

## The National Health Interview Survey's 50th anniversary

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The National Health Interview Survey (NHIS) has been fielded continuously since 1957. The NHIS is conducted by the National Center for Health Statistics (NCHS), which is part of the Centers for Disease Control and Prevention (CDC) and which is the Federal Government's health statistics agency. NCHS has been observing the NHIS' 50<sup>th</sup> anniversary during 2007. Various celebratory events are being held, including a commemorative conference in June 2007, a reception at the U.S. Botanic Garden in July 2007, and several conference presentations focusing on the NHIS. At the June conference, the 10 winners of the NHIS Poster Conference presented their winning posters. The Poster Contest rules were as follows:

- Send a description of how you used NHIS data or analyses successfully—to solve a research problem, to evaluate a policy, to teach a class, to write a report, etc.
- Describe how the NHIS was used, directly or indirectly, to improve public health.
- Describe projects involving NHIS data or analyses that you have *already completed* (not projects that you are planning).
- Any productive use of the NHIS over its 50-year lifespan is appropriate.

The 10 winners were selected by NCHS staff. Using e-mail to communicate, the contest winners worked with NCHS publications staff and with staff from the Division of Health Interview Statistics (which manages the NHIS) to develop and produce their posters. The NCHS publications staff developed a prototype for the posters, so the posters all had common colors, and a common look and format.

As it turned out, each of the winning posters describes not just a single paper, but a body of work involving analyses of NHIS data. The posters contain lists of references from which the reader can obtain additional information about these bodies of work. For each of the 10 winning entries, the person who submitted the entry and then worked with NCHS to produce the poster was deemed to be the Poster Contest winner.

Each winner decided who else to list on his or her winning poster as co-authors of the poster.

This paper present highlights of each of the winning posters, identified, respectively (in no meaningful order) as Winning Poster A through Winning Poster J.\* Selected figures taken from Winning Posters A, B, F, and H are presented here and are identified, respectively, as figures A, B, F, and H.

### WINNING POSTER A: Using National Health Interview Survey data to demonstrate disparities experienced by deaf people, by Steven Barnett, MD, University of Rochester

The purpose of the projects described by the author was to identify health disparities in two populations of deaf persons: (i) Adults deaf since childhood, and (ii) adults who became deaf later in life. The poster contest winner and his co-investigators analyzed NHIS data from NHIS Hearing Supplements of 1971, 1977, 1990, and 1991; specifically, they used data on severity, laterality, and age-at-onset of hearing loss. They demonstrated that health and healthcare measures differ for deaf adults based on their age-at-onset of deafness, and they identified disparities in health, healthcare use, health behaviors, and access to health research.

The researchers used their findings to secure further funding to help understand and address these disparities, including support for the first CDC-funded prevention research center to partner with a disability community in health promotion and disease prevention research. The poster author felt that the NHIS provided the best national data that would permit analyses of subgroups of people with hearing loss.

Figure A, taken from the winning poster, shows the percent distribution of age-at-onset of deafness for deaf adults. The graph shows high incidence of deafness at ages 0-3 years, decreasing until ages 12-15, after

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\* The findings and conclusions in this paper and in the posters described by this paper are those of the authors and do not necessarily represent the views of the National Center for Health Statistics, Centers for Disease Control and Prevention.

which the distribution of age-at-onset is roughly unimodal and skewed, peaking at ages 60-63.

**WINNING POSTER B: Use of the National Health Interview Survey in policy research on insurance coverage,**  
**by Amy J. Davidoff, PhD, University of Maryland Baltimore**

This poster describes how, during the 1990's and 2000's, multiple federal and state policy interventions targeted eligibility for public insurance programs, and the price of or access to private insurance coverage. These interventions included the following:

- Medicaid expansions;
- Private market regulatory reforms: the Health Insurance Portability & Accountability Act (HIPAA);
- Welfare reform: the Personal Responsibility and Work Opportunity Reform Act;
- State Children's Health Insurance Programs (CHIP);
- Adoption of managed care in Medicaid;
- The Medicare Modernization Act & Part D Drug Coverage.

