




REDESIGNING THE NATIONAL HEALTH INTERVIEW SURVEY QUESTIONNAIRE

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Background: National Health Interview Survey

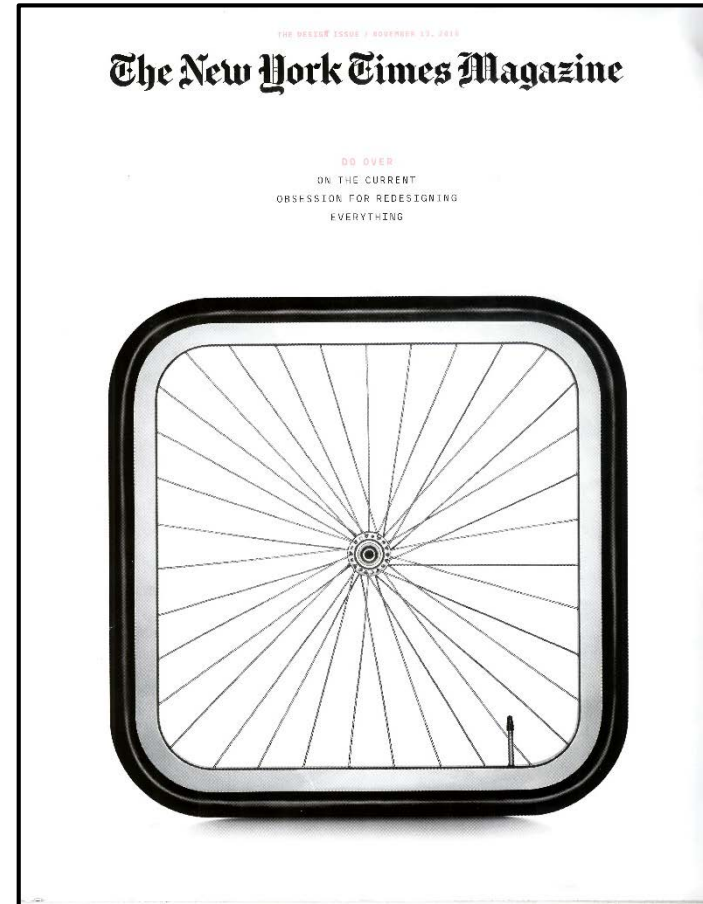
- **Purpose:** To monitor the health of the US population through the collection and analysis of data on a broad range of health topics
 - **Sample:** Address-based, multi-stage, clustered national sample of housing units from every state, to be representative of the civilian noninstitutionalized US 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
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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

