Summary of Benchmark Changes (NHEA 2004)

The U.S. National Health Expenditure Accounts (NHEA), first published in 1964 (Reed and Rice, 1964), is an accounting matrix that presents health spending along two dimensions: spending for health goods and services and the sources of funds used to purchase those goods and services. To keep these accounts accurate and relevant, the scope, methods, and data sources used are periodically reexamined by external experts in the fields of health economics, national income and expenditure accounting, academia, and other related fields through formal conferences (Huskamp and Newhouse, 2006; Huskamp and Newhouse, 1999; Haber and Newhouse, 1991; Lindsey and Newhouse, 1986). Conference recommendations, newly available data, and methodological and definitional changes are typically incorporated into the NHEA every five years timed to correspond with the release of the quinquennial economic censuses. During these "benchmark" revisions to the NHEA the entire time series (back to 1960) is opened for revision. This document summarizes the changes in methods, definitions, and source data that were introduced for the 2004 NHEA "Benchmark" estimates. (Attached table provides amount of revision plus primary cause of revision)

Incorporation of data from the Economic Censuses

The NHEA categories of physician and clinics, home health, nursing homes, dentists, and other professional services were benchmarked to revenue estimates from the 2002 Economic Census. Spending for years between the 1997 and 2002 Economic Census data were estimated using the pattern in the Census Bureau's Service Annual Survey. Final Merchandise Line Sales data from the 2002 Census of Retail Trade was incorporated into the prescription drug estimate.

Investment

Structures and Equipment. Historically, in the NHEA this category only included construction of hospital and nursing home structures (value put in place). Beginning with the 2004 NHEA estimates, investment in structures and equipment is defined as total medical sector acquisitions of structures and equipment. The new estimate of structures differs from the old estimate primarily in that it captures the value put in place of structures that house medical professional's offices. The primary data source for these estimates is the Annual Capital Expenditure Survey, conducted by the Census Bureau (1992 – 2003). Previously, investment in medical capital equipment was not included in the NHEA. Beginning with the NHEA 2004, estimates of the value of new capital equipment (including software) purchased or put in place by the medical sector is included. The estimates of investment in equipment are prepared using a variety of data published by the Census Bureau and the Bureau of Economic Analysis.

Changes in methodology combined with the addition of other medical structures revised the construction estimate up by $11.7 billion in 2003. The addition of medical sector capital equipment caused an additional upward revision of $44.3 billion to investment in 2003.

Non-commercial Research. The NHEA non-commercial research estimate was revised for 1976 forward reflecting methodological and statistical changes in the federal, state, and private non-profit research estimates. The new method for estimating federal research uses outlay data directly from the NIH budget (1976 forward) and a ratio of non-NIH federal research to NIH research calculated from National Science Foundation survey data. Previously, federal research was estimated using data from the National Science Foundation survey on federal funds for research and development. The state (non-academic) estimates of non-commercial research were estimated for 1991 forward using data from National Science Foundation Survey of Non-profit Performers (1973, 1996, and 1997). Data from the National Science Foundation Survey of Non Profit Performers was also used to estimate (for 1991 forward) private non-profit research, now renamed All Other Sources.

Types of Services and Goods

Hospitals. The non-federal hospital spending estimate was benchmarked to the 1997 and 2002 spending level from the American Hospital Association (AHA) Annual Survey. Growth for the intervening years (1998 – 2001) was driven by trends in public spending program data and private spending trends from the AHA annual Survey and the Census Bureau's Service Annual Survey.

We also removed free-standing intermediate care facilities for the mentally retarded (ICF/MR) from the nonfederal hospital estimate. Our previous method for accounting for hospital-based ICF/MR spending was based on a point-in-time estimate of hospital-based ICFMR spending moved forward with AHA Annual Survey data (total facility). This method did not take into account the rapid movement of ICF/MR spending out of the hospital and into free standing facilities in the late 1970s and the 1980s.

Revisions to the federal hospital spending estimate include a correction to the Department of Justice hospital estimate, removal of capital from Veteran's Administration hospitals, revised service distributions for the Department of Defense, and a new method for estimating Indian Health Service hospital spending.

Physicians and Clinics. The physician and clinical services estimates were benchmarked to the 2002 Economic Census. For the first time, source of funding estimates for independently billing labs were estimated separately from physicians and clinics. Also for this benchmark estimate, expenditures for the Coast Guard Academy Clinic were reclassified as physician and clinical services. Examination of data and information from the clinic indicated that this facility does not provide any inpatient services. This spending was previously classified as federal hospital spending.

Prescription Drugs. The prescription drug estimate was benchmarked to the 2002 Census of Retail Trade, Merchandise Line Sales. For this benchmark revision, mail order prescription drug spending for the Veteran's Administration and the Department of Defense were reclassified as prescription drugs spending. Previously, this spending was

in the hospital estimate. Another revision implemented in this set of estimates is a reduction in the amount of branded drug sales subject to rebate. This reduction was implemented to account for the fact that drugs that do not face competition often do not offer rebates. This change lowered the aggregate rebate share of private spending.

