

A Reconciliation of Health Care Expenditures in the National Health Expenditures Accounts and in Gross Domestic Product

Authors	Robert J. Kornfeld, U.S. Bureau of Economic Analysis; Micah B. Hartman, Nathan A. Espinosa, Regina L. Butler, and Aaron C. Catlin, Centers for Medicare and Medicaid Services
Contact	Robert.Kornfeld@bea.gov
Date	June 2020
Abstract	<p>This paper provides a detailed reconciliation of the National Health Expenditure Accounts (NHEA), the official estimates of health care spending in the United States from the Centers for Medicare and Medicaid Services, and the estimates of health expenditures that are part of gross domestic product (GDP) produced by the Bureau of Economic Analysis as part of the National Income and Product Accounts. It is an update of the previous reconciliation that was released in 2010. For the period from 2007 to 2018, the estimates of total national health spending in the NHEA and in the GDP data continue to be relatively similar, usually differing by less than 2 percent annually. Well over 90 percent of the total estimated expenditures in the two accounts consist of the same expenditures. However, some specific categories of health care expenditures—physician services, hospitals, drugs, health insurance, investment in equipment, and government programs—show proportionately larger differences. These differences reflect the classification and composition of health care spending in the two accounts as well as the use of varied estimation methods and data sources.</p>
Keywords	Health care expenditures, National Income and Product Accounts, NIPAs, gross domestic product, GDP, National Health Expenditure Accounts
JEL Code	E01, I1



1. Introduction

Health care spending continues to play an important role in the U.S. economy. Understanding and accounting for health care spending in a comprehensive and consistent way continues to be important to researchers, policymakers, and business leaders. Much of this attention results from the dramatic increase in the share of the economy devoted to health care over the past half-century, from 5.0 percent in 1960 to 17.7 percent in 2018, as well as the expectation that the share will increase to 19.7 percent by 2028.¹ To gain insights into the consumption of medical goods and services, the financing of these purchases, and the share of our nation's economic output that is devoted to health care spending, it is important to understand and reconcile different, widely cited estimates of health care expenditures.

This paper presents a reconciliation of the National Health Expenditure Accounts (NHEA), the official estimates of health care spending in the United States from the Centers for Medicare and Medicaid Services (CMS), and the estimates of health expenditures that are part of gross domestic product (GDP) produced by the Bureau of Economic Analysis (BEA) as part of the National Income and Product Accounts (NIPAs). This research provides a detailed reconciliation of estimates of specific categories of health expenditures and identifies and quantifies the similarities and differences between the two accounts, building on previous research to provide the most complete reconciliation to date. It is an update of the previous reconciliation of the two accounts that was released in 2010.² This reconciliation is also an important part of the BEA health care satellite account.³

The estimates of total national health spending in the NHEA and in the GDP data are relatively similar; they usually differ by less than 2.0 percent in most years, going back to 1960. This similarity is not surprising as the two accounts measure spending for a similar set of medical goods and services and rely on many similar data sources. At a disaggregated level, however, larger differences in the estimates of narrower categories of health care spending emerge. These differences need to be explained so data users understand how to use each data set to best meet their needs.

-
1. See [“NHE Projections 2019–2028 – Tables”](#) from the Office of the Actuary in the Centers for Medicare & Medicaid Services. The data in these tables (from the Census Bureau and other sources) reflect available published data as of early 2020.
 2. See [“A Reconciliation of Health Care Expenditures in the National Health Expenditures Accounts and in Gross Domestic Product”](#) in the September 2010 *Survey of Current Business*. For a more detailed working paper, see [“Health Care Expenditures in the National Health Expenditures Accounts and in Gross Domestic Product: A Reconciliation”](#) on the BEA website.
 3. See the [“Health Care”](#) page on the BEA website. The BEA Health Care Satellite Account measures U.S. health care spending by the diseases being treated (for example, cancer or diabetes) instead of by the types of goods and services purchased (such as doctor's office visits or drugs). At the same time, BEA continues to produce the traditional goods-and-services health care estimates that are part of its core statistics, such as gross domestic product.

2. Health Expenditures in the NHEA and GDP: Key Differences

Both the NHEA and the health-related expenditures within GDP are generally consistent with the definitions of health care activities in the *System of Health Accounts* from the Organisation for Economic Co-Operation and Development. In the United States, the Census Bureau uses the North American Industry Classification System (NAICS) to classify all business establishments, including those in the health care sector. BEA, CMS, and many of the agencies that collect primary source data used to produce the NHEA and GDP estimates also rely on NAICS to classify statistics on the U.S. economy (table 1). However, BEA and CMS classify data on some activities in different ways, and these data often require numerous adjustments to produce estimates consistent with the primary goals of each data set. These classifications and adjustments are the focus of the reconciliation, as they ultimately define many of the differences between the two accounts.

The primary goal of the NHEA is to measure total domestic health sector expenditures in a comprehensive and consistent way that allows for analysis of spending for health care goods and services and the sources of funds that pay for that care. An important goal of the NIPAs is to produce internationally comparable estimates of GDP, which measures the final demand for goods and services produced in the United States. The GDP estimates, unlike the NHEA estimates, do not identify the sources of funds (such as out-of-pocket spending, private insurance, or Medicaid and other government programs) for each of the categories of health spending in GDP. These different goals have, in many ways, led to some differences in the two measures of health care spending.

CMS and BEA have identified five general sources of discrepancies between the estimates of spending for health care goods and services in the NHEA and in GDP. They are as follows:

- The classification of certain industries, goods, and services
- The treatment of government facilities and expenditures
- The adjustments to estimate final commodity demand by households
- The treatment of nonprofit institutions serving households (NPISHs)
- The use of different data sources and estimation methodologies

2.1 The Classification of Industries and Commodities

Differences in the classification of health spending in the NHEA and GDP accounts contribute to discrepancies in both total health spending and in the underlying detailed estimates. The two accounts define “health-related” spending in different ways, contributing to various instances in which detailed spending categories are classified as health-related in one account but not in the other account (table 1). Additionally, some categories of health spending that are included in both accounts are classified under different major spending categories. For example, services of optometrists are classified under personal consumption expenditures (PCE) for therapeutic appliances and equipment in the GDP statistics but are included in other professional services in the NHEA.

2.2 The Treatment of Government Facilities and Expenditures

Government agencies may directly purchase health care that is provided by a government-owned health care facility (such as a Department of Veterans Affairs (VA) hospital) or that is provided by privately owned facilities (such as a private hospital in which a veteran may receive care paid for by the VA). The treatment of government-purchased health care differs in the NHEA and GDP accounts: The NHEA estimates classify government outlays for these public facilities with the spending for the related health care industry (for example, with hospitals or physicians), while the GDP estimates classify these expenditures as part of government consumption expenditures. This different treatment of government-owned health care providers results in discrepancies in the estimates of some categories of health care spending (such as hospitals) but does not lead to large discrepancies in total health care spending.

The two accounts, on the other hand, have a similar treatment of sales of health care to households by government-owned facilities, such as state and local government hospitals. These sales (financed by households or insurers) are treated as expenditures for the industry in the NHEA (hospitals) or the commodity in GDP (hospital services).

Additionally, the two accounts have a slightly different treatment of expenditures financed by the major government insurance programs (Medicare, Medicaid, and the Children’s Health Insurance Program (CHIP)). In the NIPAs, these insurance programs are classified as “government social benefits” that finance expenditures that make up GDP; in the NHEA, these programs are a “source of funding” for health care expenditures. With few exceptions, the NHEA classifies all these expenditures, including Medicaid waiver spending that is intended to improve the quality of life and reduce costly inpatient stays, as health spending. While these funds also generally pay for health-related spending in the GDP data, some of these funds may purchase services that are grouped with nonhealth spending categories, such as social assistance, in the GDP estimates. This different treatment of government insurance programs contributes to slightly higher total health care spending in the NHEA.

2.3 The Adjustments to Estimate Final Commodity Demand

While the NHEA measures total revenues of NAICS-based health care industries (such as freestanding nursing homes), the expenditure definition of GDP measures spending for health care commodities (goods or services), such as nursing home services.⁴ For example, in the expenditure-based GDP estimates, expenditures for the nursing home care commodity include the sales of nursing home services from freestanding nursing homes and other providers (such as hospitals) and exclude nursing home receipts for non-patient services (such as parking lots), non-operating revenue, and other commodities provided by nursing homes to patients

4. For the BEA estimates of health care spending, this paper focuses on expenditures for health care commodities that are part of the expenditure measure of GDP—the sum of personal consumption expenditures, gross private domestic investment, government consumption expenditures and gross investment, and net exports. BEA also produces estimates of GDP by industry, including health care industries, using the “production” estimates of GDP, defined as gross output less intermediate expenses. For more information, see “[GDP by Industry](#)” on the BEA website.

(drugs or lab work). In the NHEA, nursing home care includes total revenues of establishments classified as freestanding nursing homes by NAICS, while hospital-based nursing home care is included in the estimate of hospital spending. As a result, the sales of a health care industry are generally different from the sales of the industry's primary health care commodity. The GDP estimates reflect numerous adjustments that convert industry sales data commonly reported in source data to final commodity demand.

2.4 The Treatment of NPISHs

In the GDP data, the large portion of PCE for services known as household consumption expenditures (HCE) consists mainly of receipts from sales of services to households by both for-profit and nonprofit service providers. The GDP data also report a second category of PCE for services that are not reported explicitly in the NHEA: final consumption expenditures of nonprofit institutions serving households, or NPISHs. These expenditures are measured residually as gross output (the cost of inputs to produce the service, including compensation and intermediate purchases) less sales to households and other sectors and less own-account investment (construction and software produced by NPISHs for their own use). Final consumption expenditures by NPISHs measure the production of services provided to households without charge. In the NHEA, health care provided by nonprofit (and for-profit) institutions is measured as total net revenue, which includes nonpatient and nonoperating revenue. Although the final expenditures of NPISHs in GDP are to a large extent funded by nonpatient revenues that are included in the NHEA, these two items are not necessarily equal, therefore the different treatment of nonprofits leads to some differences in estimated health expenditures.

2.5 The Use of Different Data Sources and Methodologies

While many of the data sources used in the NHEA and the NIPAs are the same, for some estimates, CMS and BEA rely on different data sources. For example, expenditures for hospital care are measured in the GDP estimates using data from the Census Bureau, while in the NHEA, the American Hospital Association (AHA) Annual Survey data are used as a benchmark source. Also, the two agencies have different revision schedules, which stipulate the release dates for revised data (which incorporate revisions of source data and other changes) and often lead to the use of different "vintages" of source data. Even when the two accounts use the same data sources and vintages, some differences in methodologies (in addition to those described above) can lead to different estimates.

3. Summary of the Reconciliation of Expenditures for Health-Related Goods and Services

Most health care spending in the United States, more than 80 percent, can be attributed to expenditures for medical goods and services, including care provided by physicians and clinics, hospitals, dentists, nursing homes, and home health agencies, as well as purchases of nondurable and durable goods and retail prescription drugs. The rest of health care spending consists of the net cost of health insurance, investment in structures, equipment, and research as well as government spending and other expenditures. Table 2 shows the NHEA estimates of health care spending, as reported by CMS, and table 3 shows the estimates of health care spending by commodity that are part of GDP, as reported by BEA. BEA has no “official definition” of health care spending in GDP; rather, the estimates cited in this paper are a collection of estimates of spending for commodities within GDP that researchers might classify as related to health care and that are broadly similar to those cited in the NHEA.