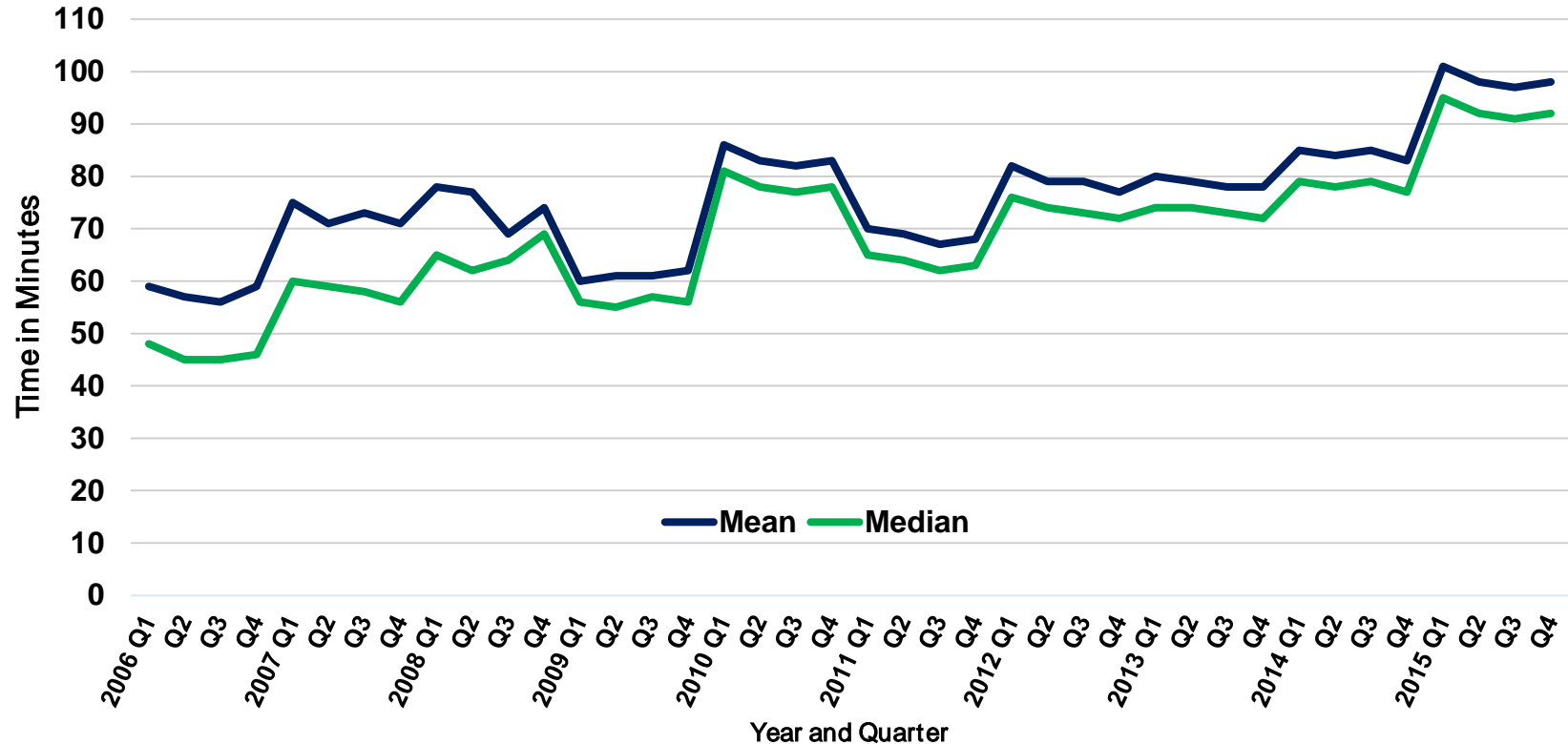
Goals of the 2018 Content Redesign

- 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

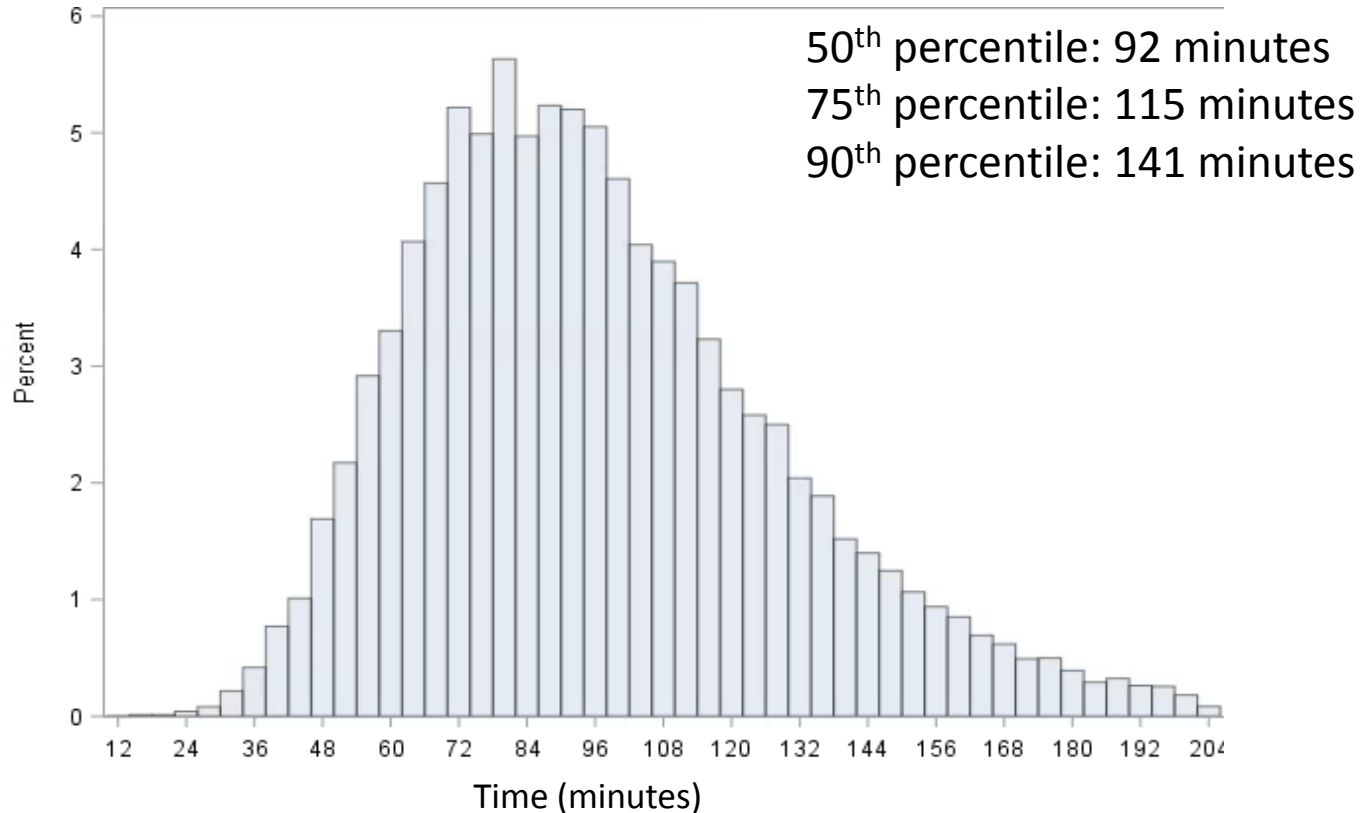
Why Redesign?