Policy analysts were concerned about the impacts of policy changes on insurance coverage and health care access for low income children and other vulnerable populations. The poster describes how the author used the NHIS to examine these impacts and how she selected the NHIS because it provided a unique combination of characteristics to support research on policy impacts.

Figure B, taken from the winning poster, shows how SCHIP expansions to public insurance eligibility resulted in a large increase (9.8 percentage points) in public insurance coverage and a large decrease (6.4 percentage points) in the proportion of uninsured among children who had been made newly eligible for SCHIP.

**WINNING POSTER C: The National Health Interview Survey, health disparities and U.S. workers,**  
**by Lora E. Fleming, MD, PhD, MPH, MSc, University of Miami; David J. Lee, PhD, University of Miami; William G. LeBlanc, PhD, University of Miami; Alberto J. Caban, MPH, University of Miami; Katherine Chung Bridges, MD, MPH, University of Miami; Kristopher L. Arheart, PhD, University of Miami; Kathryn McCollister, PhD, University of Miami; Sharon L. Christ, MS,**

**University of North Carolina; Diane Zheng, PhD, University of Miami; Kenneth Ferraro, PhD, Purdue University; C. Munaner, University of Toronto; and Terry Pitman, BS, University of Miami**

This poster describes how members of the University of Miami's NHIS Research Group explored the health of all U.S. workers using NHIS data. They received research funding from the National Institute of Occupational Safety and Health (NIOSH). The poster describes how the 1986-2005 NHIS files, with mortality follow-up through 2002, provided a uniquely representative and large database for the investigators to evaluate the issue of health disparities among all U.S. workers, particularly poor and minority worker populations.

**WINNING POSTER D: Methodological studies in the first ten years of the National Health Interview Survey,**  
**by Jack Fowler, PhD, UMASS, Boston**

Describing events in the first 10 years of the NHIS, this poster recounts how NCHS launched a series of landmark methodological studies designed to evaluate the survey data that were being produced and to understand potential sources of error in health surveys. The poster pays tribute to the late Charles F. Cannell, who led a number of these studies at the University of Michigan. Two of the studies described in the poster are (i) the role of interviewers in response error, and (ii) the role of respondent motivation.

**WINNING POSTER E: Arthritis and how the NHIS has been used to monitor and advance public health,**  
**by Chad Helmick, Centers for Disease Control and Prevention and Julie Bolen, PhD, Centers for Disease Control and Prevention**

This poster discusses how the NHIS has been the key to defining arthritis as well as to advancing attention to arthritis as a public health problem. It describes how, from its early days, NHIS has documented arthritis prevalence and tracked its growth. The NHIS provided the poster authors and their colleagues with a cost-effective way of developing national data for a new, important, and growing area of public health, one with tangible implications for the working population of the future and the health and independence of older adults. The fact that NHIS is national in scope trumped the problems associated with using local data, which can be biased by the strong geographical variations in health care. The poster lists a large number of publications produced by these projects.

**WINNING POSTER F: Assessing access to care of U.S. stroke survivors using the National Health Interview Survey,**

**by Deborah A. Levine, MD, MPH, University of Alabama; Jeroan J. Allison, MD, MSc, University of Alabama at Birmingham; and Catarina I. Kiefe, PhD, MD, University of Alabama at Birmingham**

Some of the research results summarized in this poster were as follows:

- Stroke survivors have significant health care access problems.
- Lack of health insurance plays an important role.
- The proportion of stroke survivors with reduced access to medications has increased substantially from 1997 to 2004.

Figure F, taken from the winning poster, shows the percentage of stroke survivors with inability to afford medications, for NHIS years from 1997 to 2004. The p-value of 0.01 for a test of trend showed that the rates increased significantly over time.

