

# Ambulatory and Hospital Care Statistics Branch Overview

## NCHS Board of Scientific Counselors

Paul Beatty and Jane Sisk

January 22, 2009



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 future plans

# **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.

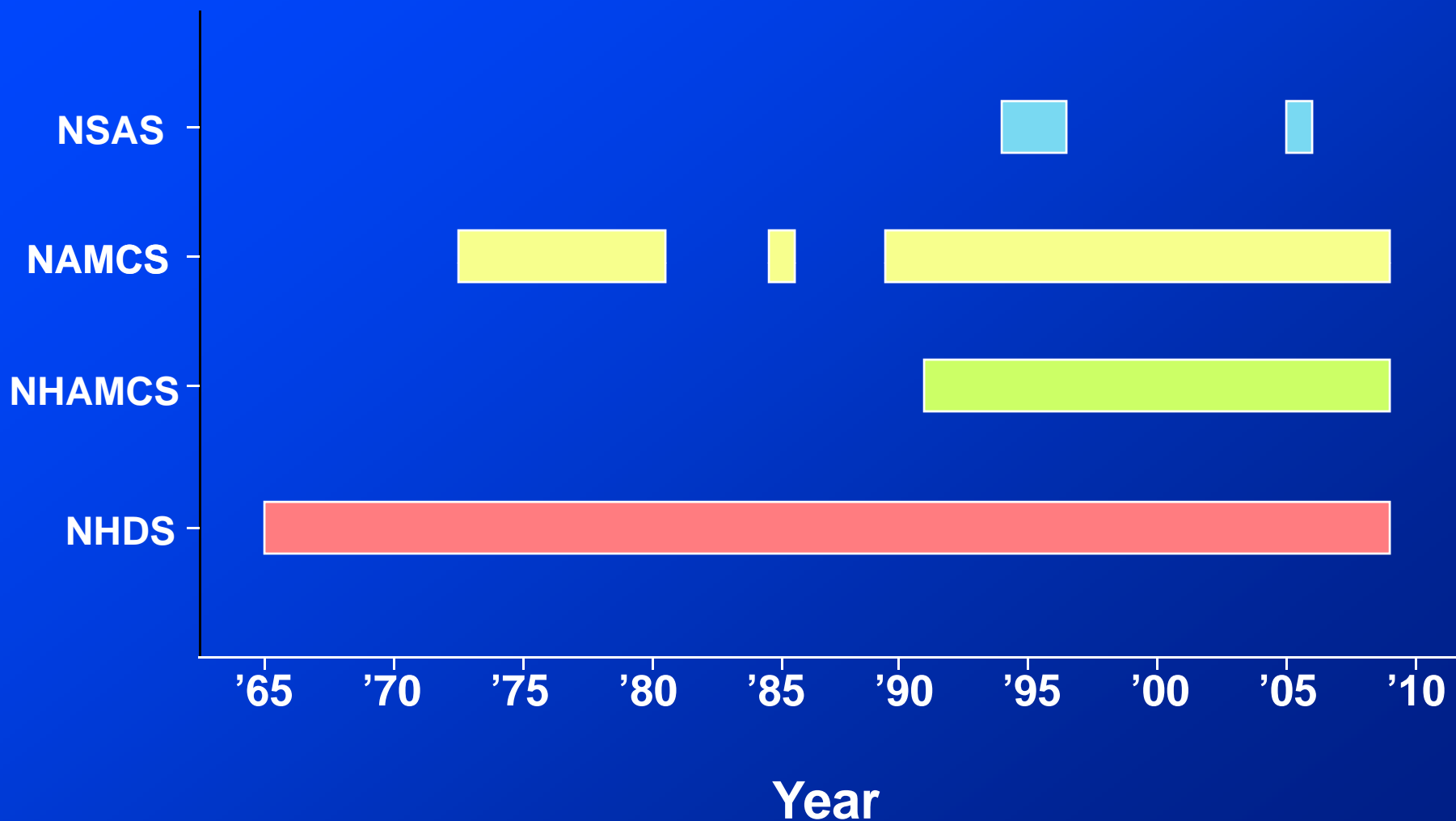
# National Health Care Surveys

- **Ambulatory and hospital care surveys**
  - National Ambulatory Medical Care Survey (NAMCS)
  - National Hospital Ambulatory Medical Care Survey (NHAMCS)
  - National Survey of Ambulatory Surgery (NSAS)
  - 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)

