Building a Hard-to-Reach Sample: Lessons Learned from the Evaluation of Fresh Empire

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We have no conflicts of interest to disclose.
Objective

- Describe approaches used to recruit a hard-to-reach sample to evaluate the *Fresh Empire* media campaign

- Discuss details of the study protocol including
  - Eligibility
  - Recruitment
  - Contact strategies
  - Incentives
  - Sampling approaches

- Provide response rates and retention rates as outcomes of these approaches
FDA has developed a series of public education campaigns to reach those at greater risk for tobacco use.

*Fresh Empire* is FDA’s campaign for Hip Hop youth, a hard-to-reach population.

Associates positive Hip Hop lifestyles with living tobacco-free.
Fresh Empire Evaluation Methods

Assess the impact of the *Fresh Empire* ad campaign by conducting surveys of youth

**Eligible youth:**
- Are 12-17 years old at time of recruitment
- Live within 30 geographic areas across the U.S.
- Identify with the Hip Hop peer crowd

Evaluation surveys took place across 6 waves of data collection, from June 2015 through August 2019

Completed more than 12,500 surveys throughout the study
~2,100 respondents each wave
Throughout the study, we employed various methods to recruit respondents from Fresh Empire’s target population.
Address-based sampling (ABS) Mail Screener

ABS
- ABS frame used to identify households likely to have eligible youth.

Screener
- Screeners mailed to households likely to have eligible youth.
- Youth returned completed screeners in prepaid envelope.

In-Home Survey
- Field interviewer visited home of eligible youth & obtained parental permission/youth assent.
- In-home interview conducted with youth on laptop.
- Incentive provided.
Social Media Recruitment

- **Social Media Ads**: Targeted ads placed on social media platforms (Facebook, Instagram, Twitter).*

- **Screener**: Youth who clicked on ads completed a screener. Parental permission & youth assent obtained for eligible youth.

- **Web Survey**: Eligible, consented youth completed web survey on personal device (e.g., laptop, mobile, tablet). Incentive provided.

*Twitter only at baseline, Instagram starting at Wave 2 to optimize cost and performance.
Building a Sample at Baseline - Outcomes

CAPI (In-Person)

- n = 213,576 households sent mail screener
- n = 12,928 screeners returned at close of data collection (6.1%)
- n = 2,221 eligible cases identified from returned screeners (17.2%)
- n = 2,010 CAPI survey completes
  - 15.5% returned screeners completed the survey;
  - 90.5% of eligible cases completed the survey

CAWI (Web)

- n = 7,941 web screener completes
- n = 519 eligible cases identified (6.5%)
- n = 184 CAWI survey completes
  - 2.3% of web screener completes completed the survey;
  - 35.5% of eligible cases completed the survey
Multi-mode Data Collection

Each wave, eligible respondents in the panel were invited to participate again in subsequent data collections (embedded longitudinal cohort)

Respondents who were recruited via social media were invited to take the survey via the web only

Respondents recruited via ABS could opt for CAPI or Web completion

New respondents were also recruited and enrolled in each wave to account for attrition
Mixed Mode Approaches

- Offered multiple modes so that respondents could choose the mode that matched their preferences
- Mode choice was not offered at baseline
- Mode choice was only offered to respondents recruited via ABS

<table>
<thead>
<tr>
<th></th>
<th>Wave 2</th>
<th>Wave 3</th>
<th>Wave 4</th>
<th>Wave 5</th>
<th>Wave 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>% completed via Web</td>
<td>42%</td>
<td>44%</td>
<td>53%</td>
<td>56%</td>
<td>54%</td>
</tr>
<tr>
<td>% web response during first 2 weeks</td>
<td>89%</td>
<td>85%</td>
<td>85%</td>
<td>82%</td>
<td>80%</td>
</tr>
<tr>
<td>% web response after 2 weeks</td>
<td>11%</td>
<td>16%</td>
<td>15%</td>
<td>17%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Two convenience sampling approaches aided with recruitment during select waves

**In-home recruitment**
During CAPI data collection, collected a roster of other adolescents in the household.
Administered a CAPI screener to these siblings, and interviewed those that were eligible.