It may be helpful to clarify some of the terms used throughout this paper. “National health expenditures” (NHE) refers to estimates of health care spending from CMS. “Household consumption expenditures” (HCE) refers to estimates of purchased services (purchased by households or by third parties, such as private and government insurers) that are included in BEA estimates of “personal consumption expenditures” (PCE), or consumer spending, in GDP. “PCE for goods” refers to purchases of consumer goods (by households or by third parties) in BEA estimates of GDP. Total PCE (from BEA) refers to the sum of PCE for goods, household consumption expenditures for services, and final consumption expenditures of NPISHs. “Investment” in BEA statistics refers to the purchase of “fixed assets” (structures, equipment, and intellectual property, such as software and research and development, or R&D) that last longer than 1 year and contribute to production. “Government consumption expenditures” in BEA estimates of GDP refers to spending for compensation of government employees, government purchases (excluding investment), and depreciation (also called consumption of fixed capital, or CFC).

A closer examination of the two sets of estimates (table 4) reveals more substantial discrepancies in categories of health expenditures that one might expect to be similar. NHE for hospital care is, for example, far higher than HCE for hospital services in the GDP data. NHE for other professional services is less than household consumption expenditures for other professional medical services in the GDP data, while NHE for physician and clinical services is higher than HCE for physician services and medical labs. PCE for prescription drugs is consistently higher than NHE for prescription drugs. The estimates of several other categories of expenditures in the two accounts, such as investment and government spending, also differ noticeably.

The next sections explain the key reasons for discrepancies in several categories of estimates of health care spending. The accompanying tables present a more detailed reconciliation of specific expenditure categories for the years 2007–2018; please refer to the tables for these additional details.

3.1 Physician, Clinical, Medical Lab, and Other Professional Services

NHE for physician and clinical services is higher than HCE for physician services and medical labs mainly because the NHE estimate includes receipts for a broader array of outpatient care centers (table 5). While both estimates include the receipts of offices of physicians, health maintenance organization medical centers, and freestanding ambulatory surgical and emergency centers (based on the Economic Census (EC) and the Service Annual Survey (SAS)), the NHE estimate also includes receipts of family planning, outpatient mental health and substance abuse, kidney dialysis, and other outpatient care centers. In the GDP estimates, these additional receipts are classified as HCE for other professional medical services. The NHE estimate also includes government spending for public health clinics run by several agencies; this spending is classified as government consumption expenditures in GDP. The HCE estimate incorporates several adjustments to estimate final commodity demand, which may add or subtract from the level of total industry sales.

The estimate of HCE for other professional medical services is, on the other hand, larger than the estimate of NHE for other professional services (table 6) mainly because it also includes receipts for those same additional outpatient care centers that are included in the estimate of NHE for physician and clinical services. The HCE estimate includes spending for some services that the NHEA classifies as nonhealth (miscellaneous ambulatory health care services), as health-related durable goods (home health equipment rental), or as other health, residential, and personal care (Medicare- and Medicaid-funded ambulance services).

The differences between the NHE and HCE estimates of spending for the *sums* of these two types of services—the sum of physician, clinical, medical lab, and other professional medical services (table 7)—are relatively small because many of the discrepancies within the two categories offset one another when they are summed. The discrepancy between the sum of these two estimates, both of which mainly rely on data from the EC and the SAS, is less than 2 percent of the NHE estimate in most years. The remaining differences are mainly due to BEA adjustments to estimate commodity demand, the treatment of optometrists' services, and other differences in the way revenues are classified.

3.2 Dental Services

For 2007–2018, the two estimates of dental services differ by 2 to 3 percent or less (table 8). Both estimates mainly consist of the sales of offices of dentists (NAICS 6212) as reported by the EC and the SAS. The NHE estimate includes Department of Defense spending for dental services, which is classified as defense-related government consumption expenditures in GDP. The HCE estimate incorporates minor adjustments to estimate final commodity demand.

3.3 Home health care services

HCE for home health care services consistently exceeds the NHE for home health care by 9 to 12 percent of the NHE estimate annually (table 9). Both estimates mainly consist of the sales of private for-profit and nonprofit home health care agencies (NAICS 6216), as reported by the EC and the SAS. The HCE estimates

are larger because they include an upward adjustment to estimate final commodity demand (reflecting home health care services provided by other institutions) and a larger estimate of government-provided home health care. Specifically, the HCE estimate adds an estimate of state and local government sales of home health care (based on Census Bureau government finances surveys) while the NHE estimates add expenditures for government-owned home health care agencies; the former is consistently larger. Some of the government sales of home health care in the HCE may appear in the NHEA for other categories, such as health, residential, and personal care.

3.4 Nursing home care services

HCE for nursing home care services consistently exceeds the NHE for nursing home care, and the difference ranges from 7 to 15 percent (table 10). Both measures include the sales of nursing care facilities (NAICS 623110) and continuing care retirement communities (NAICS 623311), based on the EC and the SAS. The HCE estimate is larger because it also includes the receipts of residential intellectual and developmental disability facilities (NAICS 62321); these receipts are part of NHE for other health, residential, and personal care.⁵ The NHE estimate includes government outlays for nursing homes operated by state and local governments and the Department of Veterans Affairs; these outlays are classified as health-related government consumption expenditures in GDP.

3.5 Hospital Care Services

About one-third of health care spending pays for hospital services. For 2007–2018, NHE for hospital care services consistently exceeds HCE for hospital care by 4 to 10 percent of the HCE (table 11). The NHE estimate is higher because it includes government outlays for federal, state, and local government-owned hospitals (such as VA hospitals) that are part of government consumption expenditures for health in GDP. The NHE estimate is higher also because BEA removes some revenues, including nonpatient revenue and revenue for hospital-based home health and nursing home care, as part of its adjustments to estimate final commodity demand.

For nonfederal hospital spending, the two agencies rely on different data sources. The BEA HCE estimate is based on data from the Economic Census, the SAS (all employer hospitals), and government finance surveys from the Census Bureau (state and local government hospitals). The CMS estimate is based primarily on data from the AHA. This is one of the few estimates in which the primary source data is different between the NHE and HCE and this has a large impact because hospital spending is the largest component of total health care spending. The main source of the difference between the two sources may be due to the scope of the establishments that are included in each.

5. Both measures of health care spending exclude homes for the elderly (NAICS 623312) and other residential care facilities (NAICS 6239). These industries provide services that are more like residential services rather than health care services.

3.6 Prescription Drugs

For prescription drugs, the PCE substantially exceeds the NHE estimate, and the difference tends to grow over time, to about 23 percent of the NHE estimate in 2018 (table 12). Both PCE and NHE estimates are based on the Economic Census, which is available every 5 years (2002, 2007, 2012, and so on), and on data on drug sales from IQVIA (a private source, formerly IMS Health) in other years. Both estimates include sales of drug stores, grocery stores, department stores, mail order, and other retailers. The PCE estimate adds drug sales of institutional health care service providers such as hospitals, nursing homes, and physicians as an adjustment to estimate commodity demand, while the NHE estimate classifies these sales with their respective health care providers. The NHE estimate adds an offsetting amount for spending for government-owned pharmacies, classified in GDP as government consumption expenditures. The main reason the PCE estimate is higher is the treatment of rebates.

CMS reduces the NHE estimate for prescription drugs to account for manufacturers' rebates that reduce insurers' net payments for drugs. These rebates have grown over the years, to about \$108 billion in 2018.⁶ Providers and insurers who are responsible for the purchase of large volumes of drugs receive rebates from manufacturers for the use of specific drugs. In retail purchases of prescription drugs, the retail outlet is not a party to the rebate transaction that takes place between the insurer who pays the retail outlet and the manufacturer that produces the drug. Because NHE estimates of prescription drugs are based on retail sales data at the pharmacy level, a reduction to account for rebates is made to total drug spending and to third party payments to retail pharmacies to avoid over-estimation of the final price of retail prescription drugs.⁷ BEA estimates of retail sales of prescription drugs, from the perspective of the retail outlets, do not remove the rebates.

3.7 Nondurable Medical Products

The NHE and PCE estimates of “nondurable medical products” consist of spending for nonprescription drugs, medical sundries, and related products. From 2007 to 2018, the NHE estimates were relatively higher in earlier years and relatively lower in later years (table 13). While both estimates rely on Economic Census data, and the NHE estimates for medical sundries rely on PCE data, the two estimates appear to include the purchases of a somewhat different array of goods and rely on different data sources and methods for nonprescription drugs (the NHE estimates use data from Kline & Company, and the PCE estimates rely more on Census retail sales data).

6. The NHEA estimate of rebates for retail prescription drugs reflects rebates for health care programs run by federal, state, and local governments (such as Medicare and Medicaid) as well as private health insurance plans.

7. Rebates received by providers such as hospitals do not require an adjustment because rebate savings are received directly by hospitals whose revenues are used to measure hospital spending. For more information see [“National Health Expenditure Accounts: Methodology Paper, 2018: Definitions, Sources, and Methods.”](#)

3.8 Durable Medical Products

NHE for durable medical equipment and PCE for therapeutic appliances and equipment include sales of items that have a useful life of at least 3 years, such as contact lenses, eyeglasses, and other ophthalmic products; surgical and orthopedic products; medical equipment; and hearing aids. The NHE estimates, which are based on the Economic Census and BEA PCE estimates, are lower than the PCE estimates (table 14). Most of the discrepancy arises because the PCE estimate includes all receipts of optometrists, while the NHE estimate removes optometrists' sales of optical goods, and classifies optometrists' services with other professional services. Most of the remaining differences are due to a different selection of goods for this category.

3.9 Net Cost of Private Health Insurance

The HCE estimate of net health insurance exceeds the NHE estimate of the net cost of health insurance, as shown in Table 15. The two estimates are difficult to compare because they use different data sources, methods, and definitions. Both estimates measure net cost as the difference between premiums (paid by employers and employees) and benefits. HCE for net health insurance services includes accident insurance, income loss, and private workers compensation as well as employer-sponsored health insurance premiums (for both private- and public-sector employees). The NHE net cost of private health insurance includes the net cost of group, individual, and self-insured and the health portion of property and casualty insurance. The NHE estimate includes net costs for private health insurance companies, including those that insure the enrollees of Medicare, Medicaid, CHIP, and workers' compensation (health portion only). The net cost of private plans that administer public programs such as Medicare Advantage and Medicaid Managed Care are removed from the NHE estimate (but not the HCE estimate) to avoid double-counting, as these net costs are already counted as administrative costs of government programs.⁸

3.10 Investment—Structures, Equipment, and Software

“Fixed investment” in GDP (or “gross fixed capital formation” in the *System of National Accounts 2008*) refers to the purchase of fixed assets, such as structures, equipment, and software, which last longer than 1 year and that contribute to production. The estimate of health-related fixed investment in structures, equipment, and software in GDP tends to be higher than in the NHE estimate (table 16).

