Ambulatory and Hospital Care Statistics Branch Overview

NCHS Board of Scientific Counselors

Paul Beatty

April 15, 2011

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

Topics

- Mission
- Surveys
- Data products
- Dissemination and uses of our data
- Key challenges and opportunities

Role of AHCSB within the Division

- **The Division's Mission**

  To collect, analyze, and disseminate data on the use, access, quality, and cost of health care provided in the United States, and the health care organizations who deliver that care.

- **The Branch's Role**

  To collect, analyze, and disseminate those data that specifically relate to ambulatory and hospital care providers, their services, and the people they serve.

National Health Care Surveys

- **Ambulatory and hospital care surveys**
  - **National Ambulatory Medical Care Survey (NAMCS)**
  - **National Hospital Ambulatory Medical Care Survey (NHAMCS)**
  - **National Hospital Discharge Survey (NHDS)**
- Long-term care surveys
  - National Nursing Home Survey (NNHS)
  - National Home and Hospice Care Survey (NHHCS)
  - National Survey of Residential Care Facilities (NSRCF)
  - National Survey of Long-Term Care Providers (NSLTCP)

National Health Care Surveys

- **Ambulatory and hospital care surveys**
  - **National Ambulatory Medical Care Survey (NAMCS)**
    - **Expanded sample and new content**
  - **National Hospital Ambulatory Medical Care Survey (NHAMCS)**
  - **National Hospital Discharge Survey (NHDS)**
  - **National Hospital Care Survey (NHCS)**
    - **Consolidates data elements from NHDS and NHAMCS with new features**
  - **Electronic Health Record and Physician Workflow Supplements**
  - **National Survey of Prison Healthcare**

Distinctive Aspects of the Surveys

- Surveys of establishments (not households)
- Encounter-level data
- Some data collected through interview, particularly facility-level
- Patient-level data from medical and administrative records, traditionally through abstraction

National Ambulatory Medical Care Survey (NAMCS)

- Visits to non-federal, office-based physicians primarily engaged in patient care
- Data at practice, clinician, and patient level
- Flexible content: questions added and deleted, with supplemental modules

NAMCS Changes for 2012

- Affordable Care Act (ACA) funding will allow for major increases in sample– from current 3,000 physicians to (at least)12,000
- Permits monitoring and evaluation of the effects of health reform
- Supports state activities to monitor the effects of Medicaid expansions in reducing morbidity and mortality from chronic disease and other preventable conditions

Lookback Module on Prevention of Heart Disease and Stroke

- To monitor and evaluate services to prevent major causes of death and disability, namely heart disease and stroke
- To expand the current data collection to include risk factors and appropriate preventive services 12 months prior to the sampled office visit
- To include patients at higher risk, e.g., with hypertension or prior stroke

Improving data collection capabilities

- Paper-and-pencil data collection methods have been outdated for many years
- The intense volume of forms and requirements of the lookback module made it critical to develop improvements
- Computerizing data collection was a key component of ACA funding
- Great improvements to the timeliness of data release and efficiency of production

National Hospital Ambulatory Medical Care Survey (NHAMCS)

- NHAMCS' objectives are similar to NAMCS, but with a focus on care in different settings:
  - Outpatient Departments
  - Emergency Departments
  - Hospital-based Ambulatory Surgery Centers (since 2009)
  - Free-standing Ambulatory Surgery Centers (since 2010)
  - The latter two were originally collected on the National Survey of Ambulatory Surgery (NSAS) last conducted as a stand-alone in 2006.

National Hospital Discharge Survey

- Inpatient visits to non-federal short-stay hospitals
- Conducted since 1965– longest continuous survey in the Branch
- Concluding with the 2010 data collection year , but much content going into new survey

National Hospital Care Survey: Objectives

- Continue to provide national general purpose hospital statistics, on inpatient and ambulatory encounters
- Move toward electronic collection of data
- Permit special studies, as needed
- Link encounters across hospital units, both inpatient and ambulatory, and with other data sources, e.g., the National Death Index and Medicare

Comparison of Inpatient Content

NHDS

- Selected UB04 elements
  - Patient age, gender, race/ethnicity, expected source of payment, marital status
  - Source and type of admission
  - Length of stay
  - Diagnoses and procedures
  - Discharge status
- No protected health information (PHI)
- Limited facility data

NHCS

- All UB04 elements
- PHI: *name, address, SSN, Medicare #*
- PHI allows linkage for pre and post hospital care
- PHI allows linkage to NDI and CMS data
- Special topics
- Expanded facility level data

NHCS Goes Electronic

- Currently piloting the transmission of electronic claims data – UB-04s—for inpatient discharges
- Hospitals transmit data through a secure data network
- As hospitals adopt electronic health records, we will be conducting more pilots on extracting clinical data from EHRs

Timeframe and Milestones

- Summer 2011-Fall 2012

  Recruit new sample of 500 hospitals
- 2011 and continuing

  Collect inpatient data electronically

  Provide platform for sponsored special studies
- 2013

  Add ambulatory component (NHAMCS):