# Distinctive Aspects of the Surveys

- Surveys of establishments (not households)
- Encounter-level data
- Some data collected through interview, particularly facility-level
- Patient-level data abstracted directly from medical records

# Ambulatory Hospital Care Survey Data Collection, 1965 - 2008



# 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



# NHAMCS and NSAS

- National Hospital Ambulatory Medical Care Survey (NHAMCS) parallels NAMCS with data from emergency and outpatient departments
- National Survey of Ambulatory Surgery (NSAS) covers this growing segment of health care.  
Incorporation into NHAMCS:
  - Hospital based ambulatory surgery centers in 2009
  - Free-standing ambulatory surgery centers in 2010

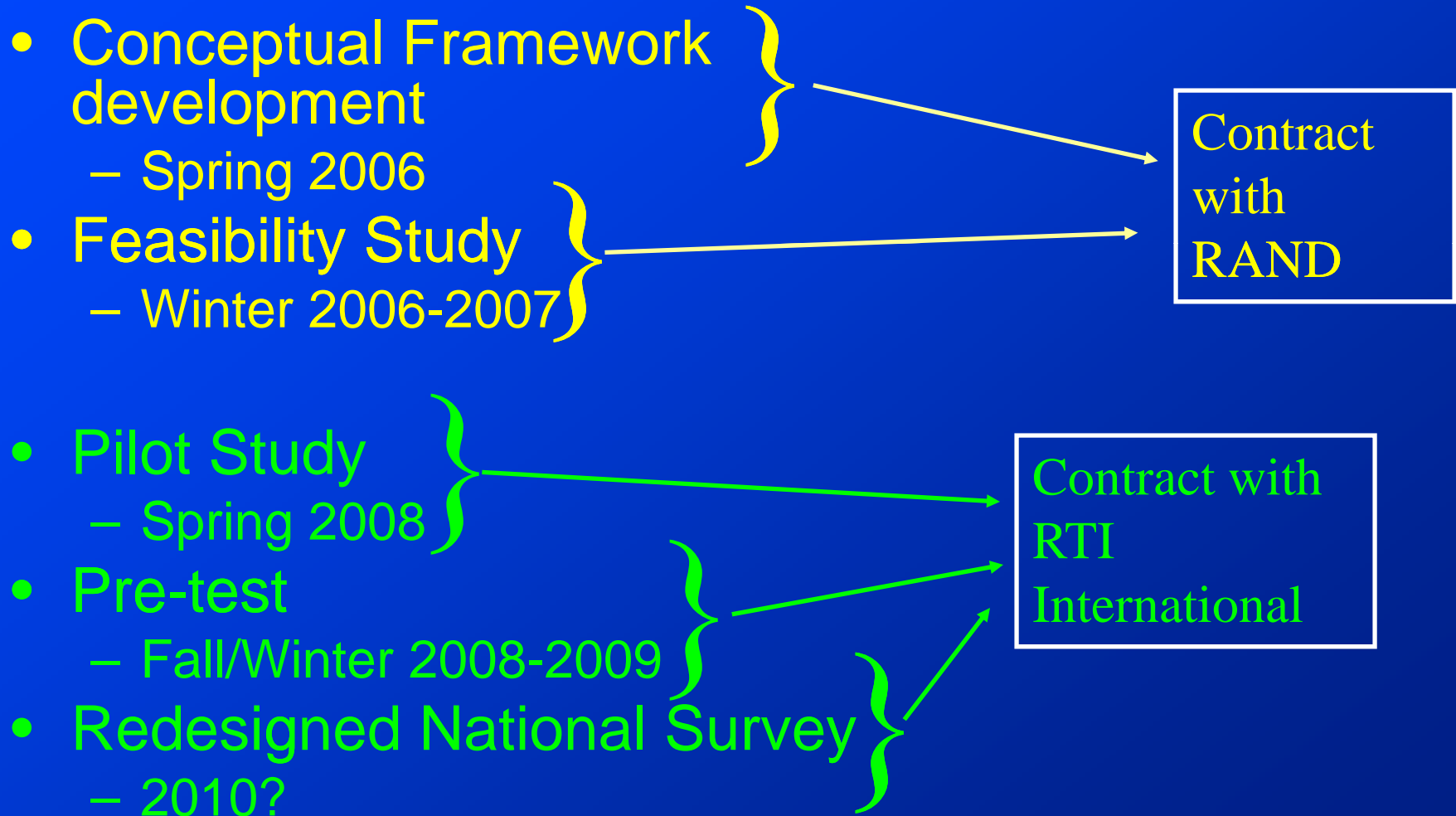


# National Hospital Discharge Survey

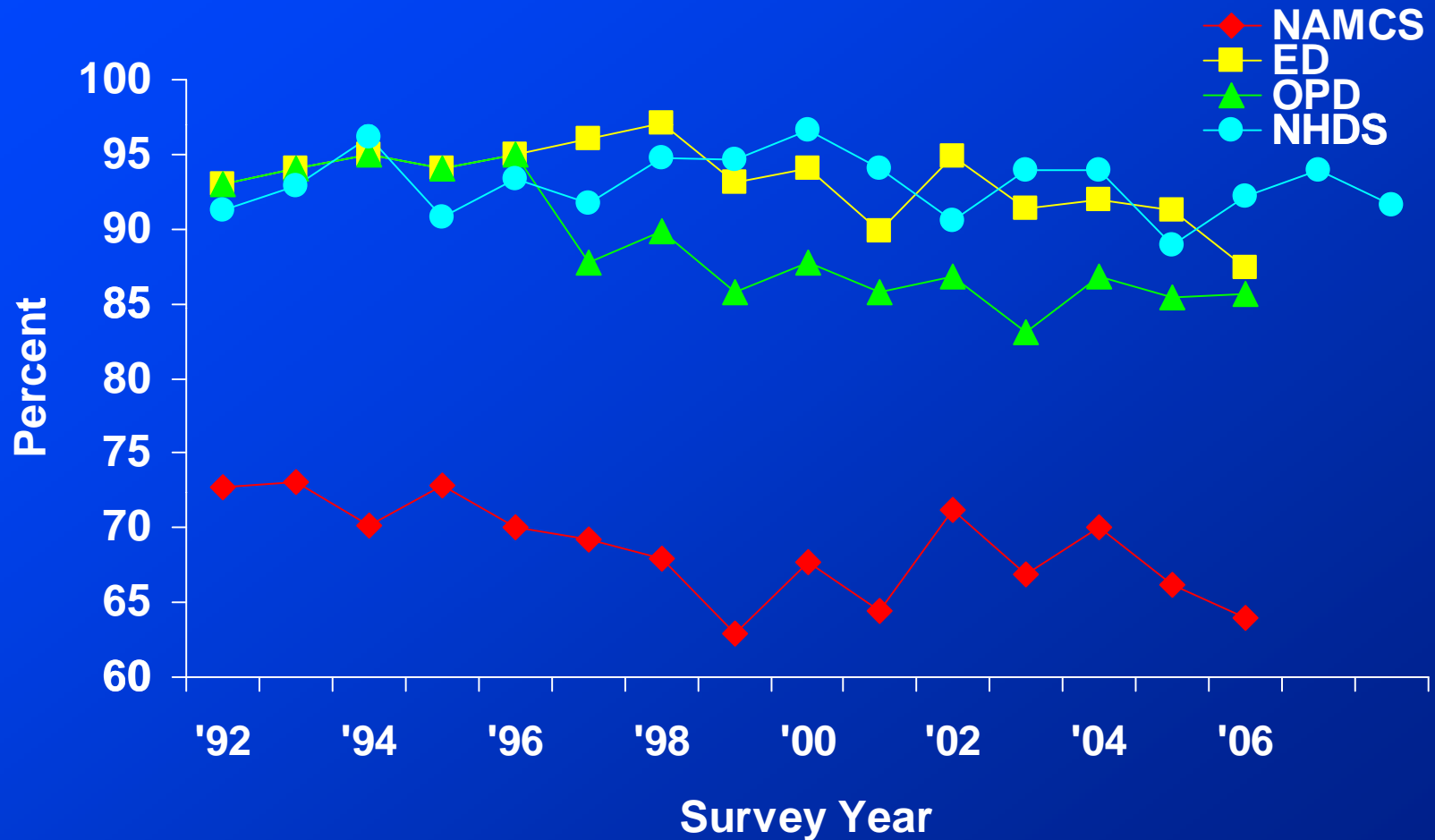
- Inpatient visits to non-federal short-stay hospitals
- Need for an updated survey:
  - Incorporation of clinical data
  - More flexibility of content
  - Identifiers to link to other data sources