The NHE estimates measure purchases of structures and equipment (including software) by private institutions in the medical sector (in medical industries in the NAICS) and by government health-related agencies. The primary data source for the NHE estimates of private investment is the Census Bureau Annual Capital Expenditures Survey (ACES), which reports the value of structures and equipment that businesses purchase. The NHE estimates for government investment are based on BEA data. This measure of investment includes

8. See *NIPA Handbook* chapter 5, “[Personal Consumption Expenditures](#),” and “[National Health Expenditure Accounts: Methodology Paper, 2018: Definitions, Sources, and Methods](#)” for more information. Both the NHEA and PCE estimates reflect the effects of the Affordable Care Act. See “Affordable Care Act Transactions in the National Income and Product Accounts” in the June 2014 *Survey of Current Business* and the BEA FAQ “[How will the Affordable Care Act affect BEA’s measure of personal income and outlays?](#)”

all purchases of structures and equipment and is not limited to specific medical equipment or devices (for example, the purchase of furniture is included).

The NIPA estimate includes all private fixed investment purchased by health care industries (NAICS 621, 622, and 623), as reported in BEA fixed assets accounts (FAAs). This estimate, like the NHE estimate, includes all types of structures, equipment (such as furniture), and software, not just those that are directly health-related. BEA uses Census Bureau surveys of construction, the Annual Survey of Manufactures data on shipments of equipment by producers, and other sources to estimate private fixed investment and allocates shares of these estimates to industries based on the ACES and other data sources. The NIPA estimate also includes federal and state and local government investment classified as functionally related to health care.⁹

The differences in these two estimates most likely arise because of the use of different data sources. BEA relies more on supply-based sources (such as shipments), while CMS relies more exclusively on demand-based sources. BEA also uses a broader measure of software that includes own-account as well as purchased software.

BEA also reports private fixed investment in health-related asset types of structures and equipment (bottom of table 16), defined as health-related buildings (hospitals and medical and special care buildings) and medical equipment and instruments. BEA's two available definitions of "health care investment" overlap considerably but are not identical, because nonhealth industries own major portions of medical equipment (insurance companies and rental and leasing firms) and medical buildings (real estate) and because health care industries buy equipment and structures unrelated to health care, such as parking lots and furniture. BEA estimates of private investment in these health-related structures and equipment are even larger than BEA (and the NHEA) estimates of private investment in structures and equipment by health care industries. The BEA industry definition of investment is used here because it is more comparable with the NHE estimate of investment.

9. Both measures of the medical sector investment are consistent with Census Bureau definitions. They include establishments engaged in providing health care but do not include retail establishments that sell non-durable or durable medical goods. The construction measure includes new buildings; additions, alterations, and major replacements; mechanical and electric installations; and site preparation. Maintenance and repairs are included. The value of new construction put in place includes the cost of materials and labor, contractor profit, the cost of architectural and engineering work, those overhead and administrative costs chargeable to the project on the owner's books, and interest and taxes paid during construction. The equipment component of the NHEA is comprised of the value of new capital equipment (including software) purchased or put in place by the medical sector during the year. The NIPAs report software investment separately. For more information, see *NIPA Handbook* chapter 6, "[Private Fixed Investment](#)," and Chapter 9, "[Government Consumption Expenditures and Gross Investment](#)," and "[National Health Expenditure Accounts: Methodology Paper, 2018: Definitions, Sources, and Methods](#)." For an explanation of the way BEA estimates investment by industry and to see methods for BEA FAAs, see "[Fixed Assets and Consumer Durable Goods for 2002–2013](#)" in the October 2014 *Survey of Current Business*, and the see "[Fixed Assets](#)" on the BEA website.

3.11 Investment in Research

The BEA estimate of health-care related R&D investment is relatively higher mainly because it includes R&D spending by private for-profit businesses for pharmaceutical and medicine manufacturing (table 17). Non-commercial research in the NHEA includes research spending of non-profit institutions and government entities. R&D expenditures by drug and medical supply and equipment manufacturers are not included. The NHEA rely on data from the federal budget (for the National Institutes of Health and other agencies), from the surveys of research spending by the National Science Foundation (NSF), and from the Urban Institute National Center for Charitable Statistics. BEA, like CMS, relies on data from the federal budget and the NSF surveys to measure R&D investment and includes investment by both government and nonprofits, but it also includes R&D by for-profit institutions.¹⁰

3.12 Government Spending in the NHEA and in GDP

Estimates of federal government consumption expenditures in GDP are higher than estimates of NHE for the sum of federal government administration and federal government public health activities (table 18). In the NHEA, government administration includes the administrative costs of health care programs such as Medicare and Medicaid. Most federal government public health activity emanates from the Department of Health and Human Services (HHS), especially the Food and Drug Administration and the Centers for Disease Control and Prevention.¹¹ Health-related federal government consumption expenditures in GDP include several categories of additional expenditures.

Most of the discrepancy results from health-related federal government consumption expenditures in GDP that are counted as NHE for several health care services, such as VA and other federal hospitals (part of NHE for hospitals), physicians in public clinics (part of NHE for physicians and clinical services), government-owned nursing homes (part of NHE for nursing home care), and home health care agencies (part of NHE for home health care). Health-related federal government consumption expenditures in GDP that are excluded from the NHEA also include the BEA estimate of government consumption of fixed capital (CFC or depreciation), some Environmental Protection Agency-administered programs, some payments for the retirement funds of retired federal health care workers. The NHEA estimate, on the other hand, includes some health-related Department of Defense spending (counted as defense spending in GDP).

NHE for state and local government administration and public health programs, on the other hand, exceeds state and local government consumption expenditures for health in GDP, even though only the latter includes the BEA estimate of depreciation, or CFC. In the NHEA, state and local government public health activity expenditures are primarily for the operation of state and local health departments and for govern-

10. See *NIPA Handbook* chapter 6, “[Private Fixed Investment](#)” and “[Measuring R&D in the National Economic Accounting System](#)” in the November 2014 *Survey of Current Business*.

11. Since the 9/11 attacks, substantial public health funding has come from two other sources: the Public Health and Social Services Emergency Fund, a part of the HHS Departmental Management Budget, and the Department of Homeland Security.

ment administration that pays for the administration of Medicaid and other programs. Federal payments to state and local governments are deducted to avoid double counting. State and local government spending for health functions within GDP are based on the Census Bureau government finances surveys and other sources. The different estimates may be explained by differences in data sources, methods, or definitions.¹²

3.13 Other Health-Related Expenditures

Only the NHEA provides a measure of “Other health, residential, and personal care.” This category includes spending for school health, worksite health care, Medicaid home and community-based waivers, some ambulance services,¹³ residential mental health and substance abuse facilities, and other types of health care that are generally provided in nontraditional settings, such as community centers, senior citizens centers, and military field stations. One of the largest categories of government spending for this category is home and community-based waiver programs under Medicaid. In these programs, states may apply for waivers to some of the statutory provisions in order to provide care (rehabilitation, respite care, and environmental modifications) to beneficiaries who would otherwise require long-term inpatient care in a hospital or nursing home. This care is frequently delivered in homes and community and senior citizens centers by medical and non-medical personnel. CMS estimates these expenditures using a wide range of public and private data sources.

Some, but likely not all, of these expenditures appear as part of other categories of health spending in GDP, such as home health care services, other professional services, or government consumption expenditures. It seems likely that medical care delivered by nontraditional medical providers is at least partly included in nonhealth categories of expenditures in GDP, such as social assistance.

The GDP estimate includes an estimate of health-related final consumption expenditures of nonprofit institutions serving households, or NPISHs. These estimates are well under the levels of nonpatient revenues reported by nonprofit health care providers, which the NHEA includes since nonpatient revenues are used by nonprofit health care providers to offset the expenses of providing health care.¹⁴ Consequently, the different treatment of nonprofit providers in the two accounts may lead to discrepancies in estimates of total health care expenditures.

12. BEA estimates state and local government consumption expenditures as gross output (total expenses) less sales.

13. Includes expenditures for all services provided by private ambulance providers and public program payments for publicly owned ambulance providers. The NHE estimate does not include private payments to public ambulance providers.

14. The NHEA also includes the non-patient revenues of for-profit health care providers.

4. Summary and Some Key Differences in Estimates

Over the years 2007–2018 (as well as in most previous years), the estimates of total annual health care spending by CMS and by BEA differ by less than 2.0 percent. Table 19 summarizes some of the main reasons for the discrepancies in specific categories of health care spending in 2018.¹⁵ As this paper explains, many differences in the estimates of narrower categories of health care spending cancel one another in the aggregate and do not account for differences in total health care spending. The discrepancy in total health care spending arises from several sources—differences in the definition of health care spending (some expenditures are only in one of the two accounts), the use of different data sources, and differences in estimation methods.

For 2018, health care spending in GDP (as we have chosen to define it) is \$3,712.5 billion, while total health care spending in the NHEA is \$3,649.5 billion. The difference between these estimates is \$63.1 billion. Some of the major reasons for discrepancies in total health care spending include the following:

- **The classification of industries, goods, and services.** For the estimates of R&D investment, BEA includes an estimate of R&D spending by private pharmaceutical and medicine manufacturing (\$75.1 billion); CMS does not. BEA also includes a broader definition of software investment. BEA includes a wider range of other ambulatory care services. CMS, on the other hand, includes spending for “Other health, residential, and personal care” (\$191.6 billion in 2018), which may partly appear in categories of nonhealth-related GDP, such as social assistance.
- **The treatment of government facilities and expenditures.** CMS includes all spending financed by Medicaid, Medicare, and CHIP; some of these expenditures may appear as part of social assistance or as other nonhealth categories in GDP.
- **Adjustments made to estimate final commodity demand by households.** The NHEA includes all revenues of health care providers, including non-patient and non-operating revenues, while BEA estimates of spending for health care commodities include only revenues for these health care related commodities. BEA adjustments to estimate final commodity demand tend to reduce total industry receipts and re-allocate some of these receipts to nonhealth categories.
- **The use of different data sources and methods.** For spending for nonfederal hospital care, BEA and CMS use different data sources, and the BEA Census-based estimate is higher than the CMS AHA-based estimate. For consumer spending for prescription drugs, CMS subtracts rebates (roughly \$108 billion in 2018) from manufacturers to providers and insurers; BEA does not. For investment in structures, equipment, and software, BEA and CMS use different data sources, and the BEA estimate is \$31 billion higher in 2018.

15. It is important to note that the 2018 estimates of health care spending from the NHEA and the NIPAs have not yet been benchmarked to the 2017 Economic Census, and as a result, the differences listed on table 19 may be smaller once the estimates are reconciled to this benchmark data. Some of the differences currently shown in this table reflect the use of different data sources and estimation methodologies that are used prior to the incorporation of the 5-year Economic Census.

Numerous other differences in the two measures of health care spending, which are mentioned throughout this paper, explain differences in narrower categories of health care spending. The estimates of total health care spending from CMS and BEA are nevertheless very similar and display similar trends over time.

It is worth emphasizing that these discrepancies do not imply that either estimate is somehow preferred or incorrect. CMS and BEA have different goals and tailor their respective estimates to meet these goals. Their respective estimates are both widely cited. This reconciliation, and a general summary of differences, is presented in the interest of transparency, so that readers may select measures to best suit their own needs.

5. Conclusion

In the future, both BEA and CMS will continue to refine their respective estimates. Both agencies periodically conduct comprehensive updates of their estimates to incorporate new benchmark source data and to implement improved estimation methodologies. These updates improve the consistency, comprehensiveness, and accuracy of the estimates. Despite the relative similarity of the total health care spending estimate in the NHEA and the NIPAs (less than a 2 percent difference in most years), this paper has identified several areas for further research, including a further exploration of the differences in the estimates of spending for hospital care, other personal health care services, prescription drugs, government programs, and health care investment. For the upcoming comprehensive revision of the NHEA, CMS is exploring new and potentially improved methods for estimating nonfederal hospital care services, along with other estimation improvements. BEA currently plans to release its next comprehensive update of the NIPAs in 2023. This reconciliation has also identified many of the similarities between the estimates of health care spending in the NHEA and GDP statistics and will allow researchers to choose which measure of health care expenditures is most appropriate for their purposes.

