REDESIGNING THE NATIONAL HEALTH INTERVIEW SURVEY QUESTIONNAIRE

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Background: National Health Interview Survey

- **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 by Census interviewers, with follow-up by telephone if needed
- **Data collection**: Continuous, with quarterly and annual data files
- **Sample size**: Complete interviews for 35,000+ households annually
Key Roles for the NHIS

- Provide objective scientific data for DHHS from a well-established, high-quality, in-person survey on topics including health conditions, health behaviors, health insurance, and health care utilization.

- Provide “gold standard” estimates for federal and private surveys to use for benchmarking and for adjusting estimates.

- Maintain a large sample size for quarterly national estimates and for annual estimates among population subgroups.

- Maximize stability over time so that trends are reliable.
On the Current Obsession for Redesigning Everything

Anticipated NHIS content redesign: January 2018
Why Redesign?

- Most recent major content redesign was 1997

Goals of the 2018 Content Redesign

- Improve the relevance of covered health topics, better meeting the needs of the Department of Health and Human Services and other data users
- Harmonize overlapping content with other federal health surveys
Why Redesign?

- Respondent burden increasing and response rates decreasing
Length of Completed Interviews (in minutes), by Quarter: NHIS, 2006-2015
Distribution of Length of Completed Interviews (in minutes): NHIS, 2015

- 50th percentile: 92 minutes
- 75th percentile: 115 minutes
- 90th percentile: 141 minutes
NHIS Family, Child, and Adult Response Rates, NHIS 1997-2015

- Family module
- Sample Child module
- Sample Adult module


Percentage: 95, 90, 85, 80, 75, 70, 65, 60, 55, 50
Breakoffs: Proportion of Cases on the Data Files with Incomplete Data, NHIS 1997-2015

- The proportion of partial interviews almost tripled between 1997 and 2010.
Why Redesign?

- Respondent burden increasing and response rates decreasing

Goals of the 2018 Content Redesign

- Reduce respondent burden and improve data quality
- Shorten questionnaire and reduce variation in interview times
- Eliminate or reduce content better covered by other methods
- Establish a long-term structure of periodic topics
We’ve Been Here Before...

- Despite periodic revisions to the Core questionnaire, Supplements played an increasingly important role in the survey as a means of enhancing topic coverage.
- Eventually, certain Supplements ... were incorporated in the NHIS Core on an annual basis.
- The unintended result was an increasingly unwieldy survey instrument and longer interviewing sessions: Recent interviews averaged two hours.
- This imposed an unacceptable burden on NCHS staff, U.S. Bureau of the Census interviewers, the data collection budget, and, most importantly, on the NHIS respondents.
- Furthermore, the excessive length of NHIS interviews contributed to declines in both response rate and data quality.

– 1997 NHIS Survey Description document
Why Now?

- Most recent major content redesign was 1997
- Necessary sampling frame redesign in 2016 introduced additional complexity
- Final measurements for Healthy People 2020 objectives can be completed in 2016 and 2017
- Long-term planning can help sponsors target content
- Desire to slow the decline in response rates
Redesign Process: Workforce

- **Redesign team**
  - Centralized staff dedicated to the redesign
  - Working with Division Director and Associate Director for Science

- **Division staff teams**
  - Survey planners, analysts, and programmers working on small teams to accomplish defined tasks

- **Center leadership**
  - Providing input and assisting with outreach
  - Making final decisions
Criteria for Prioritizing Content

- **Strong link to public health**: Leading causes of morbidity/mortality, known risk or protective factors, priority populations at risk, intermediate outcomes
- **Relevant to HHS agency goals**: Part of HHS strategic plan, HHS initiatives
- **Needed for long-term monitoring**: Leading health indicators
- **High quality measurement**: Content can be measured well in household interviews
- **Consistent with other federal surveys**: Measure is used by others for calibration, does not duplicate detail collected by targeted HHS surveys
- **Can be estimated reliably with one or two years of data**: Less focus on rare conditions or behaviors
Input to Guide Decision Making

- **Evaluating uses of NHIS data**
  - Literature review
  - Reporting requirements

- **Policy and program relevant data for DHHS**
  - Annual report to Congress: *Health, United States*
  - Healthy People 2020 monitoring and 2030 planning
  - NHIS is the source for 69 Healthy People 2020 Objectives
More Input to Guide Decision Making

- **Engaging stakeholders**
  - Meetings with CDC centers, agency partners, Healthy People federal interagency working group, professional associations, conference presentations

- **Technical expert consultations**
  - Child health, income, pain, injury
Balance

- How to balance the collection of relevant health content and crucial covariates with respondent burden and funding constraints?

- **Options considered:**
  - Matrix sampling
  - Rotating content
  - Linkage to administrative data
  - Alternate modes to save money
  - Followback surveys
Rotating Content

- Some questions will appear with fixed periodicity but not annually
- **Pros:**
  - Less time intensive than asking all questions every year
  - Can still monitor changes in trends with periodic data
- **Cons:**
  - Data will not be available annually for all topics
The Quilt

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

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

- **Sponsored supplements**
  - “Sustaining” sponsors
  - 1- or 2-year modules
  - 5 min or less
1997-2017 NHIS Structure: Core Modules

Family Core
- General information on all family members
- Family data
- Allows proxy respondents
- Fielded each year

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

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

Demographic, family relationships, and family income; proxy general health data and health insurance

Utilization, conditions, behaviors, and additional demographic data
2018 NHIS Structure: Proposed Core Modules

Sample Adult Core
- Self-response (unless unable)
- Relevant family-level data
- Fielded with fixed periodicity

Sample Child Core
- Knowledgeable adult responds for child
- Relevant family-level data
- Fielded with fixed periodicity

Demographics, some family relationships, and family income; Health insurance, utilization, conditions, and behaviors
Proposed Changes: Structure

- Shifting content from collection in family module to collection in sample adult and/or sample child modules

  - Changes in:
    - Salience: *Gets to the health questions quickly*
    - Basic demographics: *Collected on all household members*
    - Demographic detail: *Collected for sample adult and sample child*
    - Person-level sample size: *Limits utility of questions on rare events*
    - Respondent for adult health status and disability: *From proxy to self*
    - Respondent for demographics and insurance: *From family respondent to sample adult*
Redesign

- “In theory, the redesign begins with a problem”
- “A clever redesign...improves the world, if just by a bit”
- “All redesigns end, but the redesign never does”

- Rob Walker
- New York Times Magazine
- November 13, 2016
For More Information


Or contact us at: healthsurveys@cdc.gov