



# ABS and Demographic Flags: Examining the Implications for Using Auxiliary Frame Information

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## A Case Study on Using Auxiliary Information

- How accurate will demographic flags be?
- Will they be helpful for improving efficiency in the field?
- Are there important differences between addresses that have demographic flags and those that do not?

# ExPECTT

## Evaluation of Public Education Campaign on Teen Tobacco

- Sponsored by the FDA Center for Tobacco Products
- Goal to gauge campaign awareness and examine relationships between campaign exposure and intent to start and current tobacco use.
- Target Population: Youths 11-16 in US households

*Disclaimer: case study research and conclusions are our own and do not represent the views of the FDA.*

## How do we make this work?

Process for adding auxiliary data to CDS for in-person survey:

1. USPS CDS file
2. Keep locatable addresses (no PO Boxes or simplified rural addresses)
3. Merged flags from commercial data to all addresses on frame
4. Select sample using flags

# How do we make this work?

## Process for ExPECTT:

1. USPS CDS file
2. Keep locatable addresses (no PO Boxes or simplified rural addresses)
3. Merged flags from commercial data to all addresses. Merged *composite flag* of youth ages 11-16 to addresses\*.
4. Select sample using flags.  
Select sample of addresses stratified by flag (3<sup>rd</sup> stage).

## Applying this to ExPECTT

1. Selected sample of 75 Designated Market Areas (DMAs).
2. Selected sample of Census Block Groups (CBGs) within DMAs.
3. Selected sample of addresses within CBGs stratifying by eligible youth flag.

DMAs and CBGs selected PPS.

**Goal:** Field sample of 45,000 addresses to obtain approximately 7,000 youth to be followed over four waves.

## Youth Ages 11-16 in Households

- Made a single composite flag from numerous flags in commercial database (e.g., age ranges, DOB flag).
  - Match rate for this flag ~5%
  - Flag is untested and needed to ensure complete population -> oversampled flagged addresses.
  - A lack of yes does not imply no
  
- All youths 11-16 in household were selected.
  
- Approximately 14% of HH have youth ages 11-16.
  - Match rate of 5% does not mean we have found 1/3 of the HH w youth 11-16

## ExPECTT fielded sample

- Differences in flagged and unflagged addresses
  - Flagged addresses more likely to be occupied (96.9% versus 91.4%)
  - Unflagged addresses more likely to complete screener (66.2% versus 78.4%)
    - May be due to issues contacting HH at a time when they are home; easier to determine that a household is ineligible.
  - Flagged addresses 3x more likely to be eligible households
    - Unflagged HH: maps to US HH population number, ~14%
    - Flagged HH: 3x US HH population , ~44.7%
  - Person completion rates (68.5% versus 74.9%)



## Efficiency gained in field data collection

- Eligible youth found per screened household
  - 5.8 HH screened to find one eligible youth in unflagged stratum
  - 1.6 HH screened to find one eligible youth in flagged stratum
- Two-thirds of completed interviews from flagged stratum

## How do we assess flag quality?

- Accuracy – correctly identified 68% of HH overall
- Sensitivity – 61% of *eligible* HH identified as such
- Specificity – 70% of *ineligible* HH identified as such
- Positive Likelihood Ratio – 2.0

## Bias Concerns

- Flag indicator not significant in nonresponse adjustment model
  - Neither alone or in combination with other variables
  - Used SUDAAN's WTADJUST

# Key Outcomes

Outcome	Flagged	Not Flagged
Ever smoked cigarettes*	7.8%	13.7%
Ever used smokeless tobacco	2.8%	2.6%
Ever smoked cigars*	4.2%	8.2%
Ever smoked hookah*	5.7%	8.6%
Ever smoked e-cigarettes	6.0%	9.0%
Composite tobacco use*	10.2%	15.4%

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Composite tobacco use*	10.2%	15.4%

## Conclusions

- Flags used successfully for targeting youths 11-16
- Gained significant efficiency in the field
- Did not introduce bias due to nonresponse
  - But youths from flagged addresses may differ in other ways
- Field experience that can inform the next design

## Future Work

1. Examine additional flags available on frame but not used (e.g., gender, race, ethnicity)
2. Examine HH level characteristics (e.g., income, education)
3. Create model-based flags (using survey data)

## More Information

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