By Daniel Waldo

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PERSPECTIVE

National Health Accounts: A Framework For Understanding Health Care Financing

Daniel Waldo (dwaldo@aresearch.com) is vice president and a senior economist at Actuarial Research Corporation, in Columbia, Maryland.

ABSTRACT Over the course of the past century, the challenges facing the United States in its consumption of health care goods and services have not changed very much. What is being consumed, who is paying for it, and how much is affordable are questions that arise in every cycle of the debate—if they ever go dormant. National Health Accounts are one tool to use in the search for answers to these questions and to the challenges behind the questions. The accounts cannot (and do not pretend to) address every aspect of the debate, but they provide an important context. In this article I briefly review the history of the health accounts and discuss their strengths and weaknesses in the context of the present debate over spending.

The authors of the most recent national health expenditure projections[1] forecast that US health spending will grow at an average annual rate of 5.5 percent during 2017–26. Driven by increases in the number and complexity of the services provided, price inflation in excess of that in other sectors, an aging population, changes in health insurance, and maturation of the economy, the share of the gross domestic product (GDP) attributed to national health spending is projected to rise from 17.9 percent in 2016 to 19.7 percent by 2026.[1]

Because sound health policy depends upon sound data, both for planning and for evaluation, National Health Accounts (NHA)—of which national health spending estimates are the best-known output—attempt to provide an economic accounting framework that addresses the factual aspects of the health care debate, which is a necessary adjunct to any discussion of the normative aspects of that debate. The latest projections report is part of a modern series that has the same goal as did the first annual analysis, conducted ninety years ago—to answer three critical questions: What is being spent on health care? Where is it being spent? Who is paying?

Importantly, health accounts answer these questions in the context of the larger, classic national income and product accounts (NIPA) framework,[2] which allows for a clean comparison of national health expenditures with the nation's GDP. The health accounts, however, are tailored to the specific nature of the health care debate: Whereas the core focus of the NIPA is on the production and consumption of goods and services, the NHA focuses on the consumption and financing of goods and services, and it is the financing of health care that motivates much of the debate, past and present.[3]

A Brief History Of Health Accounting

As one might expect, interest in health accounts tracks major policy initiatives and upheavals in the sector itself. Before the 1920s health care was largely paid for out of pocket or provided through uncompensated care. The organization of the Blue Cross and Blue Shield insurance plans in the 1920s began to shift the perception of how health care could be financed, and the Great Depression following the stock market crash of

1929 placed enormous pressure on families' budgets and thus on out-of-pocket spending—the existing major payment mechanism for health care. The Committee on the Costs of Medical Care was formed by a coalition of physicians, health officers, social scientists, and members of the public in 1927 in the hope of swaying public and government opinions regarding health maintenance organizations and group insurance.[4,5] The committee was privately funded, but it invited Secretary of the Interior Ray Lyman Wilbur, a physician and close personal friend of President Herbert Hoover, to be its chair. The first comprehensive national health accounts were constructed by staff members to inform the broader work of the committee.

Institutionalized resistance to "socialized medicine" caused this push for reform to die, but as World War II drew to a close, policy interest in the health care financing picture revived. Employer-sponsored insurance had been expanded greatly as a fringe benefit during the tight war-year labor markets, in response to the wartime wage controls, and with the prospect of labor markets' returning to prewar conditions, it was logical to consider what to do with this financing mechanism. President Harry S. Truman proposed optional national health insurance in 1945, and health insurance featured prominently in the Fair Deal legislation of 1949. Health spending estimates revived around this same time. Key committee staff members had moved to the newly created Social Security Board in 1936, keeping intact the institutional memory of health accounting, and this capital was put into play as the Social Security Administration (SSA) began to construct annual reports on voluntary medical insurance in 1950 and on public social welfare spending in 1951.

Although the legislative push for health insurance ebbed for a decade, the SSA continued to publish annual reports on social welfare and voluntary medical insurance, and as the debate over national health insurance revived in the early 1960s, annual reports on out-of-pocket spending were published as well. Dorothy Rice was hired by the SSA and charged with consolidating the fiscal-year social welfare spending and calendar-year private spending series, creating the first NHA under government auspices. In 1977 responsibility for the NHA was transferred to the newly formed Health Care Financing Administration, and staff members from the Commerce Department's Bureau of Economic Analysis were recruited to better align the NHA methods and timing with those of the NIPA.

The original dimensions of the health accounts (national spending by financing mechanism) were expanded in response to developments in health policy issues. For example, in the mid-1970s interest in the pressure placed by Medicaid on state budgets led to systematic reports on spending by states.[6] With the growth of employer-sponsored insurance premiums as a share of labor costs in the 1980s, reports that traced health spending back through "agents" (out-of-pocket spending, insurance, and government programs) to "sponsors" (households, business, and government general tax revenue) began to be produced routinely.[7] Interest in long-term projections of spending as a context for similar projections of Medicare and Medicaid spending emerged around the same time,[8] especially as national health spending's share of GDP showed no signs of stabilizing, and staff members from a modeling team in the office of the secretary of health, education, and welfare were added to the NHA staff to provide expertise in this area.