- Respondent burden increasing and response rates decreasing

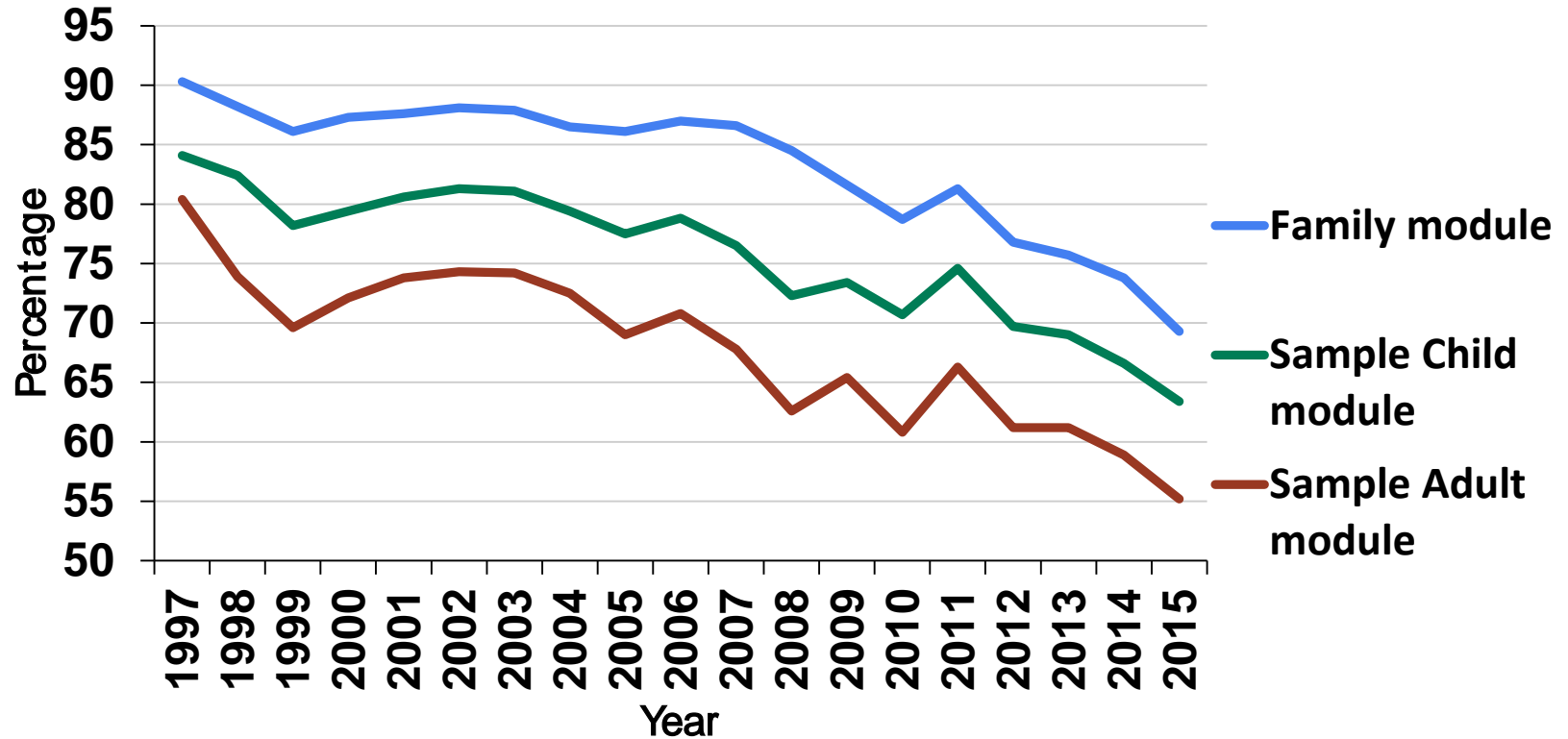
Length of Completed Interviews (in minutes), by Quarter: NHIS, 2006-2015



