



Supplementing Address-Based Sampling Frames with Physical Addresses of Housing Units with Unlocatable Mailing Addresses

Bonnie Shook-Sa and Doug Currivan
2011 AAPOR Conference
Phoenix, AZ
May 12, 2011

Acknowledgement

- This project is funded by the Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, under Contract no. 283-2004-00022 and Project no. 0209009
- The views expressed in this presentation do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government
- This presentation is sponsored by RTI International's Statistics and Epidemiology Division

Overview

1. Sources of undercoverage for in-person Address-Based Sampling (ABS) surveys
2. Commercial database supplementation
3. Study overview
4. Results
5. Conclusions
6. Future research

ABS Coverage for In-Person Household Surveys

- ABS frame derived from USPS Computerized Delivery Sequence (CDS) File
- For in-person household surveys, frame restricted to *locatable* residential mailing addresses allocated to sampled area segments
- Primary sources of undercoverage are unlocatable mailing addresses and geocoding error

Primary Sources of Undercoverage

- Unlocatable Mailing Addresses
 - “Only Way to Get Mail” Post Office Boxes (e.g. PO Box 100, Eleanor, WV 25070)
 - Rural Route Boxes (e.g. RR3 Box 2, Eleanor, WV 25070)
 - Highway Contract Boxes (e.g. HC2 Box 14, Eleanor, WV 25070)
 - Simplified Addresses (e.g. John Smith, Eleanor, WV 25070)
- Geocoding Error
 - Addresses allocated to the wrong area segments
 - Error decreases for larger area segments
 - More problematic in rural areas

Prevalence of Unlocatable Mailing Addresses in the United States

Address Type	Count ¹	Percent
Locatable	122,291,026	98.5%
Unlocatable	1,867,373	1.5%
“Only Way To Get Mail” Post Office Boxes	1,499,175	1.2%
Rural Route Boxes	222,673	0.2%
Highway Contract Boxes	112,826	0.1%
Simplified Addresses	32,699	0.0%
Total	124,158,399	100.0%

¹ Count of residential addresses from the January 2011 Valassis Lists file

Prevalence of Unlocatable Mailing Addresses in the United States by Urban/Rural¹

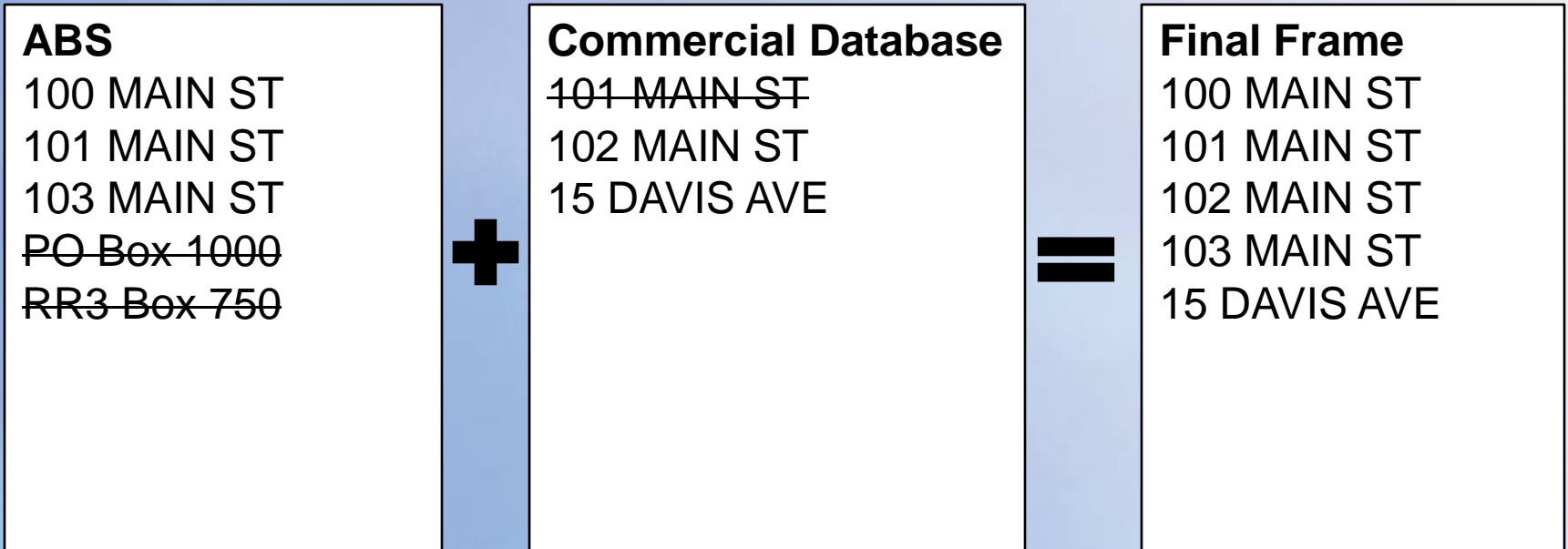
Address Type	Overall	Rural	Urban
Locatable	98.5	94.1	99.2
Unlocatable	1.5	5.9	0.8
Total	100.0	100.0	100.0

¹ Distribution of residential addresses from the January 2011 Valassis Lists file.