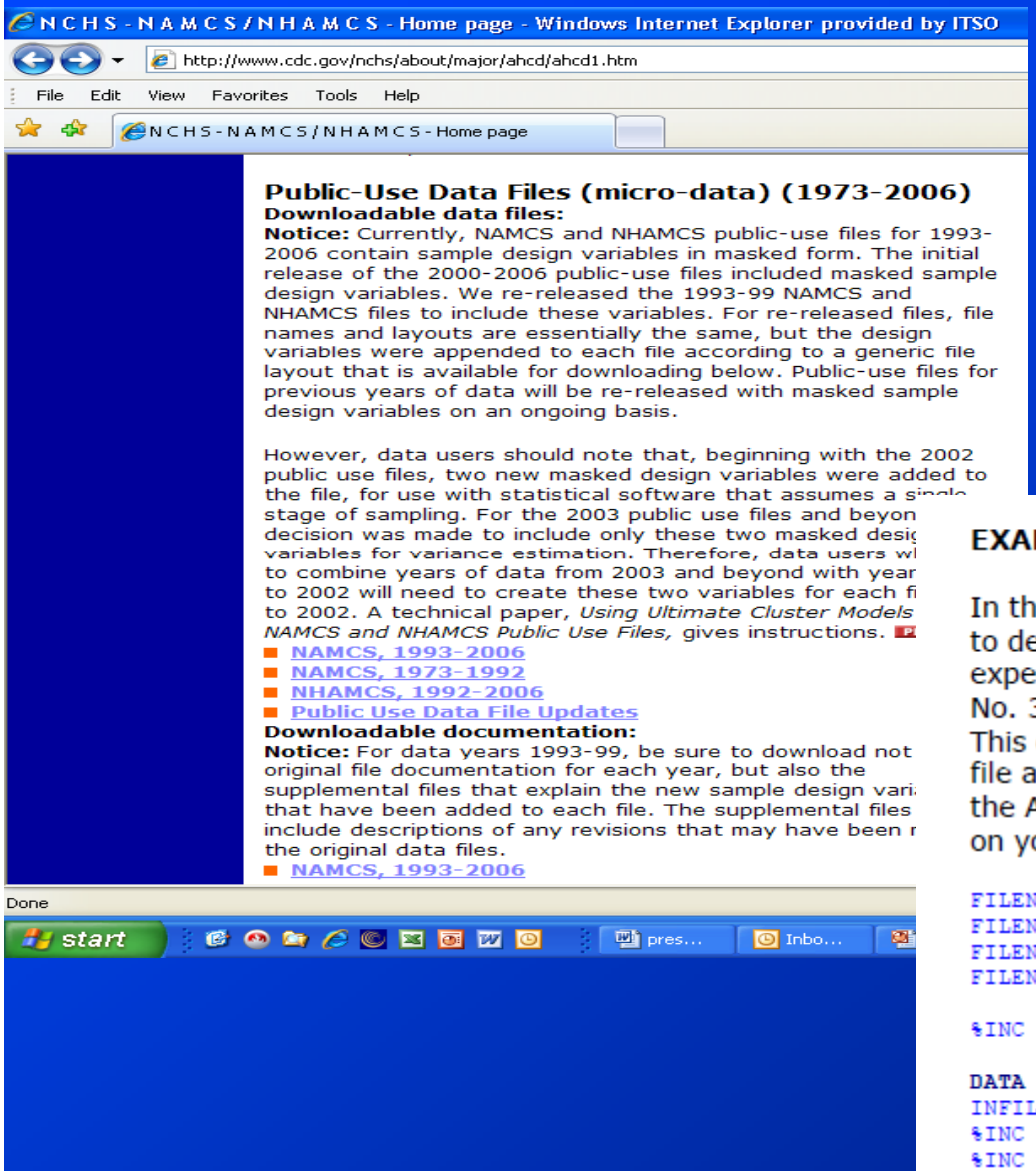
  emergency and outpatient departments, ambulatory surgery centers (hospital and additional freestanding)

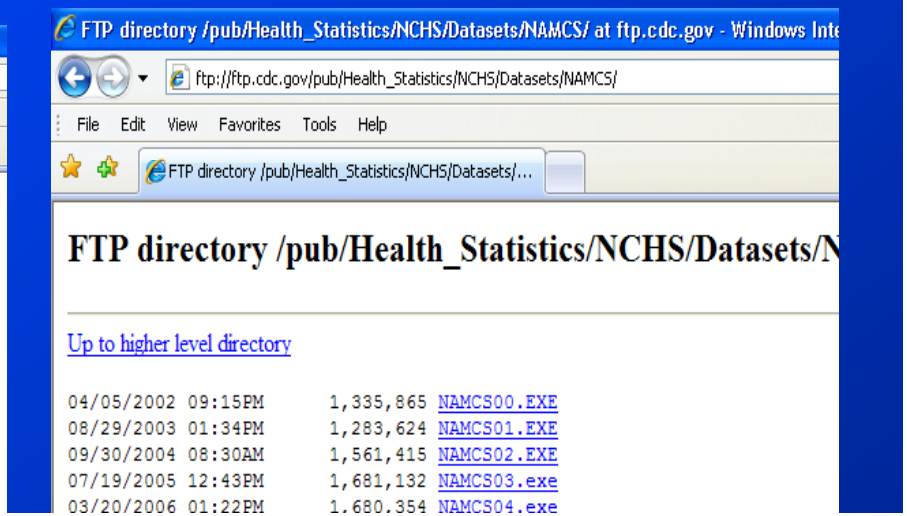
  Transition to extracting data from EHRs, as possible

New and expanded surveys

- **Electronic Health Records Supplement**
  - Supplement to NAMCS in 2008-09, expanded 5-fold to stand-alone capable of state-based estimates
- **Physician Workflow Supplement**
  - Three-year longitudinal effort following EHR respondents to learn more about costs, benefits, and barriers of adopting systems
- **National Survey of Prison Healthcare**
  - Fill gaps in our knowledge about healthcare provided to inmates in correctional system, extending our efforts to institutional population