References

- Crawford, Marissa J., Jennifer Lee, John E. Jankowski, and Francisco A. Moris. 2014. "[Measuring R&D in the National Economic Accounting System](#)." *Survey of Current Business* 94 (November): 1–15.
- European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank Group. 2008. *System of National Accounts 2008*. New York, NY: United Nations.
- Hartman, Micah B., Robert J. Kornfeld, and Aaron C. Catlin. 2010. "[A Reconciliation of Health Care Expenditures in the National Health Expenditures Accounts and in Gross Domestic Product](#)." *Survey of Current Business* 90 (September): 42–52.
- Hartman, Micah B., Robert J. Kornfeld, and Aaron C. Catlin. 2010. "[Health Care Expenditures in the National Health Expenditures Accounts and in Gross Domestic Product: A Reconciliation](#)." Working paper 2010-12. Washington, DC: Bureau of Economic Analysis, September.
- Kornfeld, Robert. 2014. "[Fixed Assets and Consumer Durable Goods for 2002–2013](#)." *Survey of Current Business* 94 (October): 1–4.
- Mandel, Benjamin A. 2014. "[Affordable Care Act Transactions in the National Income and Product Accounts](#)." *Survey of Current Business* 94 (June): 1–5.
- Office of the Actuary, Centers for Medicare & Medicaid Services (CMS). 2019. "[National Health Expenditure Accounts: Methodology Paper, 2018: Definitions, Sources, and Methods](#)." Baltimore, MD: CMS.
- Office of the Actuary, CMS. 2019. "[National Health Expenditure Projections 2019–2028](#)." Baltimore, MD: CMS.
- Organisation for Economic Co-operation and Development. 2000. *A System of Health Accounts*. Paris, France: OECD Publishing.
- U.S. Bureau of Economic Analysis (BEA). 2019. *NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts*. Suitland, MD: BEA.

Table 1. Classification of Receipts of NAICS Services Industries in the NHEA and in GDP

NAICS code	Industry	Type of Expenditure	
		GDP (BEA): Main Commodity*	NHEA (CMS)
62	Health care and social assistance		
621	Ambulatory health care services		
6211	Offices of physicians	Physician services	Physician and clinical services
6212	Offices of dentists	Dental services	Dental services
6213	Offices of other health practitioners		
62131	Offices of chiropractors	Other professional medical services	Other professional services
62132	Offices of optometrists	Durable goods	Other professional services/ durable medical equip.**
62133	Offices of mental health practitioners	Other professional medical services	Other professional services
62134	Offices of physical, occupational and speech therapists, and audiologists	Other professional medical services	Other professional services
62139	Offices of all other health practitioners		
621391	Offices of podiatrists	Other professional medical services	Other professional services
621399	Offices of all other miscellaneous health practitioners	Other professional medical services	Other professional services
6214	Outpatient care centers		
62141	Family planning centers	Other professional medical services	Physician and clinical services
62142	Outpatient mental health and substance abuse centers	Other professional medical services	Physician and clinical services
62149	Other outpatient care centers		
621491	HMO medical centers	Physician services	Physician and clinical services
621492	Kidney dialysis centers	Other professional medical services	Physician and clinical services
621493	Freestanding ambulatory surgical & emergency centers	Physician services	Physician and clinical services
621498	All other outpatient care centers	Other professional medical services	Physician and clinical services
6215	Medical and diagnostic laboratories		
621511	Medical laboratories	Medical labs	Physician and clinical services
621512	Diagnostic imaging centers	Medical labs	Physician and clinical services
6216	Home health care services	Home health care services	Home health care
6219	Other ambulatory care services		
62191	Ambulance services	Other professional medical services	Other health, residential, and personal care
621991	Blood and organ banks		Nonhealth
621999	All other misc. ambulatory health care services	Other professional medical services	Nonhealth
622	Hospitals		
6221	General medical and surgical hospitals	Hospital services	Hospital care
6222	Psychiatric and substance abuse hospitals	Hospital services	Hospital care
6223	Specialty (except psychiatric and substance abuse) hospitals	Hospital services	Hospital care
623	Nursing and residential care facilities		
6231	Nursing care facilities	Nursing home services	Nursing care facilities and continuing care retirement communities
6232	Residential intellectual and developmental disability, mental health and substance abuse facilities		
62321	Residential intellectual and developmental disability facilities	Nursing home services	Other health, residential, and personal care
62322	Residential mental health and substance abuse facilities	Nonhealth	Other health, residential, and personal care
6233	Continuing care retirement communities and assisted living facilities for the elderly		
62331	Continuing care retirement communities	Nursing home services	Nursing care facilities and continuing care retirement communities
62332	Assisted living facilities for the elderly	Nonhealth	Nonhealth
6239	Other residential care facilities	Nonhealth	Nonhealth
624	Social assistance	Nonhealth	Nonhealth
532291	Home health equipment rental	Other professional medical services	Durable medical equipment

* In the GDP statistics, most of the receipts of each industry are for purchases of a main or primary commodity. Commodity expenditures reported in the GDP data differ from industry receipts partly because commodity expenditures exclude industry receipts from other sources and include commodity sales by other industries, and for other reasons.

** In the NHEA, optometrists' services are classified with other professional services; eyewear is classified with durable medical equipment.

Table 2. National Health Expenditure Accounts: 2007–2018
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
National Health Expenditures	\$2,294.4	\$2,397.0	\$2,491.8	\$2,593.2	\$2,682.7	\$2,791.0	\$2,875.0	\$3,025.3	\$3,199.5	\$3,347.4	\$3,487.3	\$3,649.5
Health Consumption Expenditures	2,156.0	2,249.0	2,352.9	2,450.5	2,533.5	2,637.7	2,720.9	2,875.5	3,045.4	3,190.7	3,319.0	3,475.1
Personal Health Care	1,917.6	2,008.8	2,111.4	2,191.4	2,267.3	2,361.1	2,431.2	2,556.0	2,710.2	2,838.3	2,954.5	3,075.5
Hospital Care	691.9	725.6	779.6	822.3	851.9	902.5	937.6	978.2	1,034.6	1,089.5	1,140.6	1,191.8
Professional Services	615.3	649.1	667.8	688.3	716.6	743.2	759.6	792.5	837.9	883.2	924.0	965.1
Physician and Clinical Services	457.5	481.9	497.7	512.6	535.9	557.1	569.6	595.7	631.2	665.6	696.9	725.6
Other Professional Services	60.1	64.5	67.0	69.9	72.8	76.4	78.7	83.0	87.8	92.7	97.5	103.9
Dental Services	97.7	102.7	103.1	105.9	108.0	109.7	111.2	113.8	118.8	124.9	129.6	135.6
Other Health, Residential, and Personal Care	108.3	114.5	123.4	129.1	131.7	139.1	144.3	151.5	164.5	173.6	183.2	191.6
Home Health Care	57.5	62.3	67.7	71.6	74.6	78.3	81.4	84.8	89.2	93.0	97.1	102.2
Nursing Care Facilities and Continuing Care Retirement Communities	124.9	130.5	135.2	140.5	145.4	147.4	149.0	152.4	158.1	163.0	166.2	168.5
Retail Outlet Sales of Medical Products	319.7	326.8	337.7	339.6	347.1	350.6	359.3	396.6	425.9	436.0	443.2	456.3
Prescription Drugs	234.9	239.6	249.5	248.4	251.9	253.0	258.2	292.4	317.1	322.3	326.8	335.0
Durable Medical Equipment	37.1	37.7	37.8	39.9	42.3	43.7	45.1	46.7	48.6	51.0	52.4	54.9
Other Non-Durable Medical Products	47.8	49.5	50.4	51.3	52.9	53.9	56.0	57.5	60.2	62.7	64.1	66.4
Government Administration	29.2	29.3	29.6	30.2	32.9	34.2	37.5	42.3	42.8	44.9	44.8	47.5
Net Cost of Health Insurance	143.2	139.4	137.6	153.2	158.8	165.2	173.3	195.3	206.7	218.8	228.3	258.5
Government Public Health Activities	66.0	71.6	74.2	75.7	74.4	77.2	79.0	82.0	85.8	88.7	91.4	93.5
Investment	138.4	148.0	138.9	142.7	149.2	153.3	154.1	149.8	154.1	156.7	168.3	174.4
Research	42.6	44.3	45.3	49.1	49.6	48.4	46.7	46.0	46.4	47.4	50.1	52.6
Structures and Equipment	95.8	103.7	93.6	93.5	99.6	105.0	107.5	103.7	107.7	109.3	118.2	121.8

Table 3. Health Care Expenditures in Components of Gross Domestic Product (GDP), 2007–2018
[Billions of current dollars]

