

Telephone Surveys and Alternative Modes

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January 13, 2009

Outline

- **Dual frame telephone designs phone**
 - Screener and overlap designs
 - Weighting issues
 - Within-household sampling
- **Alternative designs**
 - Mail surveys
 - Web surveys
 - Multiple mode surveys

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Sampling Households

- **Design decision – to screen or not screen?**
 - **Overlap design – Households with landlines & cell phones sampled from both frames**
 - **Screening design – Households in overlap are only sampled from one frame**
 - **Screen out all but cell-only households if sampled from the cell frame**
 - **Screen out all but cell-only and cell-mainly if sampled from the cell frame**

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Examples - Full and Screening Designs

- **Overlap sample designs**
 - **Earliest samples: Steeh, Fleeman, Brick et al.**
 - **More recent examples: Keeter et al., Link et al., Gallup Poll, Washington Post-ABC News Poll**
- **Screening samples**
 - **Brick, Edwards, & Lee**
 - **Fleeman**

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Choice: Overlap or Screening Design

- **Cost per complete is lower with overlap design (doesn't exclude households from cell sample)**
- **Differential nonresponse rates from overlap households may bias estimates**

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The Nonresponse Problem

- **Percent of households with only a cell phone are overestimated from cell phone frame**
 - **Estimates of cell-only households are often twice the expected percentage**
 - **Brick et al. suggested this was due to low contact rates in households that have, but rarely use, their cell phone**

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The Nonresponse Problem

- **Households with both cells and landlines – ratio of CHIS to NHIS West estimates.**

Of all calls, how many on cell?	Landline sample to NHIS	Cell sample to NHIS
All or almost all	96%	138%
Some on both	84%	98%
Very few or none	138%	73%

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Nonresponse Bias

- **Potential for biased estimates since cell samples over-represent cell-only and cell-mainly**
- **Size of bias depends on the differences in characteristics between frequent and non-frequent cell users**
 - Kennedy show little relationship for some characteristics
 - Keeter (2008) shows some differences

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Weighting Overlap Samples

- **Choice of estimator – averaging estimates of overlap may be best choice**
 - Verify estimated overlap population sizes similar
 - Examine potential bias by usage
- **Poststratification to cell or cell-only totals is insufficient; need to control for usage**
 - This is difficult with local samples

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Weighting Screening Samples

- **May control differential nonresponse more easily**
 - Situation similar to stratified srs weighting
 - More direct control of nonresponse bias
- **Poststratifying cell sample to cell-only or cell-only & cell-mainly may be adequate**
 - Still difficult with local samples

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NHIS Telephone Usage Items

Of all the telephone calls that your family receives, are ...

- (1) All or almost all calls received on cell phones?**
- (2) Some received on cell phones and some on regular phones?**
- (3) Very few or none received on cell phones?**

- Extremely valuable source of reliable national data on telephone usage by phone type**

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Concerns About Telephone Usage

- Tucker et al. found respondents had problems with these items (e.g., lack of a reference period)**
- One issue is that respondents might be answering for themselves and not household.**
- This may be particularly true for cell-mainly.**

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One More Concern About Telephone Samples

- **Fahimi et al. (2008) examined the 1+ listed frame used for landline samples and found nearly 20% of landline numbers were not in the frame.**
- **If confirmed, then the landline RDD sample has an additional coverage worry.**

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Sampling Adults

- **Common approach is to interview adult who answers the (cell) telephone**
 - Tucker et al. found phone sharing even for cell-only
- **Some surveys have begun to explore sampling 1 adult per household**
 - Procedures thus far used in screening for cell-only sample designs

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Adult Sampling Procedure

- **When >1 adult in household, screener respondent (SR) asked if this cell phone was shared:**
 - If not shared then SR was selected.
 - If shared, then use standard (Rizzo) method.

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- **When >1 adult in household, screener respondent (SR) asked if this cell phone is shared:**
 - If not shared then SR is selected.
 - If shared, then use standard (Rizzo) method.
- **Coverage loss if every adult in household does not have a cell phone when this cell is not shared.**

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CHIS Adult Response Rates

- **1 adult households** – **54%**
- **2 or more adults in household** – **65%**
 - Not shared – **68%**
 - Shared cells – **36%**
- SR sampled – **46%**
- Not SR sampled – **25%**

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Alternative Designs

- **Alternative designs**
 - Mail surveys
 - Web surveys
 - Multiple mode surveys
- **Availability of USPS-based sampling frame provides a new opportunity for these designs**

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Mail Designs

- **This “old” method is now more attractive**
 - Response rates are competitive
 - Coverage is relatively complete
 - Cost are lower
 - Validity may be improved with SAQ
- **But, there are still issues**
 - Responses are not as timely
 - Complex interviews are not possible
 - Sampling within household is limited
 - Literacy issues

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Web Designs

- **This “new” method has limited applications**
 - Response rates tend to be low
 - Coverage rates are generally low
 - No frame of general population available
- **But, in the right circumstances (list sample with email addresses)**
 - Costs are lower, responses are timely, complex interviews are possible
 - Validity may be improved with SAQ

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Multi-mode Designs

- **Approaches for household population.**
 - Use USPS sampling frame as first mode, with follow-up with telephone when available.
 - Two-stage approach with short screening interview by mail and follow-up by mail, telephone, Web modes.

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Multi-mode Strengths and Weaknesses

- **Strengths:**
 - Opportunity to increase response rates
 - Handles coverage problems
 - Can take advantage of each modes strengths
- **Weaknesses:**
 - Costs are almost always higher than single
 - Mode effects may bias estimates
 - Not as timely as telephone

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Multi-mode and Panels

- **Use initial mode with high coverage and response rates (f-t-f ?) and then ask them to participate in panel using Web**
- **Concerns involve getting initial high response rates and retaining members over multiple surveys (tend to have high attrition rates). Also concerns about changing population.**

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Telephone Design Choices

- **Telephone surveys still have a niche for timely and complicated interviews that are not as costly as face-to-face surveys.**
 - **Sampling cell phone numbers is important**
 - **Response rates are likely to be low**
 - **Costs are higher than in the past**

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Alternative Design Choices

- **Mail surveys are an attractive alternative provided interviews are not complicated, literacy not problematic, and costs need to be low.**
 - **Identification of sample members must be considered.**
 - **Two-stage designs might be appropriate for 'rare' populations of interest.**

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