Data Release





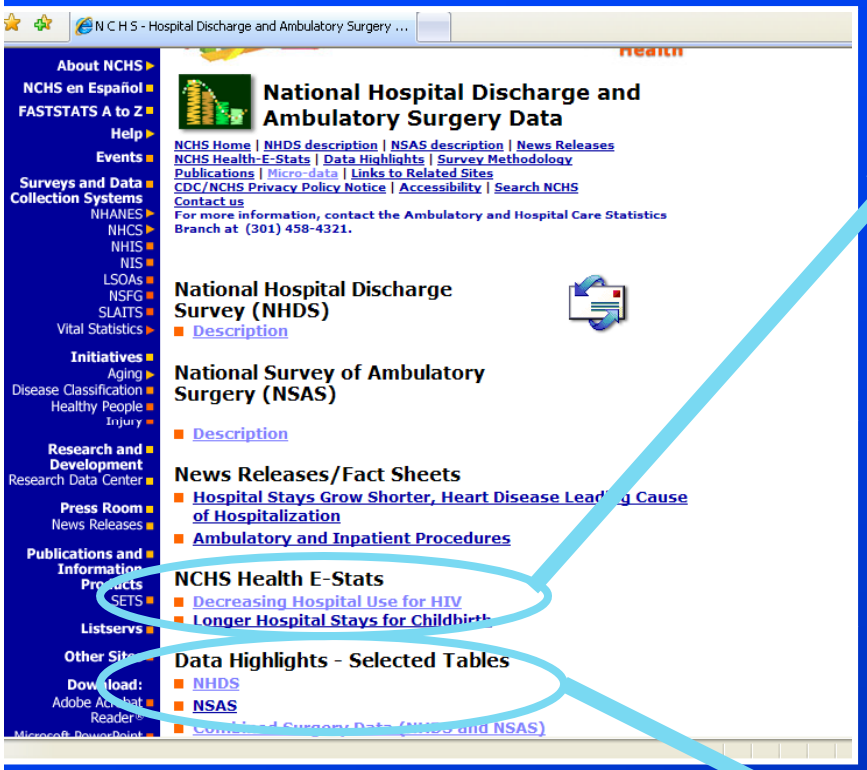
EXAMPLE 1

In this example, data from the 2005 ED public use file are being use to determine caseload percentages across emergency departments f expected sources of payment. (See Figure 7 in Advance Data Report No. 376 for a graphic display of similar results using 2003-04 data.) This example assumes you have downloaded the 2005 ED public use file and uncompressed it, downloaded the SAS input statement from the Ambulatory Health Care Data website, and have placed them bot on your desktop in the folder 'c:\myfiles\nhamcs'.

```
FILENAME ed05 'c:\myfiles\nhamcs\ed2005';
FILENAME ed05inp 'c:\myfiles\nhamcs\ed05inp.txt';
FILENAME ed05for 'c:\myfiles\nhamcs\ed05for.txt';
FILENAME ed05lab 'c:\myfiles\nhamcs\ed05lab.txt';

%INC ed05for;

DATA edtest1;
INFILE ed05 MISSOVER LRECL=999;
%INC ed05inp;
%INC ed05lab;
```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National Survey of Ambulatory Surgery (NSAS)
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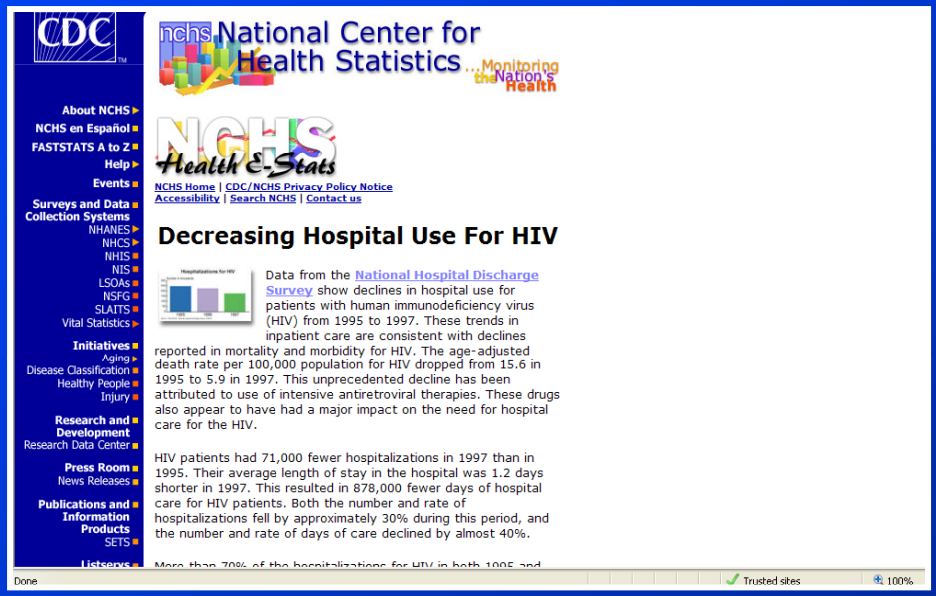
Ambulatory and Inpatient Procedures
NCHS Health E-Stats
Decreasing Hospital Use for HIV
Longer Hospital Stays for Childbirth
Data Highlights - Selected Tables
NHDS
NSAS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Decreasing Hospital Use For HIV
Data from the National Hospital Discharge Survey show declines in hospital use for patients with human immunodeficiency virus (HIV) from 1995 to 1997. These trends in inpatient care are consistent with declines reported in mortality and morbidity for HIV. The age-adjusted death rate per 100,000 population for HIV dropped from 15.6 in 1995 to 5.9 in 1997. This unprecedented decline has been attributed to use of intensive antiretroviral therapies. These drugs also appear to have had a major impact on the need for hospital care for the HIV.
HIV patients had 71,000 fewer hospitalizations in 1997 than in 1995. Their average length of stay in the hospital was 1.2 days shorter in 1997. This resulted in 878,000 fewer days of hospital care for HIV patients. Both the number and rate of hospitalizations fell by approximately 30% during this period, and the number and rate of days of care declined by almost 40%.
Done
Trusted sites
100%