	NIPA table	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total selected health expenditures in GDP		2,262.1	2,382.7	2,473.7	2,591.1	2,699.8	2,791.2	2,885.5	3,037.4	3,228.0	3,392.2	3,529.6	3,712.5
Total health-related personal consumption expenditures		1,960.9	2,057.5	2,142.8	2,239.4	2,335.9	2,414.8	2,491.0	2,628.3	2,791.7	2,938.3	3,072.5	3,233.0
Durable goods, therapeutic appliances & equipment	T. 2.4.5U Ln 64	51.6	51.2	50.6	52.4	54.3	55.0	57.0	59.0	61.6	64.0	65.8	68.9
Total health-related nondurable goods		293.4	302.7	315.9	326.1	341.8	354.4	373.0	409.6	445.5	467.2	491.5	511.6
Pharmaceutical products	T. 2.4.5U Ln 120	289.6	298.9	312.1	322.1	337.6	349.9	368.3	404.6	440.2	461.6	485.6	505.4
Prescription drugs	T. 2.4.5U Ln 121	251.7	257.4	268.2	274.3	285.2	293.2	309.8	344.0	376.5	395.2	417.0	433.8
Nonprescription drugs	T. 2.4.5U Ln 122	38.0	41.5	43.9	47.8	52.4	56.7	58.4	60.6	63.7	66.4	68.6	71.6
Other medical products	T. 2.4.5U LN 123	3.8	3.8	3.8	4.0	4.2	4.5	4.7	5.0	5.3	5.7	5.8	6.2
Total household consumption expenditures for health-related services		1,615.8	1,703.6	1,776.3	1,860.9	1,939.8	2,005.4	2,061.0	2,159.7	2,284.6	2,407.1	2,515.2	2,652.5
Health care	T. 2.4.5U Ln 168	1,478.2	1,555.3	1,632.7	1,699.6	1,757.1	1,821.3	1,858.2	1,940.5	2,057.2	2,160.1	2,243.4	2,352.6
Physician services	T. 2.4.5U Ln 170	365.7	385.0	397.1	410.5	426.5	441.2	443.8	462.5	488.9	513.8	536.5	559.6
Dental services	T. 2.4.5U Ln 171	97.0	101.8	102.0	104.5	105.8	107.2	108.6	111.6	116.3	122.3	126.4	132.9
Paramedical services	T. 2.4.5U Ln 172	223.6	237.2	249.3	259.6	269.9	281.5	288.9	303.3	321.4	335.5	349.1	370.9
Home health care	T. 2.4.5U Ln 173	64.5	68.7	73.6	77.1	81.8	86.4	89.6	93.8	98.8	103.2	106.7	114.7
Medical laboratories	T. 2.4.5U Ln 174	28.8	31.3	33.4	33.9	34.9	35.0	34.7	34.9	35.8	36.1	37.6	37.5
Other professional medical services	T. 2.4.5U Ln 175	130.4	137.1	142.2	148.6	153.3	160.1	164.5	174.6	186.8	196.3	204.8	218.8
Hospitals	T. 2.4.5U Ln 179	658.1	689.8	736.3	769.9	797.0	830.3	853.7	895.2	957.5	1,008.5	1,047.7	1,095.4
Nursing homes	T. 2.4.5U Ln 183	133.8	141.6	148.0	155.1	157.9	161.1	163.2	168.0	173.1	179.9	183.7	193.8
Net health insurance	T. 2.4.5U Ln 271	131.3	129.1	122.4	143.0	153.3	145.8	154.1	176.5	185.9	199.1	212.8	228.7
Total final consumption expenditures of nonprofit health services providers		6.4	19.2	21.1	18.3	29.3	38.3	48.6	42.7	41.6	47.9	59.0	71.2
Gross output	T. 2.4.5U Ln 340	552.1	584.0	621.0	646.6	679.7	715.4	742.9	766.2	811.3	861.6	902.3	952.3
Less: receipts from sales of health services to households	T. 2.4.5U Ln 353	545.8	564.8	599.9	628.3	650.3	677.1	694.3	723.5	769.7	813.7	843.3	881.1
Total federal government consumption expenditures and gross investment in health		107.8	118.4	130.6	138.9	145.6	149.0	150.1	156.2	162.9	169.6	174.9	185.2
Federal government consumption expenditures, health	T. 3.17, Line 17	63.5	72.0	80.8	84.4	90.0	93.7	98.0	103.8	110.4	116.1	119.4	127.1
Federal government gross investment, health	T. 3.17, Line 114	44.4	46.4	49.8	54.4	55.6	55.3	52.0	52.4	52.5	53.6	55.5	58.1
State and local government consumption expenditures and gross investment in health		75.1	83.1	80.0	78.9	78.6	78.2	80.9	80.7	83.0	85.7	88.6	97.1
State and local government consumption expenditures, health	T. 3.17 Ln 26	58.0	64.7	62.3	61.5	60.5	59.9	61.8	61.9	64.1	66.5	68.4	75.7
State and local government gross investment, health	T. 3.17 Ln 123	17.2	18.4	17.8	17.3	18.1	18.3	19.0	18.7	18.9	19.2	20.2	21.4
Private health-related fixed investment		118.2	123.7	120.3	133.9	139.8	149.1	163.6	172.3	190.4	198.6	193.6	197.2
Structures, equipment, and software, health care industries	Fixed assets tables	59.6	62.5	64.6	73.3	82.3	89.1	98.9	103.7	118.3	122.8	114.8	114.6
R&D, Pharmaceutical and medicine manufacturing	T. 5.6.5 Ln 9	55.6	58.0	52.6	57.3	53.7	56.2	60.2	63.7	66.4	69.6	72.2	75.1
R&D, health care industries	Fixed assets tables	3.0	3.2	3.1	3.4	3.7	3.8	4.4	4.9	5.7	6.2	6.7	7.4

Source: U.S. Bureau of Economic Analysis. The BEA data cited in this paper reflect BEA's published estimates as of April 2020.

Table 4. Differences Between Estimates of Health Care Expenditures in the National Health Expenditure Accounts (NHEA) and in Gross Domestic Product (GDP), 2007-2018
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total NHEA health expenditures less total GDP health expenditures	32.3	14.4	18.0	2.2	-17.2	-0.2	-10.5	-12.1	-28.4	-44.8	-42.3	-63.1
NHE for physician and clinical services —												
HCE for physician services and medical labs	63.0	65.5	67.1	68.1	74.4	81.0	91.0	98.3	106.5	115.7	122.8	128.5
NHE for other professional services —												
HCE for other professional medical services	-70.3	-72.6	-75.2	-78.7	-80.5	-83.7	-85.8	-91.7	-99.0	-103.6	-107.3	-114.9
NHE for dental services —												
HCE for dental services	0.7	1.0	1.0	1.4	2.2	2.5	2.6	2.3	2.5	2.6	3.2	2.8
NHE for home health care —												
HCE for home health care services	-7.0	-6.4	-5.9	-5.5	-7.2	-8.2	-8.3	-9.0	-9.5	-10.2	-9.6	-12.5
NHE for nursing care facilities and continuing care retirement communities —												
HCE for nursing home services	-8.9	-11.1	-12.8	-14.6	-12.5	-13.8	-14.2	-15.6	-15.0	-16.9	-17.4	-25.3
NHE for hospital care —												
HCE for hospital services	33.8	35.8	43.3	52.4	54.9	72.2	84.0	83.0	77.1	81.0	92.9	96.4
NHE for net cost of private health insurance —												
HCE for health insurance services	12.0	10.3	15.2	10.2	5.5	19.4	19.1	18.8	20.8	19.7	15.5	29.8
NHE for prescription drugs —												
PCE for prescription drugs	-16.8	-17.8	-18.8	-25.9	-33.3	-40.3	-51.6	-51.6	-59.4	-72.8	-90.3	-98.8
NHE for other nondurable medical products —												
PCE for other nondurable goods	6.0	4.2	2.7	-0.5	-3.7	-7.3	-7.2	-8.0	-8.8	-9.4	-10.4	-11.4
NHE for durable medical equipment —												
PCE for durable goods	-14.6	-13.5	-12.8	-12.5	-12.0	-11.3	-12.0	-12.3	-13.0	-13.0	-13.4	-14.0
NHE for investment —												
Government gross investment and private fixed investment in GDP	-41.4	-40.5	-48.9	-63.0	-64.2	-69.4	-80.5	-93.6	-107.6	-114.6	-101.0	-102.2
NHE for public health activities and government administration —												
Government consumption expenditures in GDP	-26.3	-35.8	-39.2	-40.1	-43.2	-42.3	-43.4	-41.4	-45.9	-49.0	-51.6	-61.8
NHE for other personal health care (NHE only)	108.3	114.5	123.4	129.1	131.7	139.1	144.3	151.5	164.5	173.6	183.2	191.6
NIPA Final consumption expenditures of nonprofit institutions serving households (NPISHs, GDP only)	6.4	19.2	21.1	18.3	29.3	38.3	48.6	42.7	41.6	47.9	59.0	71.2

NHE: National Health Expenditures (CMS); NIPA: National Income and Product Accounts (BEA); PCE: Personal consumption expenditures (BEA); HCE: Household consumption expenditures (BEA)

National health expenditures are from the national health expenditure accounts of the Centers for Medicare and Medicaid Services. Household consumption expenditures and PCE are part of GDP and the NIPAs of the Bureau of Economic Analysis.

NOTE: The total NHEA health expenditures less total GDP health expenditures difference results from summing all of the detail differences as well as NHE other personal health care and then subtracting the NIPA estimate of final consumption expenditures of nonprofit institutions serving households.

Table 5. National Health Expenditures for Physician and Clinical Services (CMS) and Household Consumption Expenditures for Physician Services and Medical Laboratories (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
National Health Expenditures for physician and clinical services (CMS)*													
1.	Receipts of industries included in the NHE estimate (Economic Census/SAS)	467.9	492.0	507.7	522.5	545.1	565.9	573.7	599.6	634.7	670.0	700.4	727.5
	<i>Less</i>												
2.	Receipts from hospital professional fees and salaries and receipts of medical labs that are not independently billed***	16.5	16.8	17.4	17.8	18.4	18.7	19.0	19.7	20.4	21.3	23.0	23.9
	<i>Plus</i>												
3.	Physicians in public clinics	7.2	7.8	8.5	8.9	10.2	11.0	11.6	12.4	13.2	14.0	14.8	15.4
4.	Other adjustments	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	3.2	3.4	3.6	2.9	4.7	6.5
	<i>Equals</i>												
5.	NHE for physician and clinical services (1-2+3+4)	457.5	481.9	497.7	512.6	535.9	557.1	569.6	595.7	631.2	665.6	696.9	725.6
Household consumption expenditures for physician services and medical labs (BEA)**													
6.	Receipts of industries included in the NHE estimate (line 1)	467.9	492.0	507.7	522.5	545.1	565.9	573.7	599.6	634.7	670.0	700.4	727.5
	<i>Less</i>												
7.	Receipts of industries that BEA classifies with HCE for "other professional medical services" (Economic Census/SAS)	53.9	57.0	60.2	63.9	67.1	71.3	74.5	80.2	86.9	93.8	99.1	104.9
8.	Receipts from hospital professional fees and salaries and receipts of medical labs that are not independently billed***	16.5	16.8	17.4	17.8	18.4	18.7	19.0	19.7	20.4	21.3	23.0	23.9
	<i>Plus</i>												
9.	Adjustments to estimate final commodity demand; other adjustments	-3.0	-1.9	0.5	3.7	1.8	0.3	-1.6	-2.3	-2.7	-5.1	-4.2	-1.6
	<i>Equals</i>												
10.	HCE for physician services and medical labs (6-7-8+9)	394.5	416.4	430.6	444.5	461.4	476.2	478.6	497.4	524.6	549.9	574.1	597.0
11.	Difference, NHE-HCE (5-10)	63.0	65.5	67.1	68.1	74.4	81.0	91.0	98.3	106.5	115.7	122.8	128.5
12.	Receipts of industries that BEA classifies with HCE for "other professional medical services" (line 7)	53.9	57.0	60.2	63.9	67.1	71.3	74.5	80.2	86.9	93.8	99.1	104.9
13.	Adjustments to estimate final commodity demand for HCE, other adjustments	9.1	8.6	6.9	4.2	7.3	9.7	16.5	18.1	19.6	21.9	23.7	23.6

* NHE for physician and clinical services consist mainly of the receipts of NAICS 6211 (offices of physicians), 621410 (family planning centers), 621420 (outpatient mental health and substance abuse centers), 621491 (HMO medical centers), 621492 (kidney dialysis centers), 621493 (ambulatory surgical & emergency centers), 621498 (all other outpatient care centers), and 6215 (medical and diagnostic laboratories). The NHE estimate also adds an estimate of expenditures for physicians in public clinics and adds minor adjustments.

** HCE for physician services consist mainly of the receipts of NAICS 6211, 621491, and 621493 (receipts of 621410, 621420, 621492, and 621498 are included in HCE for other professional medical services). HCE for medical laboratories consist mainly of the sales of NAICS 6215. HCE for physician services and medical labs are shown in NIPA table 2.4.5U, lines 170 and 174. In BEA's National Income and Product Accounts (NIPAs), household consumption expenditures are the portion of personal consumption expenditures (PCE) that are purchased, and do not include the final consumption expenditures of nonprofits.

*** For the estimates of physicians' receipts, both CMS and BEA remove receipts from hospital professional fees and salaries and classify these with hospital care. For the estimates of receipts of medical labs, both CMS and BEA remove receipts that are not independently billed (SAS-based estimates of receipts from hospitals, health practitioners, outpatient care facilities, all other providers).

The data in the tables of this paper reflect the available source data as of December 2019 and rely on approximations of any unpublished (suppressed, confidential, etc) source data from the Census Bureau.