Distribution of Length of Completed Interviews (in minutes): NHIS, 2015

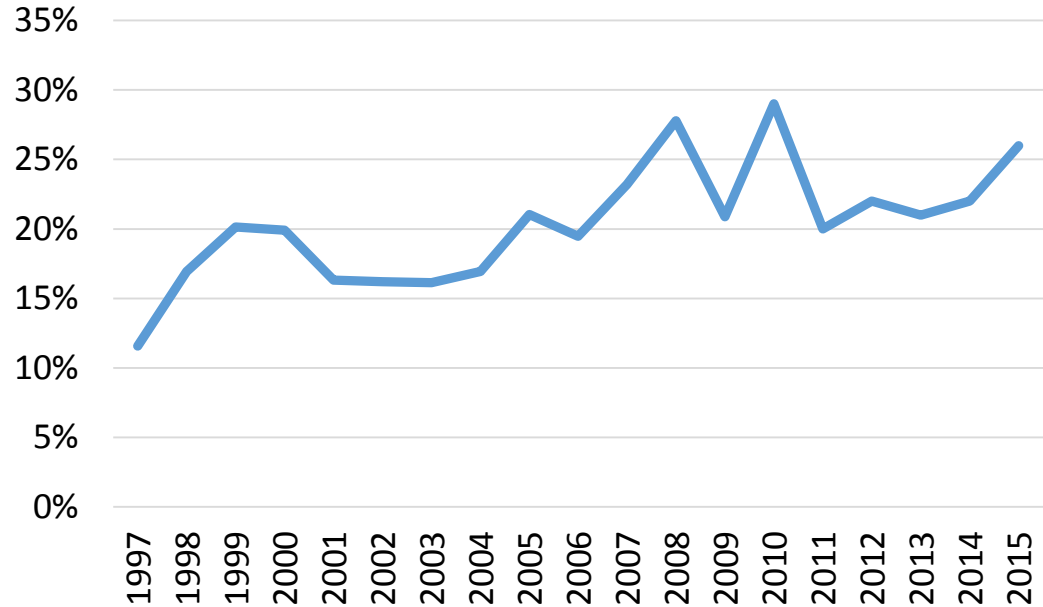


NHIS Family, Child, and Adult Response Rates, NHIS 1997-2015



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
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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
- Public solicitation of input: Oct. 2015, Feb. 2016, June 2016
- Federal register notices: Oct. 2016, twice in 2017 (anticipated)

▪ 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

	2018	2019	2020	2021	2022	2023	2024	2025
Eligibility Determination and Confirmation - Selection of Sample Adult - Informed Consent								
Annual core content	Family Composition - Health Status and Impact - Functioning and Disability Height and Weight - Hypertension - High Cholesterol Cardiovascular Conditions - Asthma - Cancer - Diabetes - Other Chronic Conditions Health Insurance Status and Continuity - Financial Burden of Medical Care Dental Care - Health Care Utilization - Mental Health Care - Other Care Prescription Medication - Immunizations Cigarettes and E-cigarettes - Physical Activity Demographics - Nativity Housing and Housing Security - Schooling - Employment Family Income - Food-Related Program Participation - Food Sufficiency Telephone Use - Linkage Information							
2-year core content	Anxiety and Depression		X	Anxiety and Depression		X	Anxiety and Depression	
	X	Injuries		X	Injuries		X	Injuries
	Alcohol - Sleep Smoking		X	Alcohol - Walking - Sleep - Smoking History		X	Alcohol - Walking - Sleep - Smoking History	
1-year core content	Preventive Services	Chronic Pain & Other Conditions	Preventive Services	Chronic Pain & Other Conditions	Preventive Services	Chronic Pain & Other Conditions	Preventive Services	Chronic Pain & Other Conditions
Sponsored content	Sustaining Sponsors Content from sponsors that commit to supplements every year							
	2-year supplements		1-year supplements	2-year supplements		1-year supplements	2-year supplements	
	1-year supplements	2-year supplements		1-year supplements	2-year supplements		1-year supplements	2-yr supplements
	1-year supplements	1-year supplements	2-year supplements		1-year supplements	2-year supplements		1-year supplements