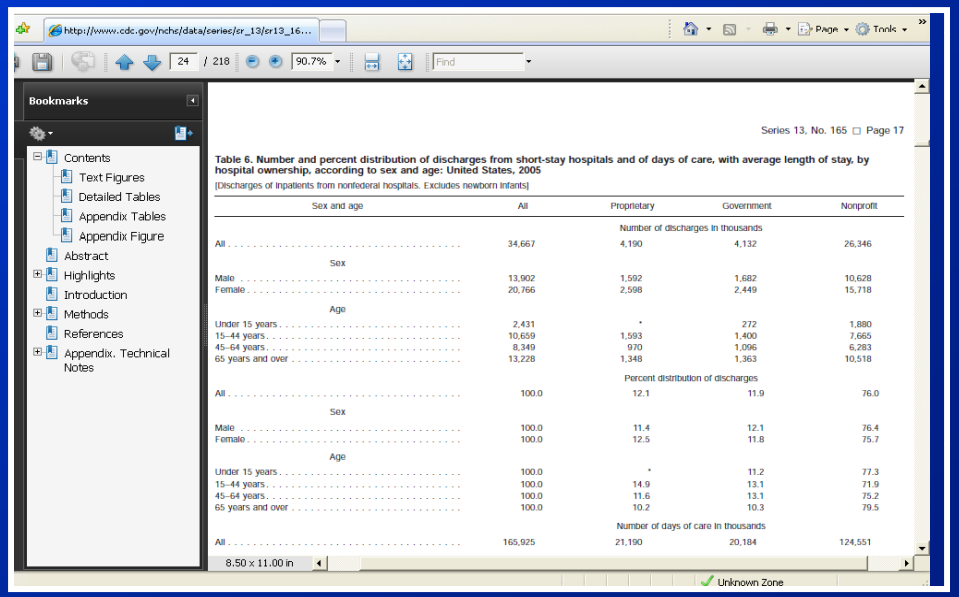
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Table 6. Number and percent distribution of discharges from short-stay hospitals and of days of care, with average length of stay, by hospital ownership, according to sex and age: United States, 2005
[Discharges of inpatients from nonfederal hospitals. Excludes newborn infants]
Sex and age
All
Proprietary
Government
Nonprofit
Number of discharges in thousands
All 34,667 4,190 4,132 26,346
Sex
Male 13,902 1,592 1,682 10,628
Female 20,766 2,598 2,449 15,718
Age
Under 15 years 2,431 * 272 1,880
15–44 years 10,659 1,593 1,400 7,665
45–64 years 8,349 970 1,096 6,283
65 years and over 13,228 1,348 1,363 10,518
Percent distribution of discharges
All 100.0 12.1 11.9 76.0
Sex
Male 100.0 11.4 12.1 76.4
Female 100.0 12.5 11.8 75.7
Age
Under 15 years 100.0 * 11.2 77.3
15–44 years 100.0 14.9 13.1 71.9
45–64 years 100.0 11.6 13.1 75.2
65 years and over 100.0 10.2 10.3 79.5
Number of days of care in thousands
All 165,925 21,190 20,184 124,551
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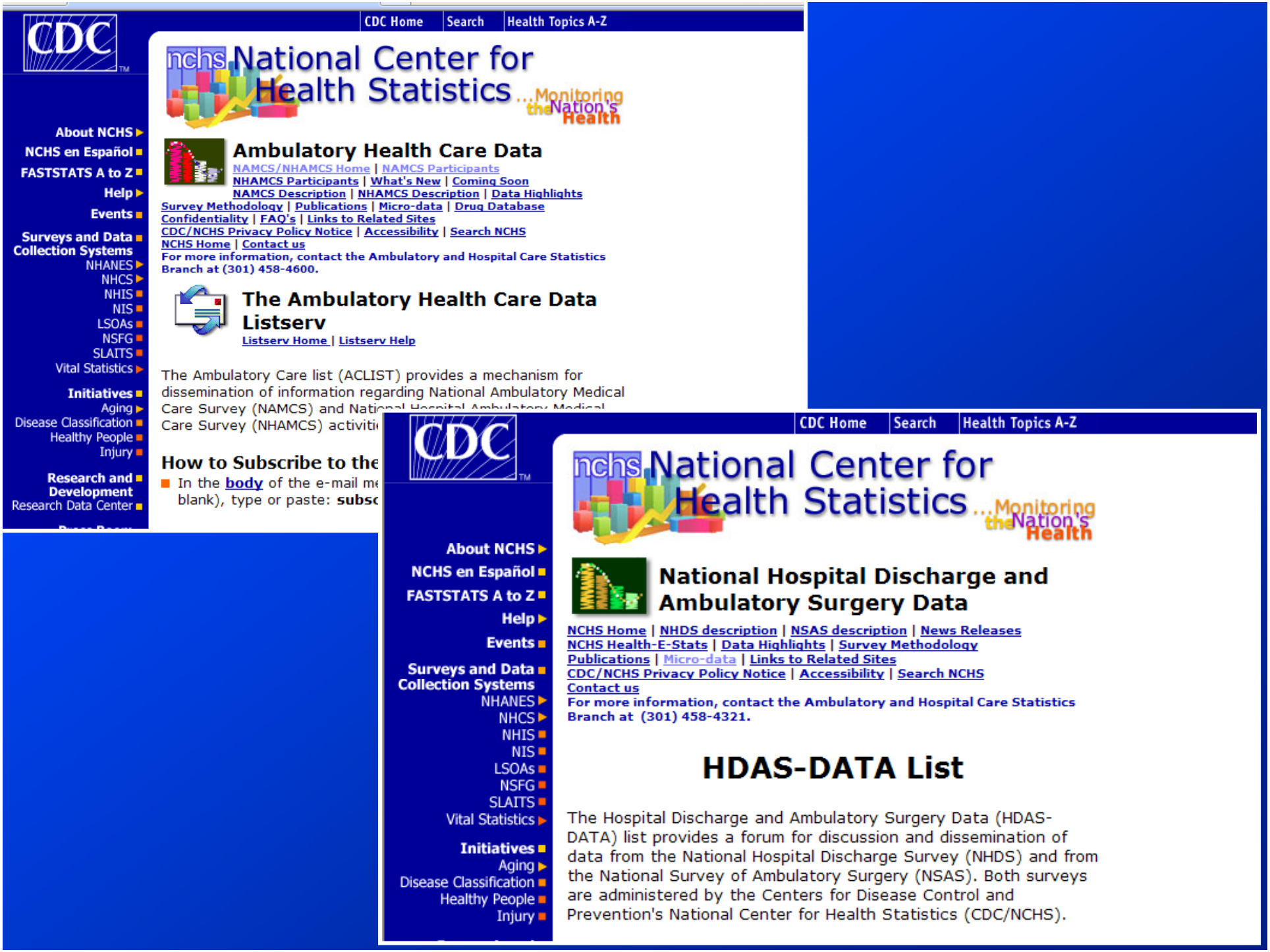
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HDAS-DATA List
The Hospital Discharge and Ambulatory Surgery Data (HDAS-DATA) list provides a forum for discussion and dissemination of data from the National Hospital Discharge Survey (NHDS) and from the National Survey of Ambulatory Surgery (NSAS). Both surveys are administered by the Centers for Disease Control and Prevention's National Center for Health Statistics (CDC/NCHS).

