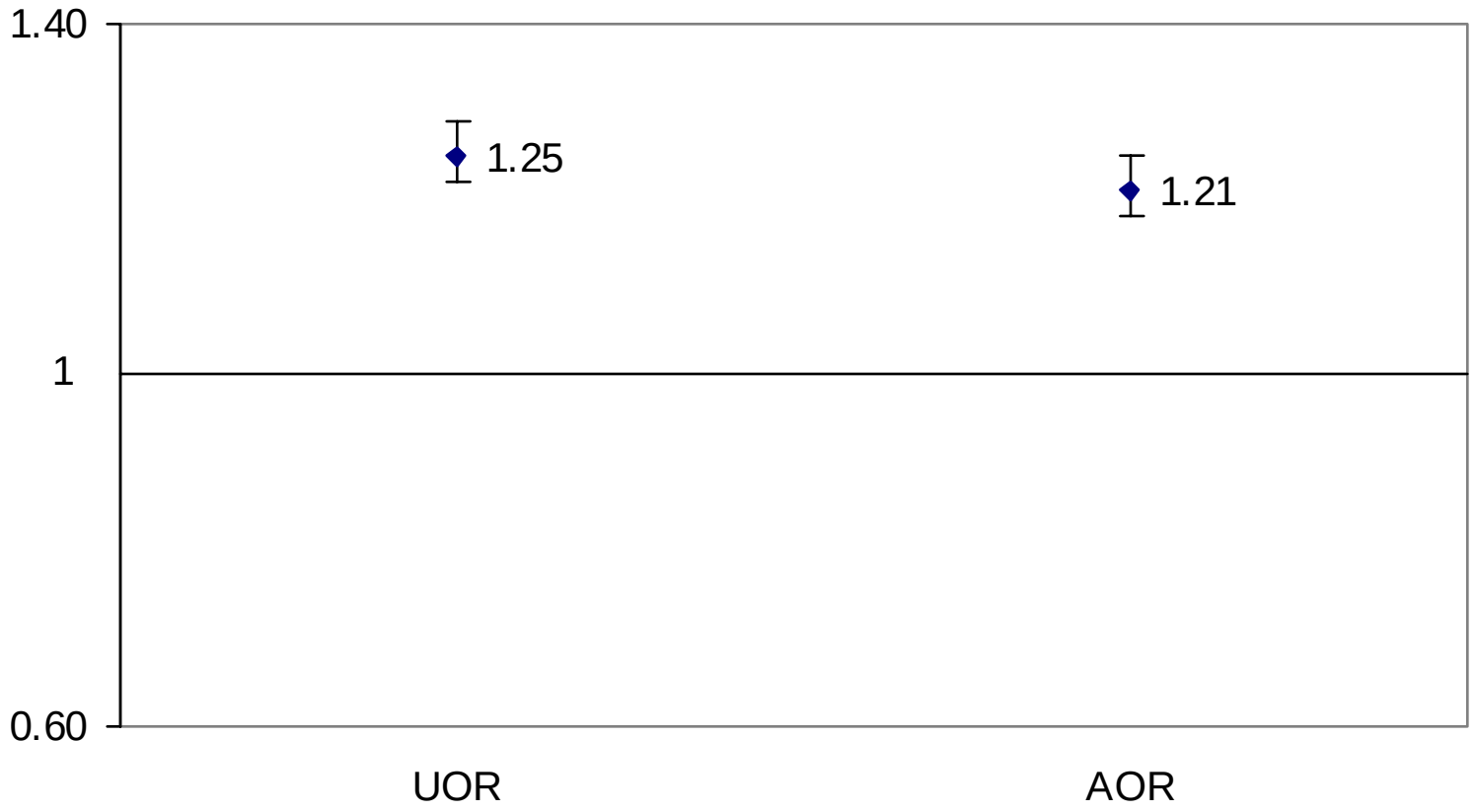
Demographics by Mode

	In-Person	Telephone
Gender*		
Male	48.8%	47.8%
Female	51.2%	52.2%
Age*		
18-24	14.6%	12.0%
25-44	40.7%	39.8%
45-64	28.8%	32.1%
65+	15.9%	16.2%
Race*		
White	66.2%	75.9%
Black	14.6%	10.2%
Asian	4.0%	3.8%
Hispanic	14.2%	9.3%
Other	1.0%	0.8%
Education*		
<HS	24.6%	18.5%
HS/GED	30.5%	29.0%
Some College	24.2%	26.6%
College Degree	20.7%	25.9%
*CHISQ p<.05		