**Snowball Sampling**
Web respondents were invited to share contact information of friends that may be eligible for the study.

* In-home recruitment was used at Waves 2 and 5. Snowball sampling was used at Wave 2
All mail screeners included a $2 pre-paid incentive

All respondents received an incentive for completing the survey

In Wave 1 – Wave 3, respondents received a $25 incentive upon completion

Beginning in Wave 4, offered $30 to CAPI-eligible respondents who participated online in the first two weeks of data collection. After that deadline, everyone received $25.

Online respondents received a virtual gift card as an incentive, while in-person respondents received a cash incentive.
Because the *Fresh Empire* evaluation is a mixed mode study, field staff were assigned to the project.

At the beginning of the field period, field staff called and texted respondents - Reminded them about the study - Encouraged completion via the web - Made an appointment for in-person completion if needed

Leverage the rich sampling frame for respondents to expand methods of contact (SMS, email, phone, mail)
## Respondent Contact Protocol

<table>
<thead>
<tr>
<th>ABS Sample</th>
<th>Social Media Sample</th>
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<tbody>
<tr>
<td>Invitation &amp; Reminder letter</td>
<td>Email invitation &amp; reminders</td>
</tr>
<tr>
<td>In-person visits</td>
<td>Email invitation &amp; reminders</td>
</tr>
<tr>
<td>Reminder postcards</td>
<td>Email invitation &amp; reminders</td>
</tr>
<tr>
<td>Email invitation &amp; reminders</td>
<td>Email invitation &amp; reminders</td>
</tr>
<tr>
<td>Text messages</td>
<td>Text messages</td>
</tr>
<tr>
<td>Phone calls to encourage web response</td>
<td></td>
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<tr>
<td>Refusal letter</td>
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</table>
## Recruitment Methods, By Wave

<table>
<thead>
<tr>
<th>Recruitment Method</th>
<th>Wave 1</th>
<th>Wave 2</th>
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<th>Wave 4</th>
<th>Wave 5</th>
<th>Wave 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS Mail Screener</td>
<td>✅</td>
<td>✗</td>
<td>✗</td>
<td>✅</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Social Media recruitment</td>
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<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Snowball Sampling</td>
<td>✗</td>
<td>✅</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>In Home Recruitment</td>
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<td>✗</td>
<td>✗</td>
<td>✅</td>
<td>✗</td>
</tr>
<tr>
<td>Push to web phone calls</td>
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<td>✗</td>
<td>✗</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
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<th>Wave 6</th>
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</thead>
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<tr>
<td><strong>Data Collection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>In-person CAPI surveys</td>
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<td>✔</td>
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<td>Web Surveys</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Mode Choice</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
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</tr>
<tr>
<td>Early bird incentive</td>
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<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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</table>
Response Rates

RESPONSE AND RETENTION RATES FROM BASELINE BY RECRUITMENT MODE

Data Collection Wave

- Baseline
- Wave 2
- Wave 3
- Wave 4
- Wave 5
- Wave 6

Mail recruit
In-home recruit
Social media recruit
Challenges

- Eligibility rules
  - Eligible respondents age out once they turn 19
  - Young respondents were harder to recruit (age 12-14)
    - Resulted in large drops in eligible sample some waves

- Low incidence population
  - Screening resulted in a 6% - 17% eligibility rate
  - Social media recruitment had diminishing returns as ads saturated eligible populations
Challenges, continued

- Consent procedures
  - Extra steps required for younger respondents, especially when recruited via the web

- Social Media Recruitment
  - Monitoring for misrepresentation and duplicate respondents took time and evolving methods

- Engaged samples
  - Retention rates for respondents recruited on the web were much lower than for those who we recruited using ABS
Conclusions
Success working with hard-to-reach populations is possible

Recommend using multiple approaches and allowing data collection protocol to evolve

Multiple sampling strategies allowed the *Fresh Empire* evaluation to meet sample size goals each wave

Nonprobability methods allowed us to achieve a significantly larger sample among this low incidence population that would have been cost prohibitive with probability methods.
More Information

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