**WINNING POSTER G: Promoting research with the National Health Interview Survey: Innovation and change across the 25-year partnership of NCHS and ICPSR: 1982 to 2007,**

**by James W. McNally, PhD, University of Michigan; Martha Sayre, University of Michigan; Joyce French; and Rebecca Shepard**

This poster describes how, for 25 years, the Inter-University Consortium for Political and Social Research (ICPSR) has worked on innovative ways to distribute NHIS studies through a project—the Archive of Computerized Data on Aging (NACDA)—funded by the National Institutes of Health’s National Institute on Aging. The ICPSR preserves, distributes, and promotes the use of public-use data files for original research. The ICPSR and the NACDA now support almost 150 NHIS studies in their collections (part of a total of over 400 studies based on NCHS data), covering NHIS public use files from 1969 to the present.

**WINNING POSTER H: Using the National Health Interview Surveys to understand older adults’ health,**

**by Sandra L. Reynolds, PhD, University of South Florida**

This poster describes four studies that examined health trends in older adults in the 1980s and 1990s:

- Trends in the prevalence and incidence of disability in older Americans;
- Trends in the ability to work in adults aged 50-69;
- Cohort differences in disability and disease presence;
- Cohort trends in obesity.

Some results and conclusions from the study of cohort trends in obesity were as follows:

- There is a steady increase in the prevalence of obesity with each successively born cohort.
- Future cohorts of older adults may not be as healthy as today’s older adults.
- Given the well known connection between obesity and disability, making fiscal plans that assume healthier older adults in the future may be short-sighted at best.

Figure H, taken from the winning poster, shows the percent change in the prevalence of obesity in five-year centered birth cohorts from 1899 to 1974, for men and women aged 18 and older. The reference year is 1899. This study used data from the 1982 NHIS through the 2002 NHIS. The graph shows a steady increase in obesity over time, with obesity rates rising faster for men than for women.

**WINNING POSTER I: Use of the National Health Interview Survey data to evaluate the impact of Medicare coverage policy of colonoscopy on racial/ethnic disparities in colorectal cancer screening,**

**by Ya-Chen Tina Shih, PhD, University of Texas, M.D. Anderson Cancer Center and Linda Elting, DrPH, University of Texas, M.D. Anderson Cancer Center**

Colorectal cancer is the third most commonly diagnosed malignancy and the second leading cause of cancer death in the U.S. Despite the established benefit of screening and despite recommendations from professionals, rates of colorectal screening remain low (less than 40% of those for whom such screening is recommended) in the U.S. The objectives of the studies described by this poster were to evaluate whether the expansion of Medicare coverage of colonoscopy is associated with growth in the rate of colorectal screening and to explore the impact of this policy on racial/ethnic disparities in colorectal

screening. The findings of the studies were that Medicare policy was effective in increasing the overall rate of colorectal screening and in reducing screening disparities between certain racial/ethnic and income subgroups. The poster authors made the following policy recommendations:

- The population to target is persons who are Hispanic and persons who are poor or near poor.
- An intervention to explore would be waiving co-payment for colonoscopy, which might increase screening in these target groups.

well as by other commemorative posters and papers.

**WINNING POSTER J: Contributions of NHIS to social demography,  
by Lois M. Verbrugge, PhD, MPH, University of Michigan**

This poster describes 12 projects that are examples of how the NHIS has been a foundation for empirical research in social demography. Five of the projects were studies of the following:

- Sex differences in health and mortality (1957 to 1981)
- Arthritis disability;
- Health of clerical workers;
- Efficacy of personal and equipment assistance;
- Media attention to diseases.

The research question asked by the study of media attention to diseases was whether the national media pay attention to diseases commensurate with disease incidence, disease prevalence, and mortality. The studies analyzed data from the 1980 to 1996 NHIS. Some results were as follows:

- Trends in news coverage closely parallel mortality trends.
- To a lesser extent, trends in news coverage parallel prevalence and incidence trends.
- Sharp upturns and downturns in disease-specific mortality are mirrored in the news.

