Redesign of the National Survey of Children’s Health

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Outline

1. **Brief overview of the National Surveys**
   • History and Uses

2. **Redesign of the National Survey of Children’s Health**
   • Rationale, Process, and Design
   • Content

3. **Implementation & Status Update**

4. **Future Directions & Lessons Learned**
   • Design and Content
   • Summary
Overview

National Survey of Children’s Health (NSCH)

National Survey of Children with Special Health Care Needs (NS-CSHCN)
National Survey of Children’s Health:
• Produce national and State-based estimates of the health and well-being of children ages 0-17 years, their families, and their communities.
• 2003, 2007, 2011-12

National Survey of Children with Special Health Care Needs:
• Assess the prevalence and impact of special health care needs among children ages 0-17 years in the U.S., and to evaluate change over time.
• 2001, 2005-06, 2009-10

Common Elements:
• Historically directed and funded by HRSA MCHB and fielded by the CDC/NCHS as a module of SLAITS as a RDD telephone survey (landline + cell-phone samples)
• Produced both national and state-level estimates
• All data are parent/care-giver reported
History and Uses

- Title V Maternal and Child Health Services Block Grant needs assessments and funding applications;

- State-level planning and program development

- Federal policy and program development

- Healthy People 2010/2020 Objectives
• Scientific research:
  • Conditions:
  • Systems Indicators:
  • Life Course Measures:
  • State-level Analyses:
  • Policy Analyses:
Redesign of the National Survey of Children’s Health
The purpose of the redesign is fourfold:

1. To shift the survey’s sampling frame from landline and cell phone numbers to household addresses.

2. To shift mode of administration from an interviewer-administered survey via telephone to a self-administered survey via web and paper.

3. To combine the NSCH and NS-CSHCN into a single instrument.

4. To provide more timely data.
2016 NSCH Redesign: 
Process Highlights

Learn from Experts

• National Center for Education Statistics
• Don Dillman
• Stephen Blumberg

Technical Expert Panel

• Annual Meetings
• Targeted content workgroups

Contracts & IAAs

• DSFederal/ICF International – critical review of data collection instruments & sampling, weighting and imputation plans for the Production Survey (2015-2016)
2016 NSCH Redesign:
Key Decisions

• A single, combined survey will be fielded annually; new state-level estimates will be available bi-annually

• The redesigned survey will retain a two-phase administration: A “Screener” to determine child demographics and SHCN status followed by an age-specific “Topical” survey

• An Addressed-Based Sampling (ABS) frame will be utilized to improve response rates and support non-response bias analyses

• The majority of interviews will be conducted via a self-directed response mode (web-push + mail)

• Content added on a variety of topics, including aspects of being “Healthy and Ready to Learn”, food sufficiency, and behavioral treatment for ADHD, etc
2016 NSCH Production Survey Design:
Overview

• Launch June 2016 – Concluded February 10, 2017

• Goal Sample = 364,153 HH ⇒ 76,500 completed topicals
  • 1,500 per state, including 300 CSHCN

• Experiments:
  • Incentives: $0, $2, vs. $5
  • Letterhead: Census vs. MCHB
    → Adaptive design to differentially target “High” and “Low” Web HH
    → Adaptive use of a new administrative flag to identify HH with children

• Public data available Summer 2017
  • New National estimates available annually
  • New State estimates every two/three years
Changes to content made for 6 reasons:

1. Changes to be consistent with other Federal policy/programs (i.e., physical activity; ACS-6)

2. Changes in the field or our understanding of a topic/question (i.e., transition, ADHD treatment, delayed care)

3. Combining content from two surveys ► limited space

4. Transition to paper/pencil from telephone interview ► limited ability to convey nuances and provide respondents with clarifying information

5. Focus on Bureau priorities and tie to MCH 3.0

6. Addition of content to reflect emerging priorities, i.e., school readiness
Implementation & Status Update
Response rate is significantly lower than expected:

<table>
<thead>
<tr>
<th>Response</th>
<th>Pretest</th>
<th>Target</th>
<th>Oct. 31</th>
<th>Dec. 21</th>
<th>Jan. 10</th>
<th>Median Expected (and range as of Oct. 31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screener Completion</td>
<td>78.8%</td>
<td>58.8%</td>
<td>40.1%</td>
<td>45.5%</td>
<td>45.6%</td>
<td>43.9% (41.3-46.5%)</td>
</tr>
<tr>
<td>(Percent of occupied sample households that complete a screener)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topical Completion</td>
<td>56.2%</td>
<td>45.3%</td>
<td>26.0%</td>
<td>27.2%</td>
<td>31.8%</td>
<td>31.1% (27.5-35.8%)</td>
</tr>
<tr>
<td>(Percent of occupied households with children that complete a topical)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Response Rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31.8%</td>
<td></td>
</tr>
<tr>
<td>(Product of screener completion and the percent of screeners with children that completed a topical)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Response Rate</td>
<td>71.6%</td>
<td>52.3%</td>
<td>33.6%</td>
<td>36.5%</td>
<td>38.8%</td>
<td>38.8% (35.0-41.7%)</td>
</tr>
<tr>
<td>(percent of occupied residences that completed their participation in the survey – a completed screener for households without children, a completed topical for households with children)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Issues:

• Screener completion rate is about half of that of Pretest (78.8% v. 45.5%)
  • Pretest sample was higher education/income
  • Pretest sample received higher incentive ($5 and $10 v. $0, $2, and $5)
  • Election cycle political environment (all surveys struggling)

• Similar to ACS mail and internet response
  • ACS is mandatory

• Higher than anticipated reliance on paper responses delaying completion of data collection
  • “High-web” and “Low-web” demarcation did not operate as expected, i.e., Low-web was closer to non-response and “High-web” did not always prefer web
  • Data collection plan didn’t account for heavier reliance on paper returns, i.e., waited too long to send paper instruments out
# 2016 NSCH Production Survey:
Status Update: Mail and Internet Returns Compared with ACS

## Comparing NSCH and ACS Returns

<table>
<thead>
<tr>
<th>Month</th>
<th>Screener Returns</th>
<th>Total Returns</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NSCH</td>
<td>ACS</td>
<td>25.6%</td>
<td>27.6%</td>
<td>18.1%</td>
<td>17.5%</td>
<td>17.3%</td>
<td>17.3%</td>
<td>17.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12.7%</td>
<td>9.1%</td>
<td>23.6%</td>
<td>28.3%</td>
<td>28.3%</td>
<td>28.1%</td>
<td>27.5%</td>
</tr>
</tbody>
</table>
• Oversampling of households likely to have children based on linkages of children’s Social Security Numbers to families and addresses

Motivation:
• Improved sampling efficiency and reduction of survey costs

Primary Information Sources:
• **Numident**: a list of Social Security Number applicants
• **CARRA Kidlink file**: a prototype linkage between children and parents based on Census and administrative records
• **Master Address File Auxiliary Reference File (MAF-ARF)**: a file that links person identifiers with the latest location updates from a variety of administrative data

Method:
• Utilize the Title 13 Census Master Address File (MAF) as a sampling foundation and leverage administrative records to indicate the presence of children at a MAF-ID
**NSCH Innovations:**

**Administrative Data**

- Customized survey recruitment based on Census tract-level information on likelihood of web response

**Motivation:**
- Tailor contact and recruitment strategies based on likelihood of internet response and reduce survey cost and burden

**Primary Information Sources:**
- Two data sources
  - ACS paradata on whether respondents used Internet submission (tract-level, 2013-2014 survey years)
  - IRS 1040 data on whether households file electronically but without a paid preparer (block-level, 2014 tax year)

**Method:**
- Create a low-Internet-accessibility flag
  - Use principal components analysis
  - Find the (standardized) scalar variable that maximizes the variation of linear combinations of the two data sources
  - Census blocks with access index below 30th percentile of the access index distribution
Future Directions
2017 NSCH Production Survey:
New Directions – Design and Administration

• Differential sampling strategies by geography (and state) based on 2016 returns
  • Sample and weight based on propensity to respond and likelihood of households with children
  • Identify areas that are high-paper and adjust contact strategy accordingly

• Improved targeting of households in Stratum 2
  • Create 3 Strata: Stratum 1 retained; Stratum 2 split to improve targeting of non-flagged households (those with children and those without)
    • 24% of households to Stratum I (78% households with children)
    • 11% to Stratum IIa (28% households with children)
    • 65% of households, fall into Stratum IIb (6% households with children)
2017 NSCH Production Survey: New Directions – Design and Administration

• Incentivize use
  • Continue $2 incentive for majority of screener invitations
  • Add incentive for paper topical mailings

• Changes to mailing procedures:
  • Proceed more quickly to paper from web invitations
    • Paper and web invitations immediately for the lowest 30% of tracts
  • Take advantage of Census’ new capability to send out reminders using pressure-sealed mailers
  • Add informational fact sheet to first mailing
  • Decrease time between mail contacts
Erred on side of minimal changes for comparison purposes!

Revisions:

- Minimal adjustments to “skip” patterns; Minor wording changes as necessary; Change from 4-category to 5-category response options throughout “Healthy and Ready to Learn” section;

Deletions:

- Detailed income item capturing sources of all income
  - Pretest data indicate this item had the highest breakoff rate.
- Preschool suspension/expulsion
  - Funding not available from sponsor.
New Content:

• Environmental Health
  • Frequency of pesticide use inside or outside (in close proximity) of the child’s residence (past 12 months)
  • Presence of mold, mildew or other signs of water damage on walls or other surfaces inside home (past 12 months)

• Military deployment (ever/current) experienced by Adult 1 and/or Adult 2.
1. 2016 was a “building” year and we are working with Census to ensure the timely and accurate release of data for the nation and our Title V partners.

2. The lower response rate is not entirely explainable, but we have identified a number of ways to improve and tighten the sampling and contact strategies that should drive response rates and representativeness in the right direction.

3. OER is running data checks on preliminary files now and should have a sense (soon) if the data are consistent with expectations. JHU Data Resource Center running checks on Pretest data.

4. OER in partnership with JHU Data Resource Center is working on the development of wrap-around materials to support data users.
Contact Information

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