# Steps in Redesign of NHDS

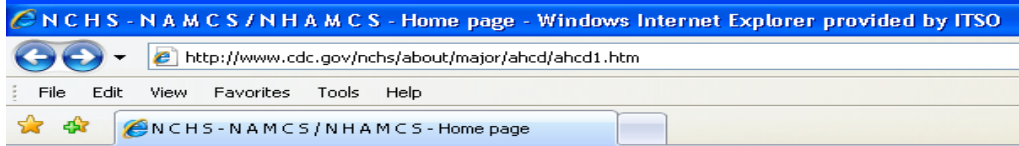


# Response Rates for NAMCS, NHAMCS, and NDHS



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

# Data Release



## Public-Use Data Files (micro-data) (1973-2006)

### Downloadable data files:

**Notice:** Currently, NAMCS and NHAMCS public-use files for 1993-2006 contain sample design variables in masked form. The initial release of the 2000-2006 public-use files included masked sample design variables. We re-released the 1993-99 NAMCS and NHAMCS files to include these variables. For re-released files, file names and layouts are essentially the same, but the design variables were appended to each file according to a generic file layout that is available for downloading below. Public-use files for previous years of data will be re-released with masked sample design variables on an ongoing basis.

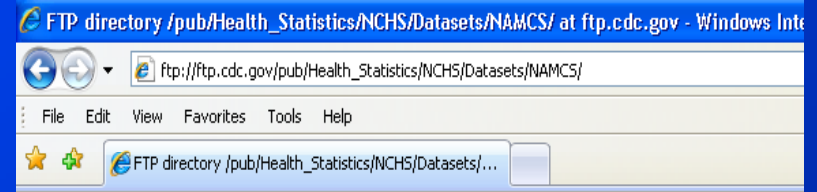
However, data users should note that, beginning with the 2002 public use files, two new masked design variables were added to the file, for use with statistical software that assumes a single stage of sampling. For the 2003 public use files and beyond decision was made to include only these two masked design variables for variance estimation. Therefore, data users will need to combine years of data from 2003 and beyond with year to 2002. A technical paper, *Using Ultimate Cluster Models NAMCS and NHAMCS Public Use Files*, gives instructions. [PDF](#)

- [NAMCS, 1993-2006](#)
- [NAMCS, 1973-1992](#)
- [NHAMCS, 1992-2006](#)
- [Public Use Data File Updates](#)

### Downloadable documentation:

**Notice:** For data years 1993-99, be sure to download not only the original file documentation for each year, but also the supplemental files that explain the new sample design variables that have been added to each file. The supplemental files include descriptions of any revisions that may have been made to the original data files.

- [NAMCS, 1993-2006](#)



## FTP directory /pub/Health\_Statistics/NCHS/Datasets/NAMCS/

[Up to higher level directory](#)

04/05/2002 09:15PM	1,335,865	<a href="#">NAMCS00.EXE</a>
08/29/2003 01:34PM	1,283,624	<a href="#">NAMCS01.EXE</a>
09/30/2004 08:30AM	1,561,415	<a href="#">NAMCS02.EXE</a>
07/19/2005 12:43PM	1,681,132	<a href="#">NAMCS03.exe</a>
03/20/2006 01:22PM	1,680,354	<a href="#">NAMCS04.exe</a>