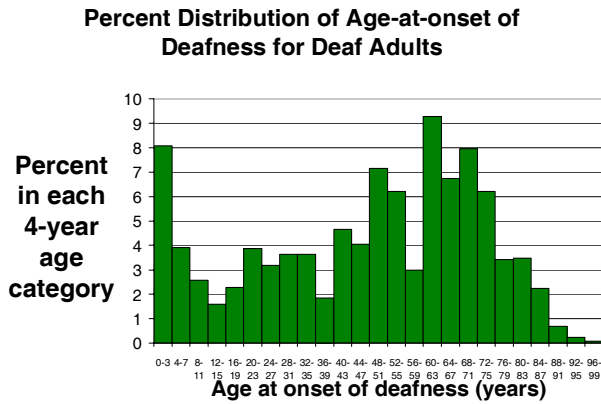
**Availability of the 10 winning posters on the NHIS Website**

Watch the NHIS Website:

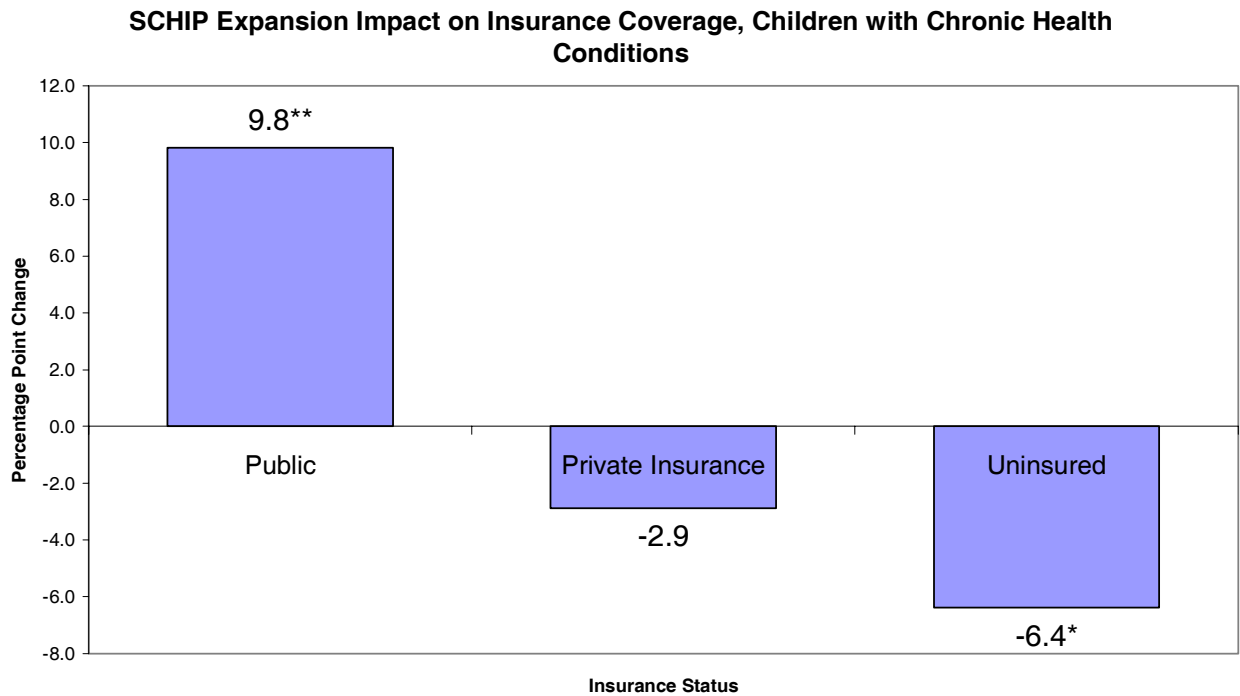
<http://www.cdc.gov/nchs/nhis.htm>

for the proceedings of the June 25, 2007 conference commemorating the 50<sup>th</sup> anniversary of the NHIS. The proceedings will be accompanied by the 10 winning posters in electronic form, as