Table 6. National Health Expenditures for Other Professional Services (CMS) and Household Consumption Expenditures for Other Professional Medical Services (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
National Health Expenditures for other professional services (CMS)*													
1.	Receipts of industries included in the NHE estimate (Economic Census/SAS)	65.2	69.9	72.6	75.5	78.5	82.3	84.2	88.9	94.3	99.5	104.5	111.7
	<i>Less</i>												
2.	Value of optical goods sold (corrective eyewear)	5.2	5.5	5.5	5.6	5.7	5.8	6.0	6.3	6.6	6.9	7.2	7.5
	<i>Plus</i>												
3.	Medicare ambulance expenditures, and other adjustments	0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.6	0.4	0.2	0.1	0.2	-0.3
	<i>Equals</i>												
4.	NHE for other professional services (1-2+3)	60.1	64.5	67.0	69.9	72.8	76.4	78.7	83.0	87.8	92.7	97.5	103.9
Household consumption expenditures for other professional medical services (BEA)**													
5.	Receipts of industries included in the NHE estimate (line 1)	65.2	69.9	72.6	75.5	78.5	82.3	84.2	88.9	94.3	99.5	104.5	111.7
	<i>Less</i>												
6.	Optometrists' receipts (BEA classifies with durable goods)	11.1	11.9	12.1	12.3	12.6	13.1	13.5	14.2	14.8	15.6	16.1	16.8
	<i>Plus</i>												
7.	Additional receipts of industries that BEA includes and that CMS classifies as physician and clinical services	53.9	57.0	60.2	63.9	67.1	71.3	74.5	80.2	86.9	93.8	99.1	104.9
8.	Additional receipts that CMS classifies as non-health	18.5	19.4	19.4	20.0	21.6	22.5	23.0	23.9	25.2	28.4	29.4	31.4
9.	Additional receipts that CMS classifies as durable medical equipment	5.6	5.6	5.6	5.8	5.6	5.5	5.3	5.2	5.5	5.1	4.8	4.9
10.	Adjustments to estimate final commodity demand; other adjustments	-1.8	-2.9	-3.5	-4.3	-7.0	-8.3	-9.0	-9.4	-10.2	-14.9	-16.9	-17.3
	<i>Equals</i>												
11.	HCE for other professional medical services (5-6+7+8+9+10)	130.4	137.1	142.2	148.6	153.3	160.1	164.5	174.6	186.8	196.3	204.8	218.8
12.	Difference, NHE-HCE (4-11)	-70.3	-72.6	-75.2	-78.7	-80.5	-83.7	-85.8	-91.7	-99.0	-103.6	-107.3	-114.9
13.	Receipts of industries that HCE include and NHE exclude (lines 7+8+9)	-78.0	-81.9	-85.2	-89.7	-94.4	-99.3	-102.8	-109.3	-117.6	-127.3	-133.3	-141.2
14.	Adjustments to estimate final commodity demand for HCE, other differences	7.7	9.3	10.1	11.1	13.9	15.6	17.1	17.7	18.6	23.7	26.1	26.3

* NHE for other professional services consist mainly of the receipts for NAICS 6213 (other health practitioners, including optometrists). The NHE estimate also subtracts estimates of expenditures for the value of optical goods sold (corrective eyewear) and adds estimates of expenditures for Medicare-funded ambulances and minor adjustments.

** HCE for other professional medical services consist mainly of the receipts of NAICS 6213 (other health practitioners, except for optometrists), 621410 (family planning centers), 621420 (outpatient mental health and substance abuse centers), 621492 (kidney dialysis centers), 621498 (all other outpatient care centers), 621910 (ambulance services), 621999 (all other miscellaneous ambulatory health care services), and 532291 (home health equipment rental). In the NHEA, receipts of 621410, 621420, 621492, and 621498 are classified as physician and clinical services; receipts of 621910 and 621999 are mostly not health-related (unless funded by Medicare or Medicaid); and receipts of 532291 are mainly classified as durable medical equipment. The HCE estimate also removes expenditures for optometrists' receipts (classified as durable goods). HCE for other professional medical services are shown in NIPA table 2.4.5U line 175.

Table 7. National Health Expenditures for Physician and Clinical Services and Other Professional Services (CMS) and Household Consumption Expenditures for Physician Services, Medical Laboratories, and Other Professional Medical Services (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
National Health Expenditures for physician and clinical services and other professional services (CMS)*													
1.	Receipts of industries included in the NHE estimate (Economic Census/SAS)	533.1	562.0	580.2	598.0	623.6	648.2	657.8	688.5	729.0	769.5	804.9	839.2
	<i>Less</i>												
2.	Receipts from hospital professional fees and salaries and receipts of medical labs that are not independently billed***	16.5	16.8	17.4	17.8	18.4	18.7	19.0	19.7	20.4	21.3	23.0	23.9
3.	Value of optical goods sold (corrective eyewear)	5.2	5.5	5.5	5.6	5.7	5.8	6.0	6.3	6.6	6.9	7.2	7.5
	<i>Plus</i>												
4.	Physicians in public clinics	7.2	7.8	8.5	8.9	10.2	11.0	11.6	12.4	13.2	14.0	14.8	15.4
5.	Medicare ambulance expenditures, and other adjustments	-6.2	-6.5	-6.6	-6.7	-6.7	-6.9	-2.2	-2.6	-2.8	-3.9	-2.3	-1.2
	<i>Equals</i>												
6.	NHE for physician and clinical services and other professional services (1-2-3+4+5)	517.6	546.4	564.7	582.5	608.7	633.5	648.3	678.7	719.0	758.3	794.4	829.4
Household consumption expenditures for physician services, medical labs, and other professional medical services (BEA)**													
7.	Receipts of industries included in the NHE estimate (line 1)	533.1	562.0	580.2	598.0	623.6	648.2	657.8	688.5	729.0	769.5	804.9	839.2
	<i>Less</i>												
8.	Receipts from hospital professional fees and salaries and receipts of medical labs that are not independently billed***	16.5	16.8	17.4	17.8	18.4	18.7	19.0	19.7	20.4	21.3	23.0	23.9
9.	Optometrists' receipts (classified as durable goods)	11.1	11.9	12.1	12.3	12.6	13.1	13.5	14.2	14.8	15.6	16.1	16.8
	<i>Plus</i>												
10.	Additional receipts that CMS classifies as non-health or durable medical equipment	24.1	25.0	25.0	25.8	27.3	28.0	28.3	29.2	30.7	33.5	34.2	36.3
11.	Adjustments to estimate final commodity demand; other adjustments	-4.8	-4.8	-3.0	-0.7	-5.2	-8.1	-10.6	-11.8	-13.0	-20.0	-21.1	-18.9
	<i>Equals</i>												
12.	HCE for physician services, medical labs, and other professional medical services (7-8-9+10+11)	524.9	553.5	572.8	593.0	614.7	636.2	643.1	672.0	711.5	746.1	778.9	815.8
13.	Difference, NHE-HCE (6-12)	-7.3	-7.1	-8.0	-10.6	-6.0	-2.7	5.2	6.7	7.6	12.1	15.5	13.7

* This table shows the net sum of the expenditures of the previous 2 tables. NHE for physician and clinical services and other professional medical services consist of the receipts of NAICS 6211 (offices of physicians), 6213 (other health practitioners, including optometrists), 6214 (outpatient care centers), and 6215 (medical labs), and other adjustments.

** HCE for physician services, medical labs, and other professional medical services consist of the sales of NAICS 6211, 6213 (except optometrists), 6214, 6215, 621910 (ambulance services), 621999 (all other miscellaneous ambulatory health care services) and 532291 (home health equipment rental), and other adjustments. In the NHEA, receipts 621910 and 621999 are not health-related unless funded by Medicare or Medicaid; receipts of 532291 are classified as durable medical equipment. HCE for physician services, medical labs, and other professional medical services are shown in NIPA table 2.4.5U, lines 170, 174, and 175.

*** For the estimates of physicians' receipts, both CMS and BEA remove receipts from hospital professional fees and salaries and classify these with hospital care. For the estimates of receipts of medical labs, both CMS and BEA remove receipts that are not independently billed (SAS-based estimates of receipts from hospitals, health practitioners, outpatient care facilities, all other providers).

Table 8. National Health Expenditures for Dental Services (CMS) and Household Consumption Expenditures for Dental Services (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NHE for dental services (CMS)												
1. Receipts of offices of dentists (NAICS 6212, Economic Census/SAS)	96.5	101.5	102.0	104.4	106.4	107.9	109.5	112.4	117.2	123.1	127.7	133.0
<i>Plus</i>												
2. DoD dental facilities and other adjustments	1.2	1.2	1.1	1.4	1.6	1.8	1.7	1.4	1.6	1.8	1.9	2.7
<i>Equals</i>												
3. NHE for dental services (1+2)	97.7	102.7	103.1	105.9	108.0	109.7	111.2	113.8	118.8	124.9	129.6	135.6
HCE for dental services (BEA)												
4. Receipts of offices of dentists (NAICS 6212, Economic Census/SAS)	96.5	101.5	102.0	104.4	106.4	107.9	109.5	112.4	117.2	123.1	127.7	133.0
<i>Plus</i>												
5. Adjustments to estimate final commodity demand; other adjustments	0.5	0.3	0.0	0.0	-0.6	-0.8	-0.9	-0.9	-0.9	-0.7	-1.3	-0.1
<i>Equals</i>												
6. HCE for dental services (4+5)	97.0	101.8	102.0	104.5	105.8	107.2	108.6	111.6	116.3	122.3	126.4	132.9
7. Difference, NHE-HCE (3-6)	0.7	1.0	1.0	1.4	2.2	2.5	2.6	2.3	2.5	2.6	3.2	2.8

HCE for dental services is shown on NIPA table 2.4.5u, line 171.

Table 9. National Health Expenditures for Home Health Care (CMS) and Household Consumption Expenditures for Home Health Care Services (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NHE for home health care (CMS)												
1. Receipts of offices of home health care services (NAICS 6216, Economic Census/ SAS)	51.3	55.4	60.0	63.3	66.6	70.4	73.0	76.2	80.2	83.4	87.9	93.0
<i>Plus</i>												
2. Estimated revenue of government-owned home health care agencies	6.2	6.3	7.0	7.3	8.1	7.8	8.1	8.4	8.9	8.8	9.2	9.8
3. Other adjustments	0.0	0.6	0.7	1.0	-0.1	0.1	0.2	0.1	0.1	0.7	-0.0	-0.6
<i>Equals</i>												
4. NHE for home health care (1+2+3)	57.5	62.3	67.7	71.6	74.6	78.3	81.4	84.8	89.2	93.0	97.1	102.2
HCE for home health care services (BEA)												
5. Receipts of offices of home health care services (NAICS 6216, Economic Census/ SAS)	51.3	55.4	60.0	63.3	66.6	70.4	73.0	76.2	80.2	83.4	87.9	93.0
<i>Plus</i>												
6. State and local government sales of home health care	12.3	11.9	11.7	11.2	10.9	10.8	11.3	11.8	12.4	13.3	14.2	15.2
7. Adjustments to estimate final commodity demand; other adjustments	1.0	1.4	1.9	2.5	4.2	5.2	5.4	5.7	6.1	6.5	4.6	6.5
8. Equals: HCE for home health care services (5+6+7)	64.5	68.7	73.6	77.1	81.8	86.4	89.6	93.8	98.8	103.2	106.7	114.7
9. Difference, NHE-HCE (4-8)	-7.0	-6.4	-5.9	-5.5	-7.2	-8.2	-8.3	-9.0	-9.5	-10.2	-9.6	-12.5

HCE for home health care services is shown on NIPA table 2.4.5u, line 173.