## EXAMPLE 1

In this example, data from the 2005 ED public use file are being used to determine caseload percentages across emergency departments from 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 both 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 MISSEVER LRECL=999;
%INC ed05inp;
%INC ed05lab;
```



December 2008

## Preliminary Estimates of Electronic Medical Record Use by Office-based Physicians: United States, 2008

by Chun-Ju Hsiao, Ph.D.; Catharine W. Burt, Ed.D.; Elizabeth Rechtsteiner, M.S.; Esther Hing, M.P.H.; David Woodwell, B.A.; Jane E. Sisk, Ph.D., Division of Health Care Statistics

### Page Content

[Electronic medical record use by office-based physicians](#)  
[Methods](#) [References](#) [Suggested citation](#)

From April through August 2008, the National Center for Health Statistics (NCHS) conducted a mail survey of office-based physicians to obtain a preliminary estimate of their use of electronic medical records (EMRs). This estimate will supplement information from the core 2008 National Ambulatory Medical Care Survey (NAMCS), an annual nationally representative survey of patient visits to office-based physicians.

### Electronic medical record use by office-based physicians

In the 2008 mail survey, 38.4% of the physicians reported using full or partial EMR systems, not including billing records, in their office-based practices. About 20.4% reported using a system described as minimally functional and including the following features: orders for prescriptions, orders for tests, viewing laboratory or imaging results, and clinical notes. Comparable figures for the 2006 NAMCS, the latest available for the full survey, were 29.2% and 12.4%, respectively (1).

EMR systems that conform to certain interoperability standards have been defined as electronic health records (2). Electronic health records in turn have been characterized as basic (patient demographics, problem lists, clinical notes, orders for prescription, and viewing laboratory and



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## Ambulatory Health Care Data

[NAMCS/NHAMCS Home](#) | [NAMCS Participants](#)  