The methodology for estimating co-payment shares for mail order sales and for Medicare and Medicaid HMO sales of prescription drugs was revised. Data from the Takeda Lilly report was incorporated into the co-payment estimate for private mail order spending, while data from the Department of Defense and the Veteran's Administration were used for government mail order co-payments. The methodology for determining co-payment amounts for Medicare and Medicaid HMO drug purchases was refined; the revised estimates caused a reduction in the out-of-pocket share of private drug spending.

Nursing Homes. The nursing home estimate was benchmarked to the 2002 Economic Census. Also for this estimate, all Medicaid ICF/MRs spending was classified as nursing home spending. Previously a portion of ICF/MR spending was allocated to hospitals. Additionally, a new method was incorporated for estimating spending in state and local government nursing homes based on employment data on a NAICS basis. Previously employment data was classified using SICs.

Durable Medical Equipment. The durable medical equipment (DME) estimate was benchmarked to Input-Output data from the Bureau of Economic Analysis for 1982, 1987, 1992, and 1997. For all other years MEPS and CE data were used to estimate private DME spending. Veteran's Administration spending for DME was removed from the NHEA durable medical equipment category because this spending is not for retail purchases.

Sources of Funds

Private Health Insurance. In the NHEA, private payer spending is calculated as a residual (total service spending less public spending). The private health insurance (benefits) estimate, the largest component of private spending, can change significantly when the total service estimates are either benchmarked to newly available data or experience a methodological change.

The private health insurance estimate was also revised to reflect a new method for accounting for property casualty insurance payments. Historically, these payments have been included in the NHEA private health insurance benefits estimate as they are included in revenue estimates obtained from providers, but no explicit adjustment was made to the net cost ratio when converting benefits to premiums to account for differences in net cost of private health insurance and the net cost of property casualty insurance. For this estimate we applied the net cost ratio of property casualty insurance to its associated benefits to more accurately account for property casualty premiums. This change resulted in an additional $7.1 billion in premiums in 2004 and an increase of 0.9 percentage point to the net cost ratio.

Medicaid. The NHEA Medicaid estimates are based primarily on data from the CMS-64 forms that states submit to CMS reporting their actual Medicaid expenditures. Historically, "base" services have been used as the basis for the NHEA Medicaid estimates; however, these base services do not reflect prior period adjustments. Beginning with the NHEA 2004 estimates, Medicaid is estimated using "net" services (base services plus prior period adjustments) rather than "base" services. Prior period adjustments can either increase or decrease reported spending.

Medicaid nursing home, home health, and hospice expenditures are distributed to free-standing and hospital-based facilities based upon ratios derived from the Medicare Provider Analysis and Review (MEDPAR). . The NHEA 2004 estimate reflects updated MEDPAR ratios for CY 1990 through 2004. Previously, the Medicaid nursing home, home health, and hospice estimates inconsistently used MEDPAR data.

In past NHEA estimates, some ICF/MR facilities have been classified as hospital-based and their expenditures included in hospital spending. Beginning with the 2004 NHEA these expenditures are reclassified as Medicaid nursing home spending.

Medicare. The NHEA Medicare estimates are based primarily on Medicare Part A and Part B spending reported in the annual Medicare Trustees Report. Historically, the estimates have been based on fiscal year data converted to a calendar year basis. However, input data for the Trustees Report recently became available on both a calendar and fiscal year basis for the years 1991 forward. Beginning with the NHEA 2004 estimate, the 1991 through 2004 Medicare estimates are based on calendar year data from the Medicare Trustees Report rather that fiscal year data converted to a calendar year basis.

To be consistent with NHEA definitions, the Trustees Report data is converted from a type of service basis to type of establishment (that delivers the service) basis. For this purpose, Medicare spending is broken out into spending at freestanding facilities and spending at hospital-based facilities. For the NHEA 2004 estimate, revised hospital-based and freestanding ratios for home health and skilled nursing facilities were incorporated. These revised ratios reflect the growth in MEDPAR freestanding and hospital-based shares of spending for 1991 forward.

Medicare expenditures in the NHEA reflect spending that occurs in the 50 states and the District of Columbia (99 percent of total Medicare spending). Because the Medicare Trustees Report includes a small amount of spending that occurs outside of the United States, this amount is removed from the NHEA estimate. For the NHEA 2004 estimate, data from the National Claims History was used to convert total Medicare spending to spending for the 50 states and the District of Columbia for 1991 – 2004.

Medicare is estimated in two pieces, fee-for-service and managed care. Fee-for-service expenditures by type of service are available from the Trustees Report; however managed care spending reported in the Trustees Report does not have include detail by type of service. With the 2004 NHE estimate, new Medicare managed care payment data by type

of service from the Adjusted Community Ratings forms (2001 – 2004) was used to split managed care payments into NHEA service categories.