NCHS Data Brief ■ No. 47 ■ October 2010

Visits to Primary Care Delivery Sites: United States, 2008

Esther Hing, M.P.H., and Sayeedha Uddin, M.D., M.P.H.

Key findings

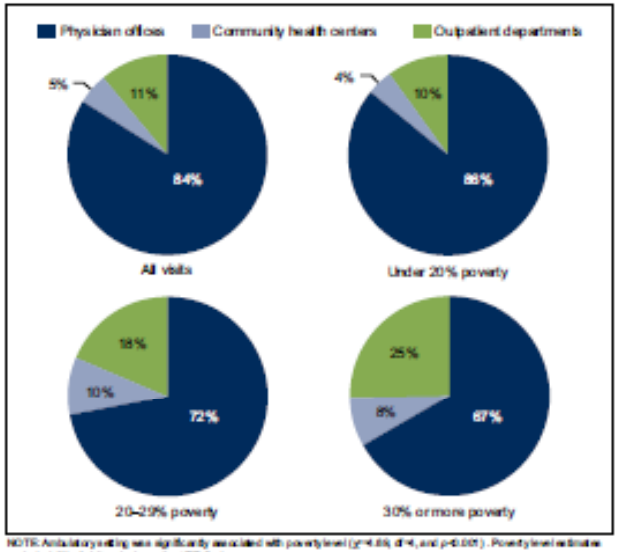
- In 2008, the majority of visits to primary care delivery sites (84%) occurred in physician offices, 11% in hospital outpatient departments (OPDs), and 5% in community health centers (CHCs).
- Patients with Medicaid, State Children's Health Insurance Plan (SCHIP) or no insurance accounted for a higher percentage of visits to CHCs (36%) and OPDs (40%) than to physician offices (17%).
- CHCs had a higher age-adjusted percentage of visits by patients with one or more chronic conditions (56%) compared with visits physician offices (49%) and OPDs (49%).

Interest in access, utilization, and quality of primary care has increased due to its potential to prevent more serious health-related events (1–4). This report compares care delivered in physician offices, hospital outpatient departments (OPDs) and community health centers (CHCs). In 2008, 62% of the 1.1 billion ambulatory care visits were made to primary care delivery sites (5–7). Although primary care may be provided by any specialty, our analysis is limited to visits to office-based physicians, CHC providers, and OPD clinics specializing in internal medicine, family or general practice, general pediatrics, and general obstetrics and gynecology.

Keywords: physician offices • hospital outpatient departments • community health centers

CHCs and OPDs are important sources of primary care for poor populations.

Figure 1. Percent distribution of visits to primary care sites, by setting and poverty level in patient's ZIP Code: United States, 2008



NOTE: Ambulatory setting was significantly associated with poverty level ($p<0.05$, $p<0.01$, and $p<0.001$). Poverty level estimates exclude 4.8% of visits missing patient ZIP Code.
SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Vital and Health Statistics
Series 13, Number 166
April 2008

CDC Monitoring the Nation's Health

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; David A. Woodwell, B.A.; and
of Health Care Statistics

Introduction

The National Ambulatory Medical Care Survey (NAMCS), which began in 1973, was instituted to gather, analyze, and disseminate information about the health care provided by office-based physicians. Ambulatory medical care is the predominant method of providing health care services in the United States, and occurs in a wide range of settings.

Ambulatory medical care in physician offices is the largest and most widely used segment of the American health care system (1), and in 2004 accounted approximately 25 percent of health care spending (2). Physician offices comprised about four-fifths of all ambulatory medical care delivered in 2006, and physicians' consultation services included everything from primary care to highly specialized surgical and medical care. This report describes care delivered in the offices of nonfederally employed physicians. It includes visits not only to private practices but also to other settings, such as freestanding clinics—including urgent

Biological Services Branch contributed to the
Division of Cancer Prevention, Westat,
ables, and the figures were produced by Stuart

V SERVICES
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The Treatment of Smoking by US Physicians During Ambulatory Visits: 1994–2003

| Anne N. Thorndike, MD, MPH, Susan Regan, PhD, and Nancy A. Rigotti, MD

American Journal of PUBLIC HEALTH

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Use Of Medical Care For Chronic Conditions

HEALTH AFFAIRS

The locus of care for chronic conditions is increasingly in the ambulatory sector.

by Sandra L. Decker, Susan M. Schappert, and Jane E. Sisk

ABSTRACT: We us
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Trends in Opioid Prescribing by Race/Ethnicity for Patients Seeking Care in US Emergency Departments

JAMA

Mark J. Pletcher, MD, MPH
Stefan G. Kertesz, MD, MSc
Michael A. Kohn, MD, MPP
Ralph Gonzales, MD, MSPH

INADEQUATELY TREATED PAIN IS A MAjor public health problem in the United States[1] and a particular problem in emergency departments.[2] Patients usually present to the emergency department when other medical help is not accessible or when symptoms, often including pain, are most severe. Emergency department visits therefore represent high-risk encounters in which assessment and treatment of pain should receive careful attention.[2]

Context National quality improvement initiatives implemented in the late 1990s were followed by substantial increases in opioid prescribing in the United States, but it is unknown whether opioid prescribing for treatment of pain in the emergency department has increased and whether differences in opioid prescribing by race/ethnicity have decreased.