Commercial Database Addresses

- Sources include white pages, credit reports, vehicle registration records, and hundreds of other sources
- Contain a mixture of mailing addresses and physical addresses
- With E-911 conversion, growing number of households with unlocatable mailing addresses have physical addresses
- Example: PO Box 100, Eleanor WV 25070 - mailing address
100 Main St., Eleanor WV 25070 - physical address
- Addresses allocated to census geography

Commercial Database Addresses Supplementation



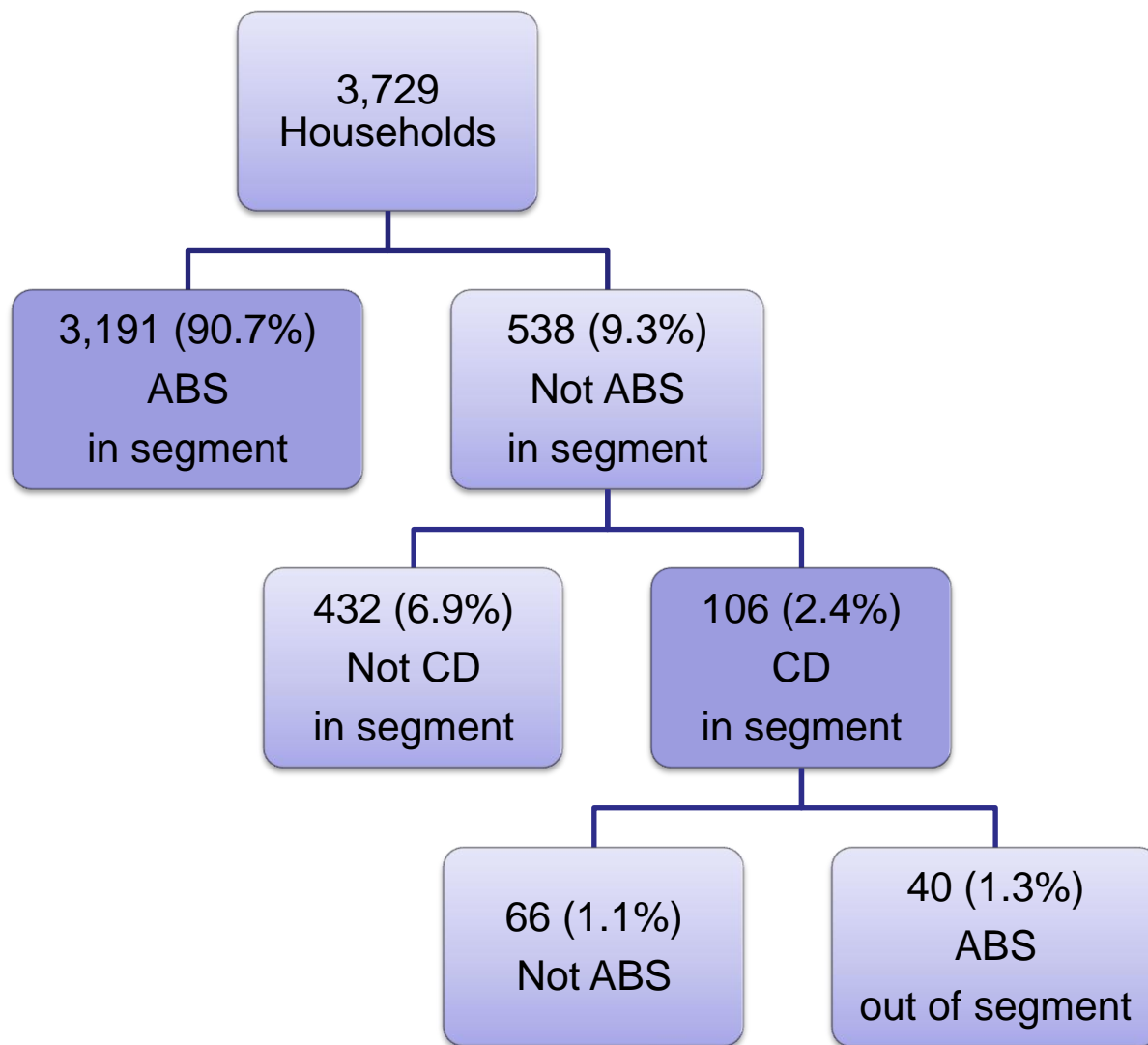
Study Background

- The National Survey on Drug Use and Health (NSDUH) provides national, state and substate data on substance use and mental health in the civilian, noninstitutionalized population age 12 and older.
- Conducted by RTI under contract with SAMHSA.
- Data are collected on a quarterly basis each year.
- Approximately 700 Field Interviewers (FIs) staffed.
- Approximately 140,000 household screenings and 67,500 interviews completed annually.

2009 NSDUH Field Study

- Sampled 200 segments from the 2009 NSDUH
- Purchased ABS list for Census Block Groups associated with 200 segments
- Matched 3,729 screened and eligible housing units from NSDUH Field Enumerated (FE) frame to the ABS frame
- Followed up non-matches via phone and field verifications to resolve as many addresses as possible
- Sent remaining non-matching addresses to Marketing Systems Group to match to commercial database (CD)

2009 NSDUH Field Study Results



ABS and Commercial Database Coverage of the US Household Population¹

Frame Source	Overall		Rural Segments		Urban Segments	
	Coverage	Lower 95% CI	Coverage	Lower 95% CI	Coverage	Lower 95% CI
ABS	90.7	82.2	72.3	59.9	95.6	85.3
Commercial Database	2.4	1.3	7.6	2.9	1.0	0.5
Total	93.0	91.3	79.9	75.1	96.5	95.0

¹ Excludes Alaska and Hawaii

Conclusions

Commercial database supplementation:

- improves ABS coverage for in-person surveys, especially in rural areas
- reduces reliance on more costly field supplementation procedures

Future Research

- Estimate the number of physical addresses associated with unlocatable mailing addresses contained on commercial databases
- Explore targeting only areas known to contain unlocatable mailing addresses for commercial database supplementation
- Examine potential for increasing the coverage of ABS phone surveys using commercial databases

Contact

Bonnie Shook-Sa
Research Statistician
RTI International
bshooksa@rti.org