Aspects of the National Health Interview Survey (NHIS)

Chris Moriarity
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cdm7@cdc.gov

Presentation outline

NHIS questionnaire content

NHIS data files, variables, products

NHIS sample design overview

NHIS weights, variance estimation

The purpose of NHIS

To collect data on the health status and health services utilization of the U.S. civilian non-institutionalized population

To collect data on specific topics of current public health concern

To provide official national health data to the public

NHIS questionnaire modules

Basic Module or Core
> **Fielded each year**

Supplemental Modules
> **New topics or more detail on Core topics**
>
> **Different each year**

Core Data from NHIS Facilitates Trend Analysis

Monitoring health objectives

Evaluating impact of policies

Monitoring impact of supply on utilization

NHIS supplements: examples from 2000-7

2000: Cancer Control

2001: Healthy People 2010, Children's mental health

2002: Complementary and Alternative Medicine

2004: Adult immunization

2005: Cancer control

2006: Adult chronic conditions (Stroke, diabetes, arthritis)

2007: Hearing

NHIS questionnaire content

Health conditions

Chronic disease

Hearing and vision impairment

Health status compared to year ago

Injuries/poisonings

Functional limitation and associated conditions

Mental health questions (vary by age)

Utilization and access to care

Hospitalizations
Medical care contacts by provider
Surgical procedures
Time since last saw a dentist
Immunizations
Usual place of care
Delayed care and why
Unmet need by type
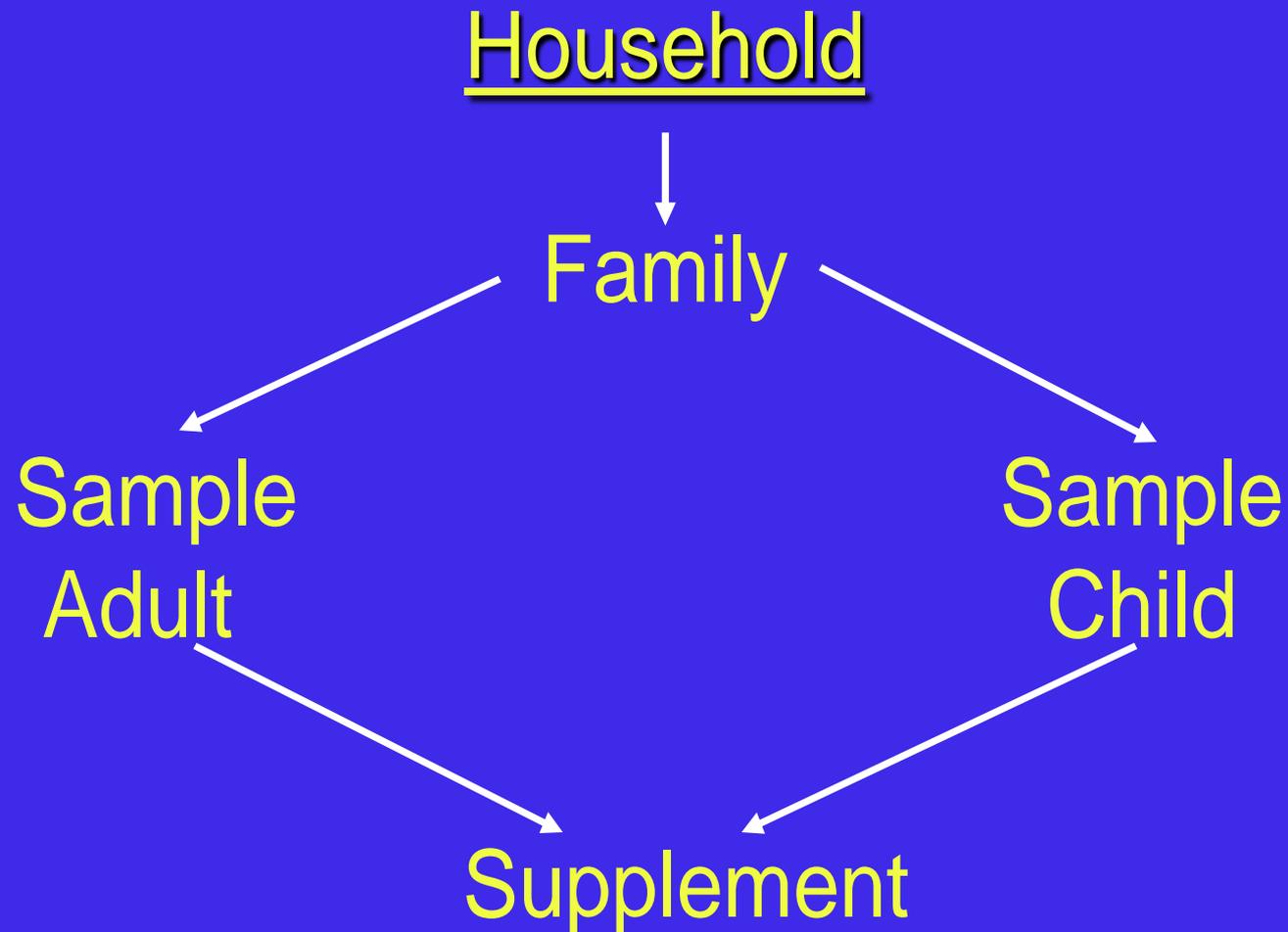
Health behaviors and risk factors