[NHAMCS Participants](#) | [What's New](#) | [Coming Soon](#)  
[NAMCS Description](#) | [NHAMCS Description](#) | [Data Highlights](#)

[Survey Methodology](#) | [Publications](#) | [Micro-data](#) | [Drug Database](#)  
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For more information, contact the Ambulatory and Hospital Care Statistics Branch at (301) 458-4600.



## The Ambulatory Health Care Data Listserv

[Listserv Home](#) | [Listserv Help](#)

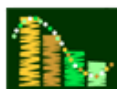
The Ambulatory Care list (ACLIST) provides a mechanism for dissemination of information regarding National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) activities.

### How to Subscribe to the

- In the [body](#) of the e-mail message (leave the space blank), type or paste: **subsc**



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## National Hospital Discharge and Ambulatory Surgery Data

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For more information, contact the Ambulatory and Hospital Care Statistics Branch at (301) 458-4321.

## 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).

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- Aging ▶
- Disease Classification ▶
- Healthy People ▶
- Injury ▶





# 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

Cigarette smoking is a leading cause of mortality in the United States. There is strong evidence that interventions at the level of smoking cessation have low rates of success. Smoking status and physician advice are important factors in the analysis of National Ambulatory Medical Care Surveys (NAMCSs) and National Ambulatory Care Outpatient Visits (NACOSs). Since the late 1990s, there have been substantial efforts by the American Medical Association and the American Public Health Society to improve the evidence-based treatment of smoking. We updated them and found that physicians identify and advise every

## Use Of Medical Care For Chronic Conditions

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 used Statistics to compare hospital discharge rates combined, ambulatory care visits, and depression. Median hospital emergency department visits. *[Health Affairs]*