1997-2017 NHIS Structure: Core Modules

Family Core

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



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

Sample Adult Core

- Self-response (unless unable)
- Fielded each year



Utilization, conditions, behaviors, and additional demographic data

Sample Child Core

- Knowledgeable adult responds for child
- Fielded each year

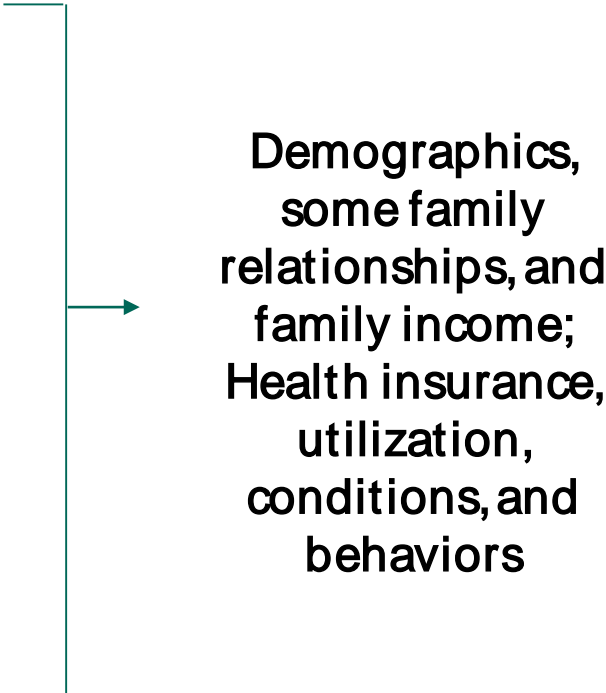
2018 NHIS Structure: Proposed Core Modules

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**

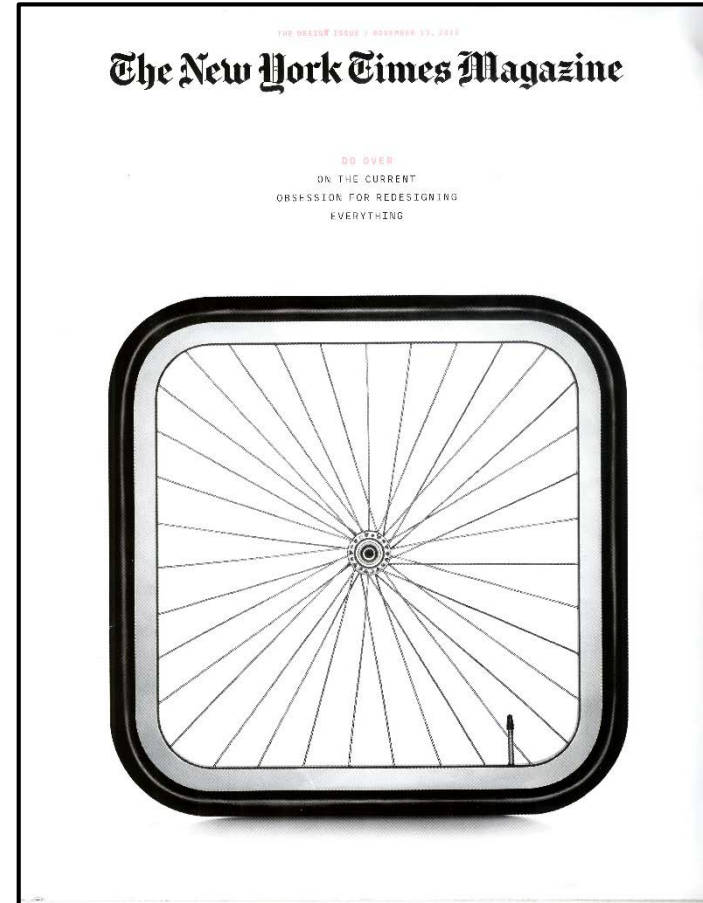
Proposed Changes: Structure

- 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

http://www.cdc.gov/nchs/nhis/2018_quest_redesign.htm

Or contact us at: healthsurveys@cdc.gov