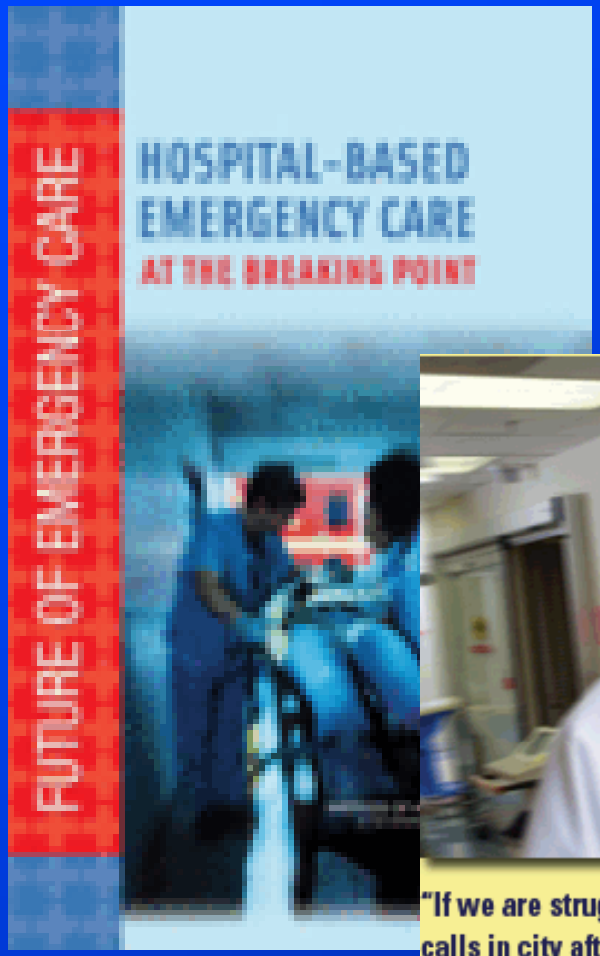
Objectives To determine whether opioid prescribing in emergency departments has increased, whether non-Hispanic white patients are more likely to receive an opioid than other racial/ethnic groups, and whether differential prescribing by race/ethnicity has diminished since 2000.

Design and Setting Pain-related visits to US emergency departments were identified using reason-for-visit and physician diagnosis codes from 13 years (1993-2005) of the National Hospital Ambulatory Medical Care Survey.

Main Outcome Measure Prescription of an opioid analgesic.

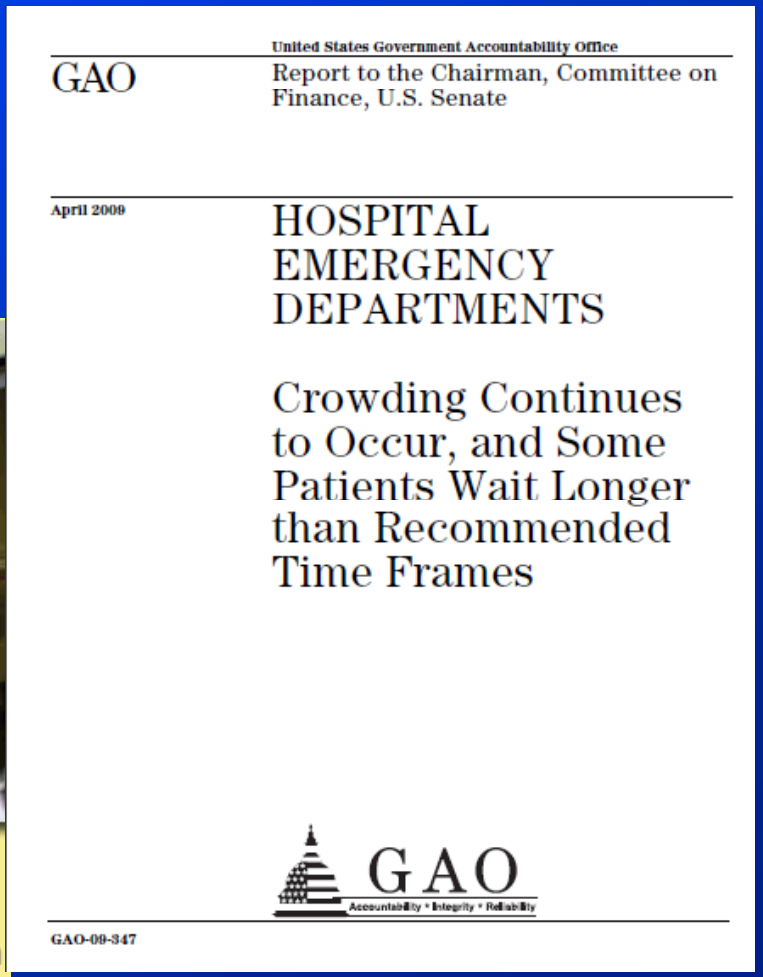
Results Pain-related visits accounted for 156 729 of 374 891 (42%) emergency department visits. Opioid prescribing for pain-related visits increased from 23% (95% confidence interval [CI], 21%-24%) in 1993 to 37% (95% CI, 34%-39%) in 2005 ($P < .001$ for trend), and this trend was more pronounced in 2001-2005 ($P = .02$). Over all years, white patients with pain were more likely to receive an opioid (31%) than black (23%), Hispanic (24%), or Asian/other patients (28%) ($P < .001$ for trend), and differences did not diminish over

Reports on Emergency Care



"If we are struggling to deal with tonight's 911 calls in city after city across the United States, how in the world are we supposed to handle an epidemic of pandemic flu or a major terrorist attack or the next natural disaster?"

— Art Kellermann



United States Government Accountability Office

GAO

Report to the Chairman, Committee on Finance, U.S. Senate

April 2009

HOSPITAL EMERGENCY DEPARTMENTS

Crowding Continues to Occur, and Some Patients Wait Longer than Recommended Time Frames

GAO

Accountability • Integrity • Reliability

GAO-09-347

Health Information Technology in the United States:
The Information Base for Progress

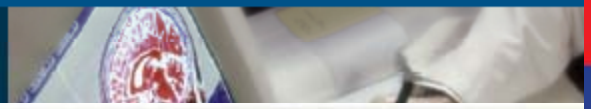
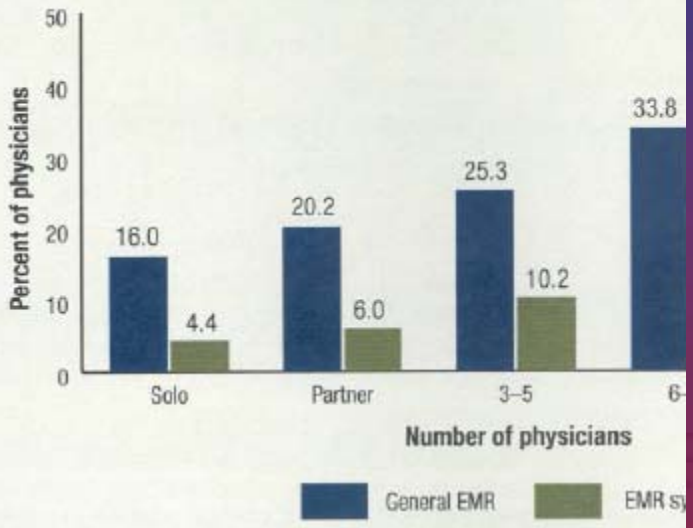


Figure 2: **Percent of physicians using electronic … and percent of physicians using electro… record system by practice size: United …**



NOTES: Both trends are significant ($p<.05$). EMR is electronic medical record. … response to single question on full or partial EMR use. EMR system is a positive… features: computerized orders for prescriptions, computerized orders for tests, te… notes. Includes nonfederal, office-based physicians who see patients in an office … anesthesiologists and pathologists

SOURCE: National Ambulatory Medical Care Survey.