**C**HRONIC conditions and disability are likely to account for a

## 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

**I**NADEQUATELY TREATED PAIN IS A MAJOR public health problem in the United States<sup>1</sup> and a particular problem in emergency departments.<sup>2</sup> 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.<sup>2</sup>

**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.

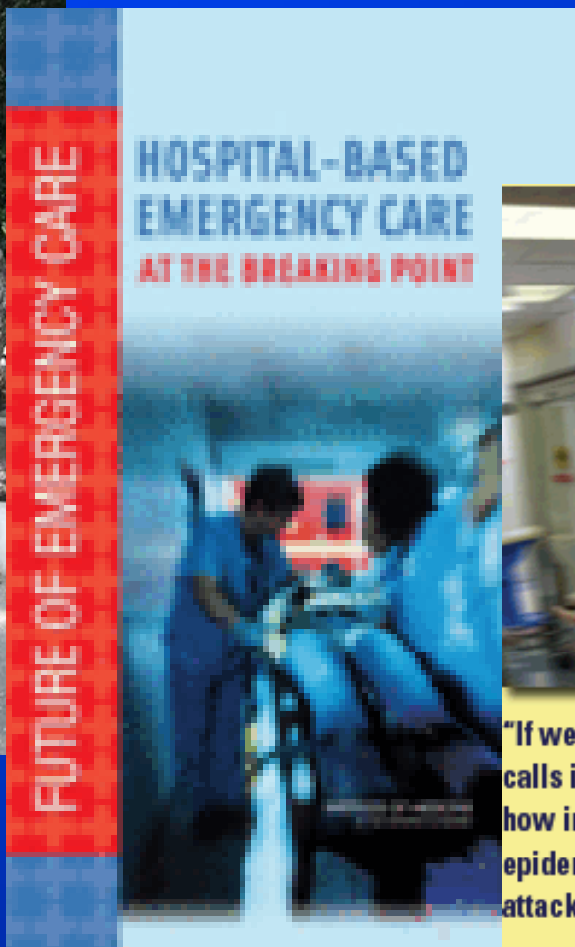
**Results** Pain-related visits accounted for 156 729 of 374 891 (42%) emergency department visits. Opioid prescribing for pain-related visits increased from 23% (95% confidence interval [CI], 21%-24%) in 1993 to 37% (95% CI, 34%-39%) in 2005 ( $P < .001$  for trend), and this trend was more pronounced 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

American Journal of  
**PUBLIC  
HEALTH**

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# Institute of Medicine Report



**"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 Kellerman**

**AHA Statistical Update**

**Heart Disease and Stroke Statistics—2009 Update**  
 A Report From the American Heart Association Statistics Committee  
 and Stroke Statistics Subcommittee

WRITING GROUP MEMBERS  
 Donald Lloyd-Jones, MD, ScM, FAHA; Robert Adams, MD, FAHA;

Merce  
 Kat  
 Kurt  
 Virginia How  
 Lynda  
 Wayne Ros  
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\*The findings and  
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**Health Information Technology  
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 The Information Base for Progress**

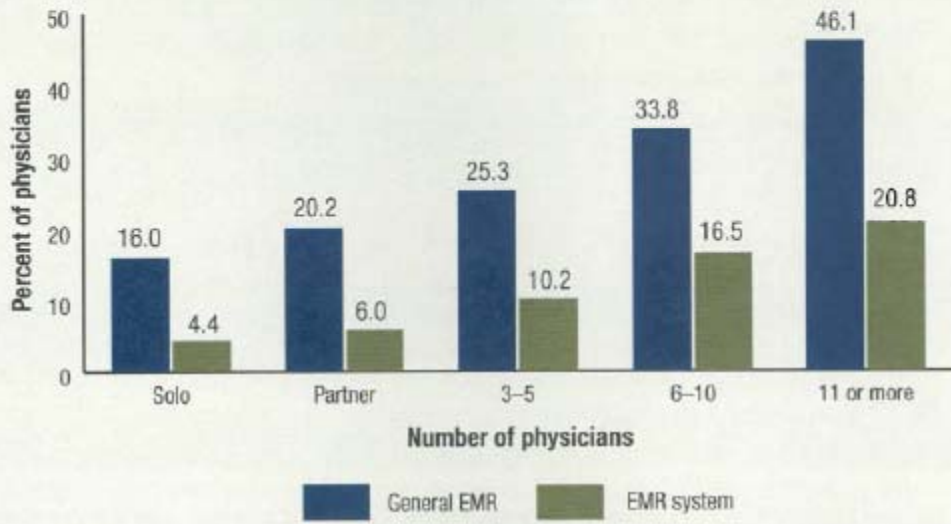
2006



**National Healthcare  
 Quality Report**



**Figure 2: Percent of physicians using electronic medical records and percent of physicians using electronic medical record system by practice size: United States, 2005**



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

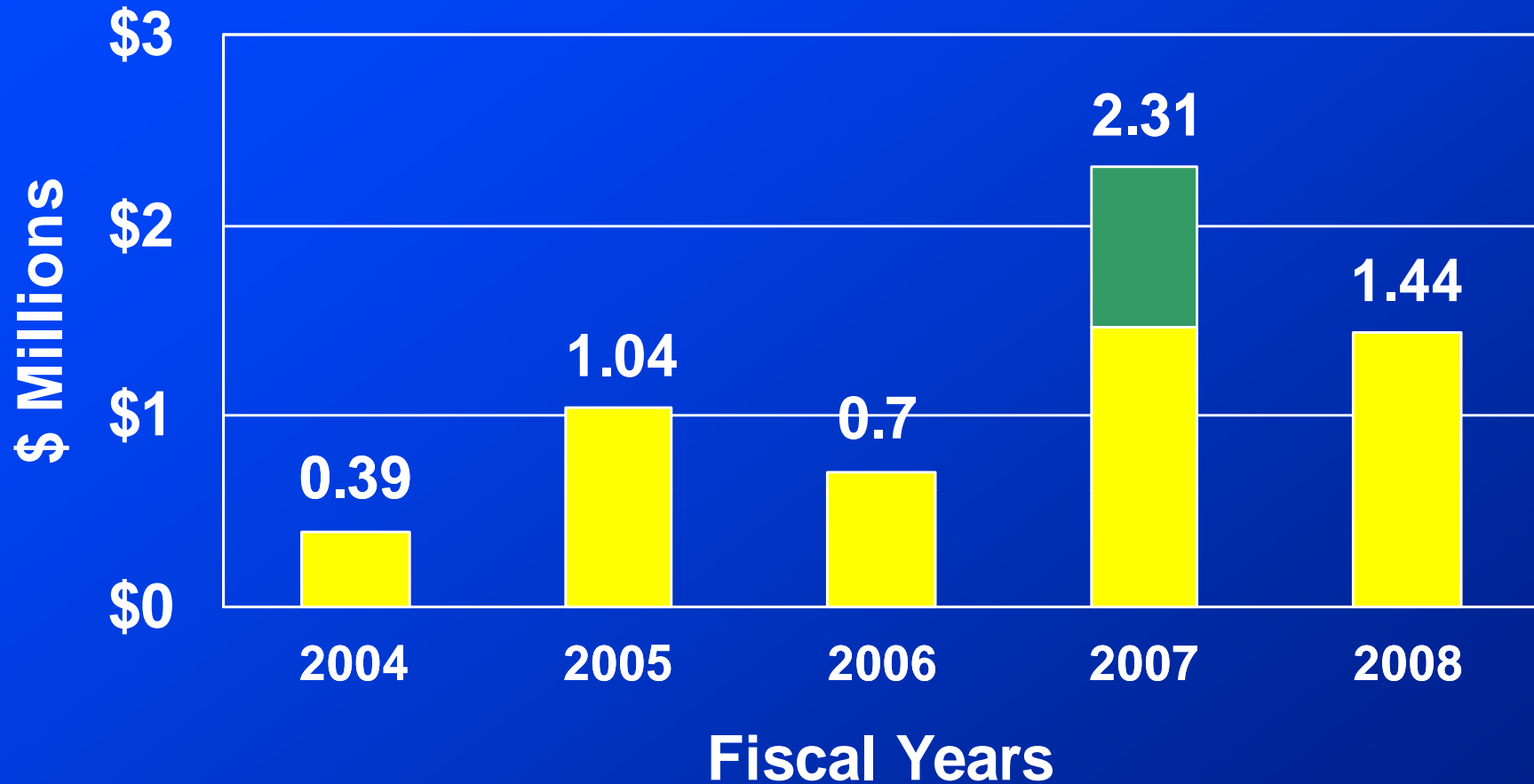
SOURCE: National Ambulatory Medical Care Survey.



MASSACHUSETTS  
 GENERAL HOSPITAL

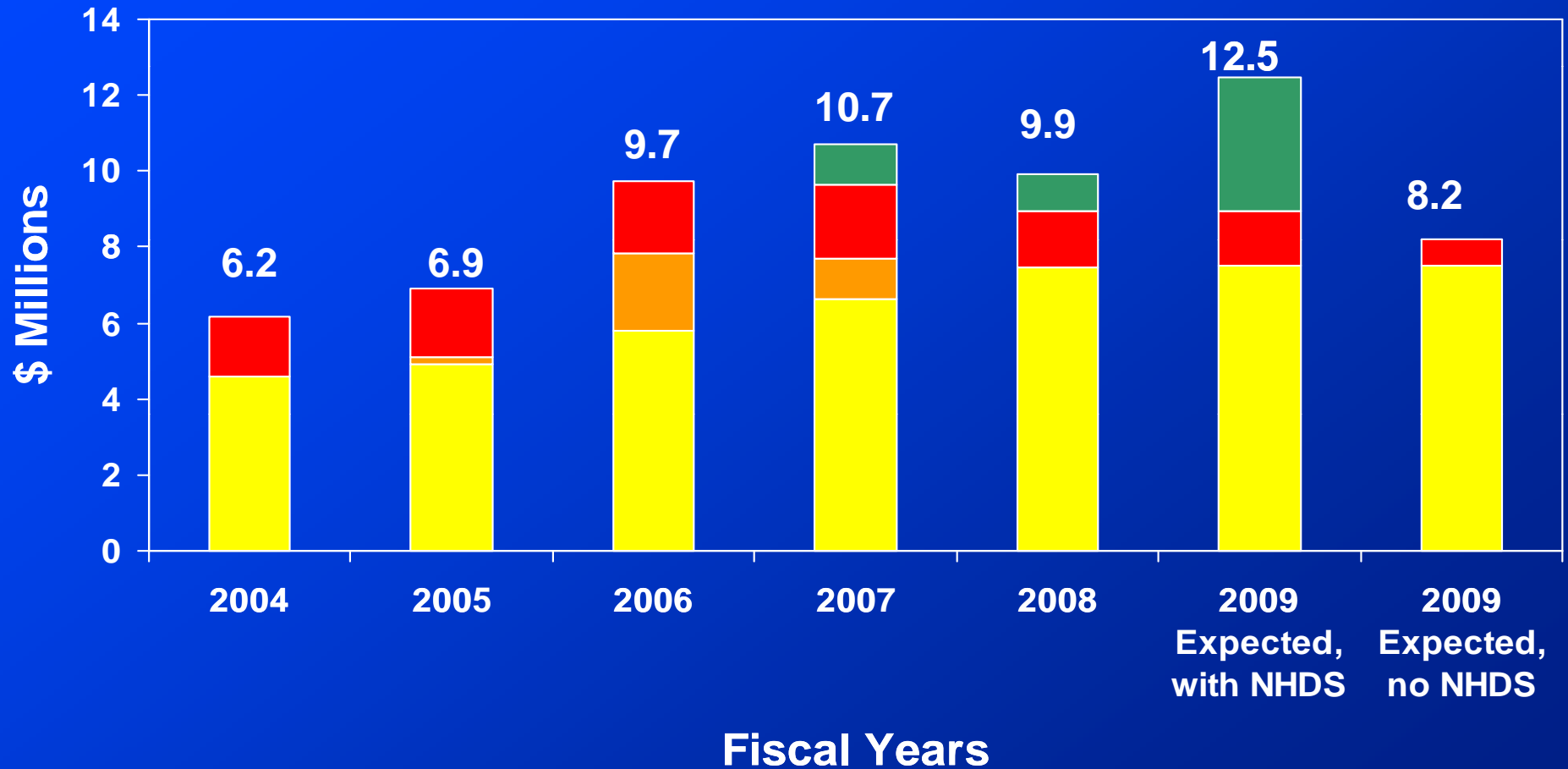
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# Reimbursable (Sponsorship) Funds, Fiscal Years 2004-2008