Smoking

Physical activity

Alcohol

Height/Weight

NHIS Data Files

Household

Family

Sample Adult

Sample Child

Supplement

NHIS data file variables

Socio-demographic variables

Hispanic ethnicity

Race

Sex, age

Family type/structure

Birthplace and citizenship

Country of birth (only on in-house files) U.S./not U.S. (on public use files)

Economic variables

Number of working adults in family

Education/family income

Health Insurance

    Type of coverage

    Cost/policy holder/source

    Reason for no coverage

Work loss/sick days

NHIS products

Annual microdata files

Annual reports

    Population

    Children

    Adults

Reports on specific topics

FastStats

Early Release

Healthy E-Stats

Survey Integration/Linkage with the NHIS

National Death Index

Environmental Protection Agency exposure files

Medical Expenditure Panel Survey

NHIS sample design

NHIS target population

Persons living in the 50 States and D.C. (not Puerto Rico, etc.)

Civilians (not active military)

Persons who live in households or non-institutional group quarters such as college dormitories (not persons living in institutional group quarters such as prisons)

NHIS interview protocol

Personal visit interviewing at sample addresses, using electronic questionnaire

All eligible persons at sampled address included in the interview

One adult and one child (if children present) selected per family for more extensive questions

NHIS sample features

If full funding available, ~35,000 interviewed households, ~87,500 interviewed persons annually

Sample addresses selected from all 50 States and D.C., using a "complex" sample design - sample is drawn from selected geographic areas (counties or groups of adjacent counties) to control costs of personal interviewing

NHIS sample design implemented in 2006 - based on Census 2000

Similar but not identical to previous sample design (1995-2005, based on 1990 Census)

Black, Hispanic, and Asian persons are "oversampled" in the NHIS - Asian oversample a new feature of current sample design

Analysis of NHIS data

Account for NHIS sample design - weights, variance estimation

1995-2005 NHIS sample design – Series 2 report #130 – available online at www.cdc.gov/nchs/about/major/nhis/methods.htm

2006- NHIS sample design Series 2 report forthcoming

Estimates from NHIS data

NHIS has a complex sample design, including higher sampling rates of certain groups (black, Hispanic, Asian persons) - sampling weights should be used to make estimates from NHIS data

Variance estimation procedure must take account of complex sample design in order to be valid

Variance estimation guidance at NHIS methods page - 1963 to 2011

SUDAAN, Stata, R survey, SAS survey procedures, SPSS, VPLX: Sample code provided for use with NHIS data

SAS, SPSS: Guidance provided to avoid problems with missing DOMAIN/SUBPOP variables in analyses of NHIS data

Supplementary variance estimation resources for selected files

SAS, SPSS variance estimates from 2003, 2005, 2007 sample child files and 2007 child alternative medicine file are slightly smaller than they should be

Resources (guidance, files) available for data users to get correct variance estimates

Summary

NHIS: a general purpose health survey covering most of the U.S. population

NHIS data files: household, family, person, sample adult, sample child, supplement(s)

Analysis of NHIS data requires the use of weights and appropriate methods for variance estimation

NHIS Strengths

Large, representative sample
In-person survey
Broad range of information
Demographic detail
Ongoing annual survey
Topical supplementary information
Relatively high response rates
Links to other data sets
Timely data releases

NHIS home page:

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