2010
National Healthcare …ort

American Heart Association
Learn and Live

Heart Disease & Stroke Statistic…

Our guide to current statistics and the supplement …
Heart & Stroke Facts

2010 Update At-A-Gl…

Hospital Discharges/Ambulatory Care Visits/Nursing Home Visits

- From 1996–2006, the number of inpatient discharges from shortstay hospitals with CVD as the first listed diagnosis increased from 6,107,000 to 6,161,000 discharges. In 2006, CVD ranked highest among all disease categories in hospital discharges. *(2006 National Hospital Discharge Survey. National Health Statistics Reports. No. 5.)*
- In 2007, there were 79,697,000 physician office visits, hospital emergency department visits and outpatient visits with a primary diagnosis of CVD. *(National Ambulatory Medical Care Survey: 2007 Summary.)*
- In 2007, there were 4,048,000 visits to emergency departments with a primary diagnosis of CVD. *(National Ambulatory Medical Care Survey: 2007 Emergency Department Summary.)*
- In 2007, there were 7,929,000 outpatient department visits with a primary diagnosis of CVD. *(Vital Health Stat13. June 2009;[167]:1-155.)*
- In 2005, about one of every six hospital stays was due to CVD. *(AHRQ, MS)*

Keeping Surveys Relevant

Challenges

- Continually updating survey design, content, and analyses to address policy and research needs
- Improving coverage of providers and clinical management

Opportunities

- Incredible recent interest in our data, as seen in ACA support
- New analyses from our new and consolidated surveys
- Maximizing flexibility/updating survey content
- Greater geographic precision of estimates
- Continued outreach yields new support and collaborations

Keeping Surveys Timely

Challenges

- Making data available as soon as possible
- Producing optimal data products

Opportunities

- Upgrade to computer-assisted data collection will improve timeliness and efficiency
- Release of selected ambulatory provider-level estimates earlier
- New analytic tools and focused publications

Electronic Health Records

Challenges

- Collecting data during providers' transition from paper to electronic medical records
- Extracting data from electronic systems
- Providing meaningful data on the role of electronic health records in changing health care environment

Opportunities

- New /expanded surveys about adoption of EHRs
- Gaining new experience in collecting and processing electronic data directly

Hiring and Retaining Staff

Challenges

- Vacancies slow down our efforts to cover workload
- Highly specific set of desired skills makes it difficult to find candidates

Opportunities

- Survey operations remain top priority
- Some hiring authority granted, more hopefully coming; contractors helping
- Investment in training current staff

Fostering a Culture of Innovation

Challenge:

- Developing a working environment that encourages creativity and new ways to accomplish our goals

Opportunity

- Component of the Division Strategic Plan
- Keep monitoring employee perceptions of innovation
- “Issues in Health Care Statistics” and other forums to exchange ideas

Data Quality

Challenges

- No recent reabstraction to assess data quality because of funding constraints
- Infrequent training of field representatives

Opportunities

- Reabstraction studies in NAMCS and NHCS
- Development of long-term methodological agenda
- More systematic testing of new survey items and additional collaborations with QDRL