**Table 10. National Health Expenditures for Nursing Care Facilities and Continuing Care Retirement Communities (CMS) and Household Consumption Expenditures for Nursing Home Services (BEA)
[Billions of dollars]**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
NHE for nursing care facilities and continuing care retirement communities (CMS)													
1.	Receipts of industries included in the NHE estimate (Economic Census/SAS)*	118.0	123.1	127.5	132.2	136.9	138.8	140.6	144.6	149.0	154.9	157.7	160.4
	<i>Plus</i>												
2.	Estimated revenue of government- and VA-owned nursing homes	7.0	7.3	7.8	8.3	8.5	8.6	8.5	8.5	8.6	8.7	8.8	9.1
3.	Other adjustments	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	0.4	-0.5	-0.2	-1.0
	<i>Equals</i>												
4.	NHE for nursing care facilities and continuing care retirement communities (1+2+3)	124.9	130.5	135.2	140.5	145.4	147.4	149.0	152.4	158.1	163.0	166.2	168.5
HCE for nursing home services (BEA)													
5.	Receipts of industries included in the NHE estimate (line 1)	118.0	123.1	127.5	132.2	136.9	138.8	140.6	144.6	149.0	154.9	157.7	160.4
	<i>Plus</i>												
6.	Additional industry receipts for other nursing home facilities (NAICS 62321)**	18.4	19.8	20.7	21.4	21.8	22.3	22.8	23.6	24.3	25.3	26.7	27.8
7.	Adjustments to estimate final commodity demand; other adjustments	-2.6	-1.3	-0.2	1.5	-0.7	0.0	-0.1	-0.2	-0.3	-0.2	-0.7	5.6
	<i>Equals</i>												
8.	HCE for nursing home services (5+6+7)	133.8	141.6	148.0	155.1	157.9	161.1	163.2	168.0	173.1	179.9	183.7	193.8
9.	Difference, NHE-HCE (5-9)	-8.9	-11.1	-12.8	-14.6	-12.5	-13.8	-14.2	-15.6	-15.0	-16.9	-17.4	-25.3

* NHE for nursing home care consist mainly of the sum of receipts for NAICS 6231 (nursing care facilities) and 623311 (continuing care retirement communities). In addition, the NHE estimate includes revenue of government- and VA-owned nursing homes.

** HCE for nursing home services consist mainly of the sum of receipts for NAICS 6231, 623311, and 62321 (residential intellectual and developmental disability facilities). HCE for nursing home services is shown on NIPA table 2.4.5u, line 183.

Table 11. National Health Expenditures for Hospital Care (CMS) and Household Consumption Expenditures for Hospital Services (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NHE for hospital care (CMS)												
1. Total net revenue of non-federal hospitals (AHA)*	645.7	663.6	711.5	752.1	776.0	841.2	869.9	902.3	946.0	1000.0	1082.4	1121.6
2. Adjustments to the AHA estimate, CMS	12.1	25.1	26.9	25.7	29.9	14.9	19.0	23.6	34.3	33.4	-0.5	9.7
3. Total net revenue of non-federal hospitals, CMS/AHA estimate (1+2)	657.8	688.7	738.4	777.7	805.9	856.0	889.0	925.9	980.3	1,033.4	1,081.9	1,131.3
<i>Plus</i>												
4. Federal hospitals (Federal budget)	34.0	37.0	41.2	44.6	45.9	46.5	48.7	52.3	54.3	56.2	58.6	60.5
7. Other adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Equals</i>												
7. NHE for hospital care (3+4)	691.9	725.6	779.6	822.3	851.9	902.5	937.6	978.2	1,034.6	1,089.5	1,140.6	1,191.8
HCE for hospital services (BEA)												
8. Receipts of all employer hospitals (Economic Census/SAS)**	700.4	738.4	774.6	802.8	837.4	876.9	904.7	946.3	1,003.5	1,059.4	1,108.9	1,155.0
<i>Less</i>												
9. Receipts, government hospitals (Economic Census/SAS)	149.4	155.5	160.5	163.4	166.5	172.3	177.4	187.5	195.1	205.9	220.2	230.0
<i>Plus</i>												
10. Sales of government hospital services (BEA estimate)	130.8	138.1	146.7	153.8	159.4	162.1	170.1	180.2	190.2	199.1	209.6	222.4
11. Federal government sales of hospital services	3.5	3.7	4.0	3.9	4.0	4.0	4.1	4.3	4.7	4.8	4.8	5.0
12. State & local government hospital sales	127.2	134.4	142.7	150.0	155.4	158.2	166.0	175.8	185.5	194.3	204.8	217.4
13. Adjustments to estimate final commodity demand; other adjustments	-23.7	-31.2	-24.5	-23.3	-33.3	-36.3	-43.7	-43.8	-41.1	-44.1	-50.7	-52.0
<i>Equals</i>												
14. HCE for hospital services (8-9+10+13)	658.1	689.8	736.3	769.9	797.0	830.3	853.7	895.2	957.5	1,008.5	1,047.7	1,095.4
15. Difference, NHE-HCE (7-14)	33.8	35.8	43.3	52.4	54.9	72.2	84.0	83.0	77.1	81.0	92.9	96.4
16. Difference, total revenue, non-federal hospitals, AHA-BEA estimate (3-8+9+12)	-20.4	-28.6	-18.4	-11.6	-20.3	-6.6	-4.3	-8.7	-13.6	-14.5	-11.6	-11.1

* Total revenue for NHE for non-federal hospital care is equal to total net revenue less bad debt, as reported by the AHA survey of hospitals, and includes revenue from all sources.

** HCE for non-federal hospital services consist mainly of the sum of receipts for NAICS 622110 (general medical and surgical hospitals), 622210 (psychiatric and substance abuse hospitals) and 622310 (specialty except psychiatric and substance abuse hospitals). HCE for hospital services is shown on NIPA Table 2.4.5u line 179.

Table 12. National Health Expenditures for Prescription Drugs (CMS) and Personal Consumption Expenditures for Prescription Drugs (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NHE for prescription drugs (CMS)												
1.	NHE estimate of sales (Economic Census) of prescription drugs from all retail establishments (retail sales flowing through nursing homes or provided directly by institutions omitted)											
	247.2	256.1	269.3	272.5	282.5	284.2	294.6	336.0	377.3	395.2	409.5	430.6
	Less											
2.	Estimated rebates from manufacturers to providers and insurers											
	18.0	22.2	26.1	31.3	38.2	39.3	44.3	52.3	69.5	83.6	94.6	107.9
	Plus											
3.	VA/DOD Consolidated Mail Outpatient Pharmacy (CMOP) revenues											
	5.7	5.8	6.3	7.2	7.6	8.1	7.9	8.7	9.3	10.7	11.8	12.4
4.	Other adjustments											
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Equals											
5.	NHE for prescription drugs (1-2+3+4)											
	234.9	239.6	249.5	248.4	251.9	253.0	258.2	292.4	317.1	322.3	326.8	335.0
PCE for prescription drugs (BEA)												
6.	PCE estimate of prescription drug sales of private retailers and health care providers to consumers											
	251.7	257.4	268.2	274.3	285.2	293.2	309.8	344.0	376.5	395.2	417.0	433.8
7.	Difference, NHE-PCE (5-6)											
	-16.8	-17.8	-18.8	-25.9	-33.3	-40.3	-51.6	-51.6	-59.4	-72.8	-90.3	-98.8

PCE for prescription drugs is shown on NIPA Table 2.4.5u line 121.

Table 13. National Health Expenditures for Other Nondurable Medical Products (CMS) and Personal Consumption Expenditures for Other Nondurable Medical Products (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. NHE for other nondurable medical products	47.8	49.5	50.4	51.3	52.9	53.9	56.0	57.5	60.2	62.7	64.1	66.4
PCE for other nondurable medical products												
2. PCE for nonprescription drugs	38.0	41.5	43.9	47.8	52.4	56.7	58.4	60.6	63.7	66.4	68.6	71.6
3. PCE for other medical products	3.8	3.8	3.8	4.0	4.2	4.5	4.7	5.0	5.3	5.7	5.8	6.2
4. PCE for other nondurable medical products (2+3)	41.7	45.3	47.6	51.8	56.6	61.2	63.2	65.5	69.0	72.1	74.4	77.8
5. Difference, NHE-PCE (1-4)	6.0	4.2	2.7	-0.5	-3.7	-7.3	-7.2	-8.0	-8.8	-9.4	-10.4	-11.4

PCE for nonprescription drugs and other medical products are shown on NIPA Table 2.4.5u lines 122 and 123.

**Table 14. National Health Expenditures for Durable Medical Equipment (CMS) and
Personal Consumption Expenditures for Therapeutic Appliances and Equipment (BEA)
[Billions of dollars]**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. NHE for durable medical equipment (CMS)	37.1	37.7	37.8	39.9	42.3	43.7	45.1	46.7	48.6	51.0	52.4	54.9
PCE for therapeutic appliances and equipment (BEA)												
2. Therapeutic medical equipment	24.5	23.8	22.4	22.6	22.7	23.4	24.4	25.5	27.3	29.1	30.0	31.7
3. Corrective eyeglasses and contact lenses	27.1	27.5	28.2	29.8	31.6	31.6	32.6	33.5	34.3	34.9	35.8	37.2
<i>Equals</i>												
4. PCE for therapeutic appliances and equipment (2+3)	51.6	51.2	50.6	52.4	54.3	55.0	57.0	59.0	61.6	64.0	65.8	68.9
5. Difference, NHE-PCE (1-4)	-14.6	-13.5	-12.8	-12.5	-12.0	-11.3	-12.0	-12.3	-13.0	-13.0	-13.4	-14.0

PCE for therapeutic appliances and equipment are shown on NIPA Table 2.4.5u lines 64-66.

Table 15. National Health Expenditures for the Net Cost of Health Insurance (CMS) and Household Consumption Expenditures for Net Health Insurance Services (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. NHE for the net cost of health insurance expenditures (CMS)	143.2	139.4	137.6	153.2	158.8	165.2	173.3	195.3	206.7	218.8	228.3	258.5
HCE for net health insurance services (BEA)												
2. Private health insurance and accident insurance, premiums less benefits	109.9	102.9	98.7	117.7	127.2	119.1	125.4	145.6	151.7	164.3	176.7	191.0
<i>Plus</i>												
3. HCE for income loss	2.6	2.7	2.7	2.6	2.8	2.9	2.9	3.0	3.2	3.2	3.4	3.5
4. HCE for workers' compensation	23.6	23.4	21.1	22.7	23.3	23.9	25.7	27.8	31.1	31.6	32.7	34.2
<i>Equals</i>												
5. HCE for net health insurance services (2+3+4)	131.3	129.1	122.4	143.0	153.3	145.8	154.1	176.5	185.9	199.1	212.8	228.7
6. Difference, NHE-HCE (1-5)	12.0	10.3	15.2	10.2	5.5	19.4	19.1	18.8	20.8	19.7	15.5	29.8

HCE for net health insurance services is shown on NIPA Table 2.4.5u line 271. HCE for medical care and hospitalization is equal to the sum of HCE for private health insurance and accident insurance and is shown on line 272. HCE for income loss and workers' compensation is shown on lines 273 and 274.