With the implementation of the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA), a separate Part D account was established within the SMI Trust Fund. Although the Part D benefit does not begin until January 1, 2006, Medicare made payments in 2004 and 2005 for the drug discount card and transitional assistance spending. These payments are now included in the fee-for-service prescription drug Medicare expenditures.

Beginning with the NHEA 2004 estimate, Medicare fee-for-service dental spending is estimated using the portion of spending accounted for by oral surgery. The Medicare fee-for-service benefit does not cover regular dental services. Previously, fee-for service spending for oral surgery was included with Medicare physician services, and the dental services category represented payments covered under managed care only.

Department of Defense (DOD). For the first time, the NHEA Department of Defense estimate includes spending for the Medicare Eligible Retiree Health Care Fund (MERHCF). This fund, which began in fiscal year 2003, was established to fund the accrued and future liability of military treatment care, purchased care, and pharmacy costs for the TRICARE For Life participants. The addition of this spending added $4.6 billion to the DOD estimate in 2003. Other changes made during the 2004 NHEA include incorporation of updated data for service distributions, calendar year 1995 forward, and revised estimates of administration, calendar year 1996 forward.

Workers' Compensation. For the NHEA 2004 estimate, a new service distribution methodology was developed for workers compensation. The previous method, which used the distribution of total health care spending to allocate workers compensation benefits, was replaced with a new method that uses the Census Bureau's Service Annual Survey revenue data, supplemented with estimates of prescription drug spending from the Workers' Compensation Rating Bureau of California and estimates of durable medical equipment from the Workers' Compensation Research Institute. Revisions to the workers' compensation service distribution incorporated from 1974 forward. Revised data for federal and state and local workers' compensation programs was also incorporated for this estimate for 1993 forward.

Veteran's Administration (VA). For this estimate, data from the Veteran's Administration cost reports were incorporated for 1999 forward. Previously the estimate was based upon data from annual federal budget documents. Also included in this estimate is the reclassification of capital, mail order pharmacy, and outpatient durables. Capital was removed from the Veteran's Administration estimate for 1960 forward and is now included in the NHEA investment estimate. The VA's mail order pharmacy, Consolidated Mail-Out Pharmacy (CMOP), which was previously classified as VA hospital spending has been reclassified as prescription drug spending. Outpatient durables spending previously classified as durable medical equipment (which should only include retail sales) has been reclassified as VA hospital spending.

Maternal and Child Health. The Maternal and Child Health estimates were revised from 1981 forward to reflect revised service splits and newly available data from the Maternal and Child Health Bureau and the Public Health Foundation.

General Assistance. In the past, general assistance hospice spending was classified as other professional services. Beginning with the NHEA 2004 estimates this spending is classified as home health spending.

State and Local Public Health. A new methodology for reconciling data from the Census of Governments and the Annual Survey of Governments data was introduced for this estimate and caused slight downward revisions for 1977 forward.

2002 Revisions and Cause of Revision

	2002 Revision to NHE (in billions)	Primary Cause of Revision
Type of Services		
National Health Expenditures	48.9	
Health Services and Supplies	-0.6	
Personal Health Care	-1.5	
Hospital	4.4	benchmarked to AHA Annual Survey, update of MEDPAR hospital-based/freestanding facility ratios
Physician	-2.9	benchmarked to Census
Other Professionals	-0.4	benchmarked to Census
Dental	2.5	benchmarked to Census
Other Personal Health Care	1.0	
Home Health	-2.2	benchmarked to Census, update of MEDPAR hospital-based/freestanding facility ratios.
Nursing Home	-0.8	benchmarked to Census, ICF/MR reclassification, update of MEDPAR hospital-based/freestanding facility ratios
Prescriptions Drugs	-3.9	inclusion of Census of Retail Trade
Durable Medical Equipment	1.1	benchmarked to Input - Output data
Other Nondurable Medical Products	-0.2	
Administration	0.4	incorporated property/casualty insurance net cost ratios
Government Public Health	0.5	new methodology
Research	-4.0	revised use of NIH data
Structures & Equipment	53.5	inclusion of investment in medical equipment and other medical facilities
Source of Funding		
Total	48.9	
Private	40.4	
Out Of Pocket	-3.4	residual estimate (reflects revisions in total spending and in other sources)
Private Health Insurance	2.8	residual estimate (reflects revisions in total spending and in other sources), incorporated property/casualty insurance net cost ratios
Other	41.0	inclusion of investment in medical equipment and other medical facilities
Public	8.6	
Federal	0.9	
Medicare	-1.4	Revised Trust Fund data, use of CY rather than FY data
Medicaid	-1.0	switch from "base" CMS-64 to "net" CMS-64
Other	3.3	inclusion of investment in medical equipment and other medical facilities
State and Local	7.6	
Medicaid	-0.7	switch from "base" CMS-64 to "net" CMS-64
Other	8.3	inclusion of investment in medical equipment and other medical facilities

Note: All estimates were revised due to more recent data which are reflected in the revisions above. We only identified the major benchmark changes on this table.. Also some of the revisions are offsetting so the amount shown above is net of all changes.