Adjusted Odds of Smoking

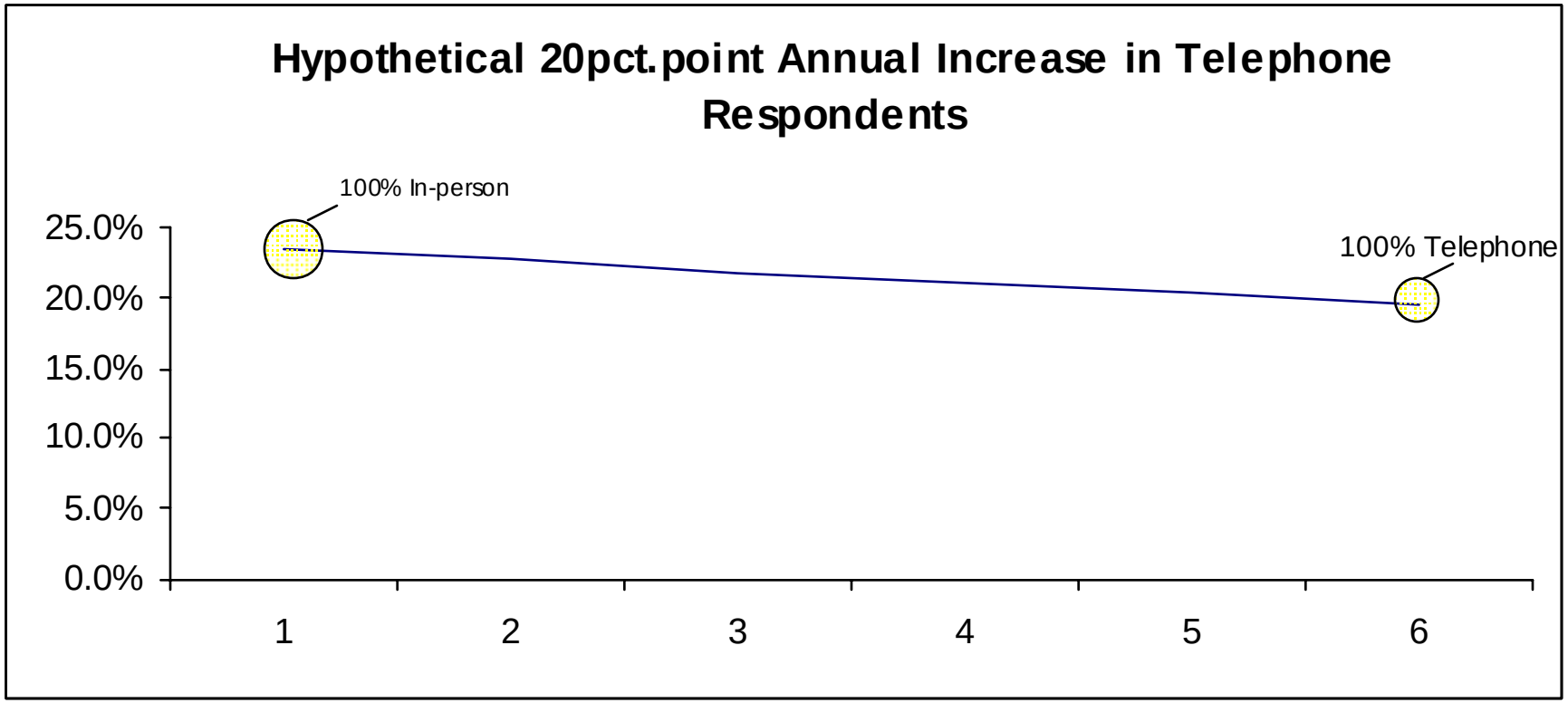
	Odds of Smoking	95%CI
Mode		
In-person	1.21	1.18, 1.25
Telephone	Referent	--
Gender		
Male	1.32	1.28, 1.35
Female	Referent	--
Age		
18-24	Referent	--
25-44	1.16	1.10, 1.21
45-64	0.90	0.86, 0.95
65+	0.26	0.24, 0.27
Race		
White	Referent	--
Black	0.71	0.67, 0.74
Asian	0.52	0.47, 0.57
Hispanic	0.40	0.37, 0.42
Other	1.27	1.05, 1.52
Education		
<HS	4.79	4.50, 5.11
HS/GED	3.73	3.57, 3.90
Some College	2.59	2.47, 2.72
College Degree	Referent	--

Crude and Adjusted Odds of Cigarette Smoking by Survey Mode



Note: Telephone is referent group; AOR adjusts for gender, age, race, education

Hypothetical Effect of Increasing Telephone Respondents in Sample (assumes no real behavior change)



Conclusion

- Results suggest an overall mode effect for self-reported smoking among adults
- Need for analyzing mode effects for subgroups
- Continuous need to analyze effects for various mode combinations and health behaviors

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