**Table 16. National Health Expenditures for Investment in Structures, Equipment, and Software (CMS) and Investment in Health Care-Related Structures, Equipment, and Software (BEA)
[Billions of dollars]**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. NHE investment in structures and equipment, including software (CMS)*	95.8	103.7	93.6	93.5	99.8	104.8	106.5	103.8	107.9	110.6	116.9	121.8
Fixed investment in structures, equipment, and software, by private health care industries and by government, NIPAs (BEA)**												
2. Private fixed investment, health care industries	59.6	62.5	64.6	73.3	82.3	89.1	98.9	103.7	118.3	122.8	114.8	114.6
3. Structures	18.7	19.6	20.3	23.6	25.7	27.2	30.6	34.4	39.1	42.0	38.1	32.4
4. Equipment	35.4	36.3	37.1	42.7	48.2	51.8	58.4	59.8	69.0	70.0	65.3	69.8
5. Software	5.4	6.5	7.1	7.0	8.4	10.1	9.9	9.5	10.1	10.9	11.4	12.5
<i>Plus</i>												
7. Government gross investment in structures, equipment, and software, health care functions	27.3	29.8	30.2	31.6	33.0	33.8	33.1	33.6	33.5	34.4	36.4	38.2
8. Federal	12.2	13.5	14.5	16.3	16.9	17.4	16.1	17.1	17.3	17.8	18.7	19.6
9. State and local	15.1	16.3	15.7	15.3	16.1	16.5	16.9	16.4	16.2	16.7	17.6	18.6
<i>Equals</i>												
10. Private fixed investment and government gross investment in health-related asset types, NIPAs (2 + 7)	86.9	92.3	94.8	104.9	115.4	122.9	132.0	137.2	151.7	157.2	151.1	152.9
11. Difference, NHE-NIPA (1-10)	8.9	11.4	-1.2	-11.4	-15.6	-18.1	-25.5	-33.4	-43.9	-46.7	-34.2	-31.1
12. Private fixed investment in health-related asset types, all industries***	112.4	116.5	108.1	105.1	107.2	114.6	117.7	115.4	120.8	123.3	129.8	137.6
13. Health care structures: hospital, special care and medical buildings	40.1	43.3	39.7	33.3	32.5	35.4	33.4	32.5	34.4	35.5	36.7	37.0
14. Health care equipment: medical equipment and instruments	72.3	73.2	68.3	71.8	74.7	79.2	84.3	82.9	86.5	87.8	93.1	100.6

* NHE investment in structures and equipment (with software) includes investment by health-related industries, based on the Census Bureau's Annual Capital Expenditures Survey (ACES) and other sources.

** Health care-related investment in structures, equipment, and software by private health-related industries consists of all investment in structures, equipment, and software in health-related industries (NAICS 621, 622, and 623, see BEA's fixed assets accounts). Government gross investment in health-related functions includes investment in structures, equipment, and software (from NIPA table 3.17 but without R&D investment).

*** Private fixed investment in health-related asset types, lines 12-14, includes investment in structures (hospitals, special care buildings, medical care buildings, see NIPA table 5.4.5), equipment (medical equipment and instruments, see NIPA table 5.5.5). Lines 3-4 and 13-14 differ because lines 13-14 (asset type definition) includes investment in health-related asset types, by all industries (including non-health industries), while lines 3-4 (industry definition) includes fixed investment in all asset types by health-related industries regardless of the type of asset.

Table 17. National Health Expenditures for Research (CMS) and Investment in Health Care-Related Research and Development (BEA)
[Billions of dollars]

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. NHE for research (CMS)*	42.6	44.3	45.3	49.1	49.6	48.4	46.7	46.0	46.4	47.4	50.1	52.6
Investment in health-care related R&D (BEA)**												
2. R&D, Pharmaceutical and medicine manufacturing	55.6	58.0	52.6	57.3	53.7	56.2	60.2	63.7	66.4	69.6	72.2	75.1
3. R&D, private health care industries, including nonprofits	3.0	3.2	3.1	3.4	3.7	3.8	4.4	4.9	5.7	6.2	6.7	7.4
4. R&D, government	34.2	35.0	37.4	40.1	40.6	39.7	38.0	37.6	37.9	38.3	39.3	41.2
<i>Equals</i>												
5. Investment in health-care related R&D (BEA)	92.8	96.2	93.1	100.8	98.1	99.7	102.6	106.2	110.0	114.1	118.2	123.8
6. Difference, NHE-NIPA (1-5)	-50.3	-51.9	-47.7	-51.7	-48.5	-51.4	-55.9	-60.2	-63.6	-66.7	-68.1	-71.2

* Non-commercial research in the NHEA includes research spending of non-profit institutions and government entities. R&D expenditures by drug and medical supply and equipment manufacturers are not included.

** Private fixed investment in health care-related R&D includes investment in R&D by the pharmaceutical and medicine manufacturing industry (NIPA table 5.6.5), and R&D investment by health-related industries (NAICS 621, 622, and 622, see BEA's fixed assets accounts). Government gross investment in health-related R&D includes the portion of health-related fixed investment in NIPA table 3.17 that remains after excluding structures, equipment, and software.

**Table 18. National Health Expenditures for Government Administration and Government Public Health Activities (CMS) and Government Consumption Expenditures in GDP (BEA)
[Billions of dollars]**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NHE for government administration and government public health activities (CMS)												
1. NHE for government administration	29.2	29.3	29.6	30.2	32.9	34.2	37.5	42.3	42.8	44.9	44.8	47.5
2. Federal	19.3	19.9	20.6	21.7	23.7	24.9	26.9	30.2	31.2	32.5	32.1	34.6
3. State and local	9.9	9.4	9.0	8.5	9.2	9.3	10.6	12.0	11.6	12.4	12.8	12.9
<i>Plus</i>												
4. NHE for government public health activities	66.0	71.6	74.2	75.7	74.4	77.2	79.0	82.0	85.8	88.7	91.4	93.5
5. Federal	9.7	9.9	12.0	14.2	10.7	10.8	10.3	10.8	11.3	11.8	12.6	12.0
6. State and local	56.3	61.7	62.2	61.5	63.7	66.3	68.6	71.2	74.5	76.9	78.8	81.5
<i>Equals</i>												
7. NHE for government administration and government public health activities (CMS)	95.1	100.8	103.8	105.9	107.3	111.4	116.5	124.3	128.6	133.6	136.2	141.1
8. Government Consumption Expenditures in GDP (BEA)	121.4	136.7	143.1	146.0	150.5	153.7	159.9	165.7	174.5	182.6	187.8	202.8
9. Federal	63.5	72.0	80.8	84.4	90.0	93.7	98.0	103.8	110.4	116.1	119.4	127.1
10. State and local	58.0	64.7	62.3	61.5	60.5	59.9	61.8	61.9	64.1	66.5	68.4	75.7
11. Difference, NHE-NIPA (7-8)	-26.3	-35.8	-39.2	-40.1	-43.2	-42.3	-43.4	-41.4	-45.9	-49.0	-51.6	-61.8
12. Federal	-34.5	-42.2	-48.1	-48.5	-55.6	-58.0	-60.8	-62.7	-67.8	-71.8	-74.7	-80.5
13. State and local	8.2	6.4	8.9	8.4	12.4	15.7	17.4	21.3	21.9	22.8	23.1	18.7

**Table 19. Some Major Reasons for Differences in Estimates of Health Expenditures:
National Health Expenditures (from CMS)—Health-Related Expenditures in GDP (from BEA), 2018**

NHE for physician and clinical services (CMS)	\$725.6	-	HCE for physicians services and medical labs (BEA)	\$597.0	=	\$128.5
NHE estimate also includes services of additional types of outpatient care centers (part of HCE for other professional medical services).						
NHE for other professional services	\$103.9	-	HCE for other professional medical services	\$218.8	=	-\$114.9
HCE estimate also includes services of additional types of outpatient care centers (part of NHE for physician and clinical services).						
HCE estimate also includes misc. ambulatory care services (excluded from the NHEA).						
HCE estimate also includes home health equipment rental (durable medical equipment in the NHEA).						
NHE estimate also includes optometrists' services (durable goods in GDP)						
NHE for dental care	\$135.6	-	HCE for dental services	\$132.9	=	\$2.8
NHE estimate also includes government provided dental services.						
NHE for home health care	\$102.2	-	HCE for home health care services	\$114.7	=	-\$12.5
HCE estimate includes a larger estimate of sales of government home health care providers.						
A portion of NHE for home health care may be included in other health, residential, and personal care.						
NHE for nursing home care	\$168.5	-	HCE for nursing home services	\$193.8	=	-\$25.3
HCE estimate also includes residential intellectual and developmental disability facilities, part of NHE for other health, residential, and personal care.						
NHE estimate also includes government spending for government-owned nursing homes						
NHE for hospital services	\$1,191.8	-	HCE for hospital care	\$1,095.4	=	\$96.4
NHE estimate also includes government spending for federal government-owned hospitals.						
BEA's adjustments to estimate final demand reduce the HCE estimate.						
Estimated receipts of non-federal hospitals are higher in the HCE estimate (based on Census data) than in the NHE estimate (AHA data).						
NHE for prescription drugs	\$335.0	-	PCE for prescription drugs	\$433.8	=	-\$98.8
NHE estimates removes rebates from manufacturers to insurers/providers; PCE estimate does not.						
NHE estimate also includes VA/DoD sales.						
NHE for other nondurables	\$66.4	-	PCE for other nondurable medical products	\$77.8	=	-\$11.4
The two estimates use some different data sources and include a slightly different list of commodities.						
NHE for durable medical equipment	\$54.9	-	PCE for durable medical products	\$68.9	=	-\$14.0
PCE estimate also includes optometrists' services (other professional services in the NHEA).						
NHE estimate also includes home health equipment rental (other professional medical services in GDP)						
The two estimates include a slightly different list of other commodities.						
NHE for other health residential, and personal care	\$191.6	-			=	\$191.6
			Final consumption expenditures of NPISH	\$71.2	=	-\$71.2
Some portions of NHE for "other personal health care" (not directly measured in the NIPAs) are probably included in non-health GDP.						
Final consumption expenditures of non-profits serving households (NPISHs) are not directly measured in the NHEA						
NHE for net cost of private insurance	\$258.5	-	HCE for net health insurance	\$228.7	=	\$29.8
HCE estimate also includes income loss insurance, workers compensation, privately managed Medicare and Medicaid.						
The two estimates use different methods and data sources.						
NHE for investment in private and government structures, equipment, and software	\$121.8	-	GDP: Investment in private and government structures, equipment, and software	\$152.9	=	-\$31.1
The two estimates use different methods and data sources. The GDP estimate includes a broader definition of software.						
NHE for investment in research	\$52.6	-	GDP: Investment in R&D	\$123.8	=	-\$71.2
GDP estimate also includes private investment for R&D for pharmaceutical and medicine manufacturing						
NHE for federal and state and local government administration and public health	\$141.1	-	GDP: Health-related federal and state and local gov't consumption expenditures	\$202.8	=	-\$61.8
GDP estimate includes spending for services of government agencies that the NHEA classify with these services (VA hospitals etc)						
GDP estimate also includes consumption of fixed capital, some EPA programs, payments for civil service retirement funds.						