**Figure A. Excerpt from Winning Poster A**



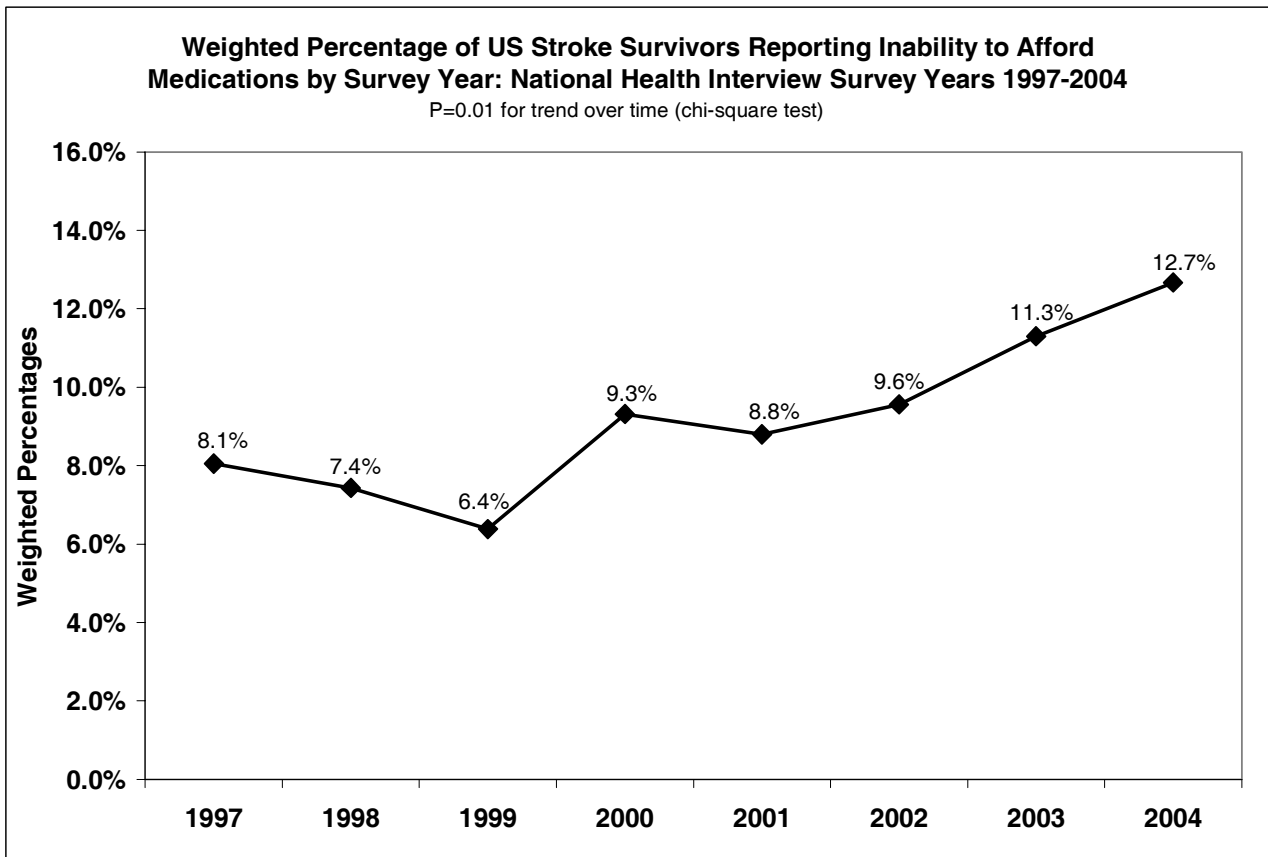
**Figure B. Excerpt from Winning Poster B**



\*\*Effect significant at .01<p<=.05; \* .05<p<=.10

Source: Davidoff et al. analysis of National Health Interview Survey, 1997-2001

Figure F. Excerpt from Winning Poster F



**Figure H: Excerpt from Winning Poster H**  
**Percent Change in the Prevalence of Obesity in 5-Year Centered Birth Cohorts, 1899-1974 (Reference = 1899), in Adults Age 18 and Older, by Gender: 1982-2002 NHIS (Study 4)**

