National Health Interview Survey 2019
Content Redesign – Analytic Implications

Sarah Lessem, Renee Gindi, Stephen Blumberg,
Aaron Maitland, Benjamin Zablotsky, Lindsey Black,
Emily Zammitti

FCSM Meeting
March 9, 2018
National Health Interview Survey

- **Agency:** Department of Health and Human Services (DHHS); Centers for Disease Control and Prevention (CDC); National Center for Health Statistics (NCHS)
- **Purpose:** To monitor the health of the US population through the collection and analysis of data on a broad range of health topics
- **Sample:** Address-based, multi-stage, clustered national sample of housing units from every state, to be representative of the civilian noninstitutionalized US population
- **Mode:** In-person interviews - follow-up by telephone if needed
- **Data collection:** Continuous by Census field representatives
- **Target sample size:** Complete interviews of 35,000+ households
- **Content redesign start:** January 2019
Goals of the NHIS Questionnaire Redesign

- Improve the relevance of covered health topics, better meeting the needs of the Department of Health and Human Services and other data users
- Focus on leading causes of morbidity/mortality, their known risk and protective factors, and targets of health promotion initiatives
  - Health insurance and health care access
- Harmonize overlapping content with other federal health surveys
- Reduce respondent burden and improve data quality
  - Shorten questionnaire and reduce variation in interview times
  - Eliminate or reduce content better covered by other methods
Distribution of Length of Completed Interviews (in minutes): NHIS, 2015

50\textsuperscript{th} percentile: 92 minutes
75\textsuperscript{th} percentile: 115 minutes
90\textsuperscript{th} percentile: 141 minutes
Distribution of Length of Completed Interviews: Goal for NHIS Redesign

50\textsuperscript{th} percentile: 60 minutes
Changes: Rotating Core
Current NHIS

- Consistent content asked annually
- Variation in length because of sponsored supplements
# Redesigned NHIS: the Quilt

- **Annual core**
  - Key measures
  - Sociodemographics

- **Rotating core**
  - Newer topic areas
  - Expanded detail
  - Varying periodicity

- **Sponsored supplements**
  - 5 min or less

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual core</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotating core</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsored content</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Changes: Family Interview
Current NHIS

Roster/Family Interview
- General information on all family members
- Family-level data
- Proxy response
- Fielded each year

Sample Adult Interview
- Self-response (unless unable)
- Fielded each year

Sample Child Interview
- Knowledgeable adult responds for child
- Fielded each year

Demographics
- Family relationships
- Family income
- Health insurance
- Proxy health data

Health utilization
- Health conditions
- Health behaviors
- Additional demographics
Redesigned NHIS

Roster
- Proxy response
- Annual

Sample Adult Interview
- Self-response (unless unable)
- Family-level data
- Annual and Rotating Core

Sample Child Interview
- Knowledgeable adult responds for child
- Family-level data
- Annual and Rotating Core

Demographics
- Family identification

Martial/cohabitating relationships
- Family income

Health insurance
- Health utilization
- Health conditions
- Health behaviors
Eliminated

- Questions about rare conditions
  - Less than 2%, must combine years
- Better captured elsewhere
  - Surveys, medical records, administrative claims, registries
- Infrequently used questions
  - Based on literature reviews, public comments
- Proxy about all family members
  - No health data about family members
Changes to Order or Wording

- Move to rotating
  - Details with core
  - Long sections
  - Stable over time
- Order changes
  - Health conditions first
  - Sensitive content last
  - Rotating throughout
- Harmonize with other surveys
  - Matching similar questions on multiple CDC surveys
- Spanish translation process
  - Clarification both ways
- Cognitive testing
  - Better understanding by respondents
Added Content

- **Expert advice**
  - Technical Expert Panels (TEPs)
    - Social determinants of health
    - Mental health batteries

- **Public comment**
  - Ex. Dental health

- **Agency priorities**
  - Emerging topic areas
What does the redesigned NHIS let us do?

Analytic Implications
Population level estimates

- Population estimates can be made for questions asked of children and adults
  - Sample Adult and Sample Child content rotate together
Implications for Accuracy and Precision

- No proxy health data
  - Health insurance
  - Other health conditions
- Smaller sample size
  - Wider confidence intervals
- Reduced measurement error
  - Sample adult responses for self
Dyads: An Opportunity for Studying Family Health

- In 2016, 29% of families in the NHIS had one or more children.
  - In 67% of these families, a parent was also the sample adult
  - Nearly 20% of all families have a sample adult/sample child dyad

- Data users cannot currently make nationally representative estimates using associations between the health of sample adult and sample child
  - Matched pairs are not representative of population

- Creating paired weights to represent population of eligible pairs
Identifying Family Context Covariates

Still able to identify:

- Multi-racial families
- Many but not all same-sex couples
- Educational attainment of family members
- Whether the child’s parents were born outside of the United States

No longer able to identify:

- Multigenerational or extended families
- Families with one or more disabled members
Files to be released

- Sample Adult file with weights and family-level variables
- Sample Child file with weights and family-level variables
- Dyad weights
- Linkages will still be available at Research Data Center