■ NAMCS + NHAMCS ■ Redesigned NHDS

# Expenditures on Ambulatory and Hospital Surveys, Fiscal Years, 2004-2009



■ NAMCS + NHAMCS 
 ■ NSAS 
 ■ Current NHDS 
 ■ Redesigned NHDS

# Budget

## Challenges

- NHDS 2009 and redesigned NHDS on hold
- Funding for improvements to ambulatory surveys uncertain

## Future Plans

- Continued outreach to potential sponsors
- Strategic planning process underway to set priorities

# Staffing

## Challenges

- Filling vacancies from promotions, retirements, and resignations on hold
- More clinical expertise needed

## Future Plans

- Survey operations priority over analyses
- Recruitment of physician or other clinician
- Investment in training current staff

# Timeliness of Data Release

## Challenges

- Time to data release lengthening
- Staff vacancies and survey changes

## Future Plans

- Release of selected ambulatory provider-level estimates earlier
- Exploration of electronic data collection and transmission over time



# Keeping Surveys Relevant

## Challenges

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

## Future Plans

- Strategic planning process
- Continued outreach
- More emphasis on provider-level estimates
- Updating surveys as resources permit



# Response Rates

## Challenges

- NAMCS response rates falling
- Recruiting hospitals for redesigned NHDS

## Future Plans

- Non-response follow-up studies
- Further outreach to provider associations
- Possible electronic data sampling and transmission to reduce hospital burden

# Data Quality

## Challenges

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

## Future Plans

- Improvement in developing new survey items
- Reabstraction of redesigned NHCS sample
- Development of long-term methodological agenda

# Electronic Medical Records

## Challenges

- Data collection during providers' transition from paper to electronic medical records
- Extracting data of acceptable quality from electronic systems

## Future Plans

- Working with selected providers to gain experience with electronic systems
- Exploration of electronic data collection for redesigned NHDS
- Addition of HIT staff person when permitted

# Questions and Comments?