Response Rates

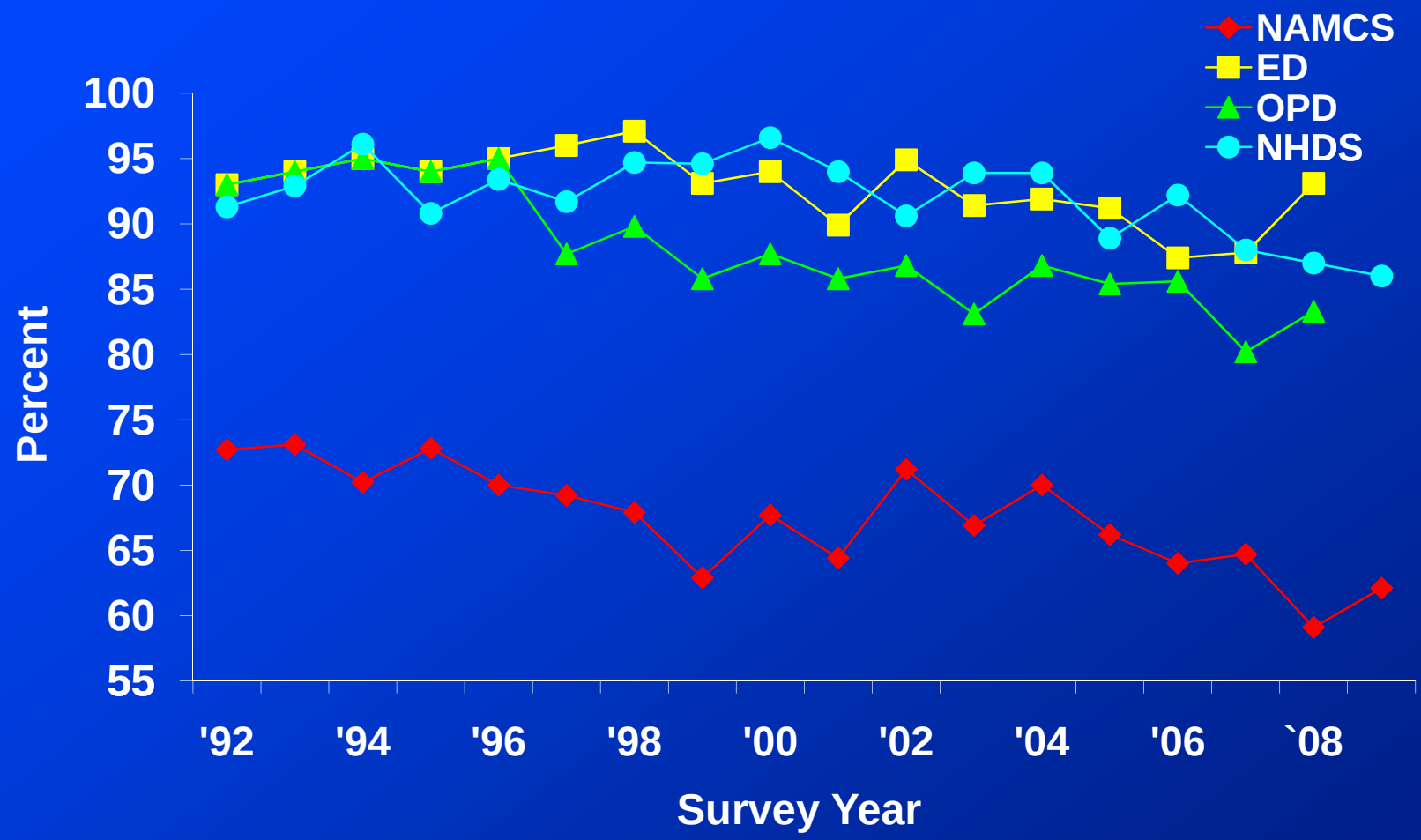
Challenges

- NAMCS response rates difficult to maintain
- Recruiting hospitals for NHCS

Opportunities

- Non-response follow-up studies
- Further outreach to provider associations
- Reducing burden through move to FR abstraction and electronic data transmission
- Fresh samples

Response Rates for NAMCS, NHAMCS, and NHDS



Note: ED & OPD response rates for the years 1992-96 were calculated as one rate.
Response rates are unweighted.

Sustainable Funding

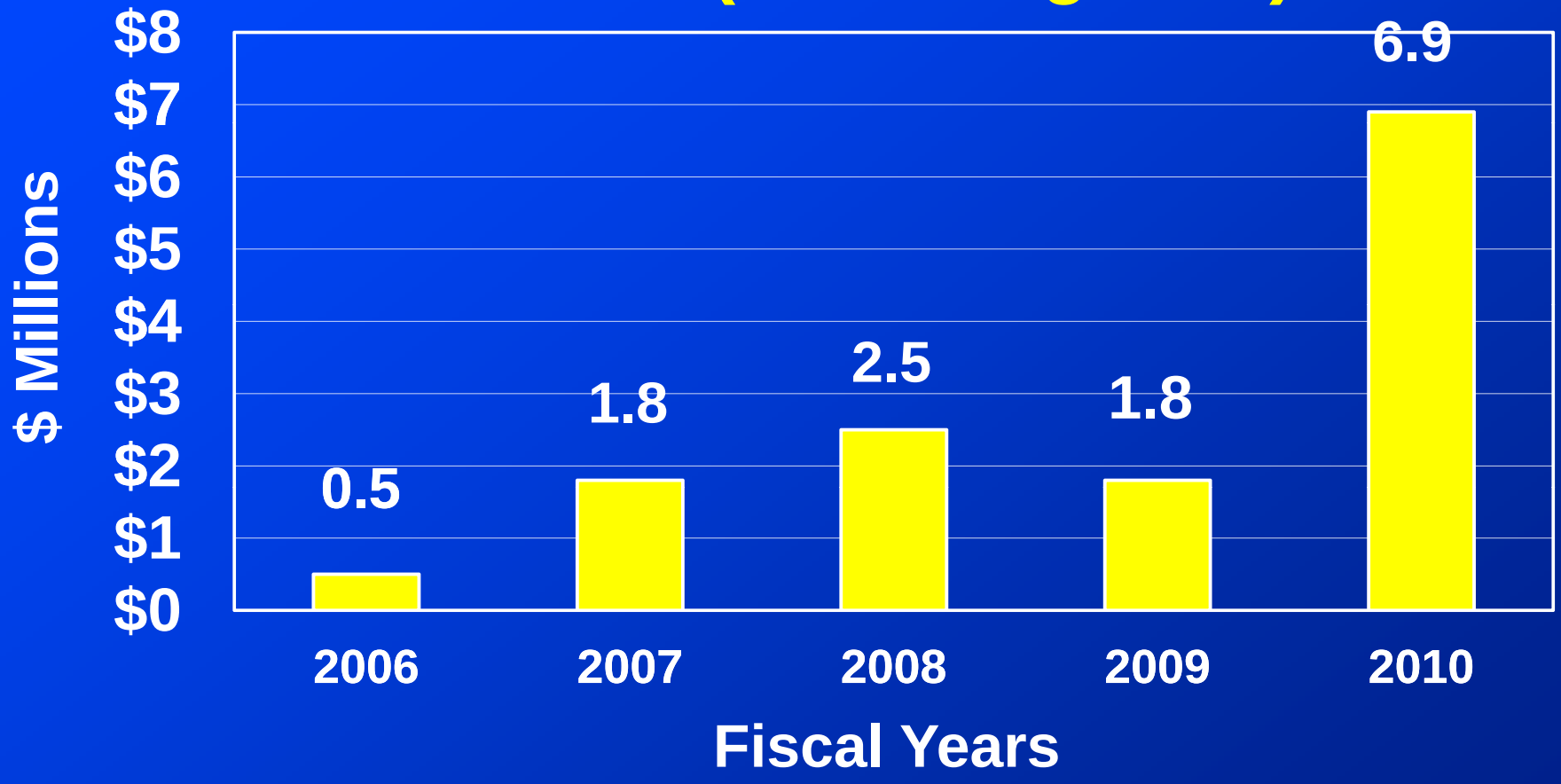
Challenges

- Years of uncertain funding led to delays, cancellations of data collections, and inability to make vital improvements
- External support remains uncertain year to year
- External support also means additional work in most cases

Opportunities

- Maximizing our benefit from current funding boom with long-term investments
- Continued outreach to potential sponsors

External Support Funds, Fiscal Years 2006-2010 (excluding ACA)



Questions and Comments?