Internationally, efforts starting in the 1980s by Jean-Pierre Poullier, an analyst with the Organization for Economic Cooperation and Development (OECD), to collect standardized data for member countries led to the System of Health Accounts in 2000, a codification of definitions and presentation measures for use by member countries.[9] During the same time period a desire by lender organizations such as the World Bank to have consistent measures of outcomes with respect to health investments and a desire by the World Health Organization to extend the scope of cross-national comparisons of health spending converged in a joint effort to extend health accounting standards and frameworks to developing countries.[10,11]

The Role Of National Health Accounts In Policy Debates

WHAT QUESTIONS CAN HEALTH ACCOUNTS ANSWER? As mentioned above, health accounts help answer three important questions: What is being spent? Where is it being spent? And who is paying? Apples-to-apples comparisons are critical to any sound policy analysis, and the health accounts' strength lies in a consistent set of definitions and a consistent methodological approach—not only across all parts of the health care sector, but over time as well.

▶ **WHAT IS BEING SPENT?** As I noted above, the most popular and succinct metric coming from the NHA is national health spending as a percentage of GDP. Over time this share has increased, from 3.5 percent in 1929[12] to 17.9 percent in 2016.[1,13] Some of this increase reflects the natural maturation of the economy: Personal consumption expenditures for services other than health care increased as a share of GDP over

the same period, from 30.0 percent to 35.1 percent (exhibit 1), and this was after the major industrial revolutions that moved the US economy from agrarian through manufacturing and then trade phases of expansion. Some of it is attributable to what the economist William Baumol called "unbalanced growth," in which slower growth in labor productivity in the production of services than in the production of goods leads to differentially rapid increases in service prices.[14] Some of the unbalanced growth is attributable to advances in technology and medicine that monetize the cost of previously untreatable conditions. Some of it reflects the way in which health care and its financing are organized, delivered, and regulated. Health accounts do not explicitly address the "why" of spending change, but none of these effects can be assessed properly without a stable statistical context.

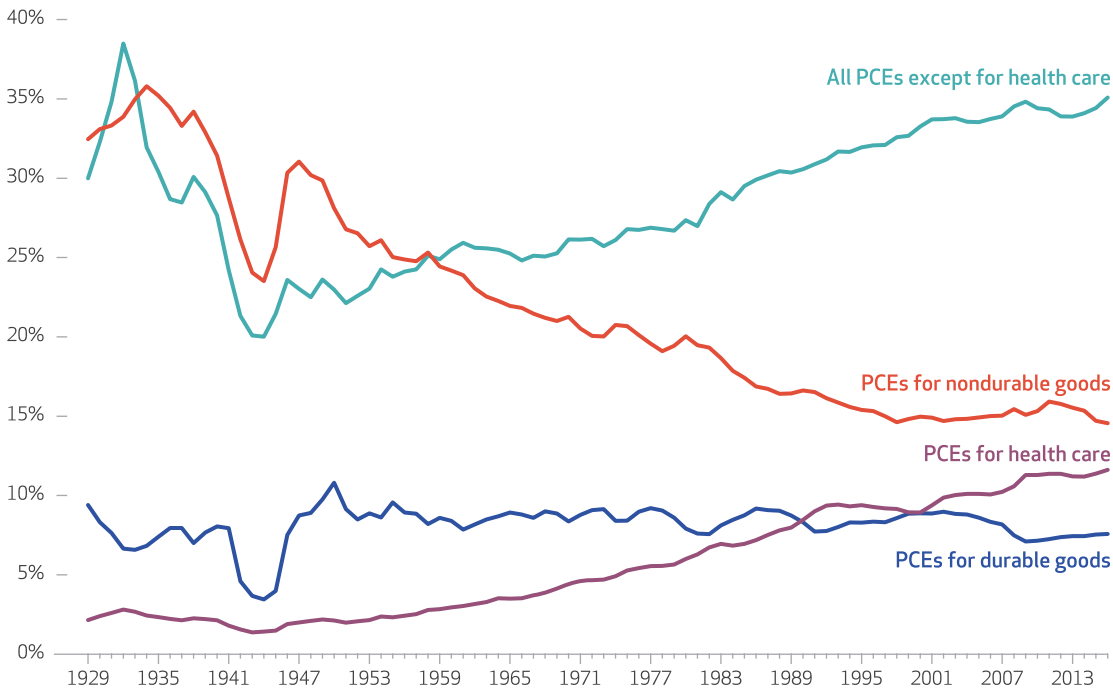
▶ **WHERE IS IT BEING SPENT?** Changes in the health sector mirror the maturation of the US economy as a whole, and the composition of the sector's output has changed over time. For example, hospital care, which accounted for a quarter of health care spending in 1929, now accounts for about a third of such spending.[4,13] Rising national income, technological change, increased infrastructure, and payment incentives all contributed to shifts in the distribution of health expenditures. Even within the health care sector, market forces manifest themselves differently from service to service, depending on the extent of insurance. But again, an accurate assessment of spending across service types—measured using consistent definitions and methods—is critical to a proper assessment of system performance.

▶ **WHO IS PAYING?** Unlike most consumer goods and services, health care is paid for through a variety of mechanisms, the relative importance of which changes over time. In 1929, for example, direct patient payments accounted for almost 80 percent of health expenditures, governments for 14 percent, and private insurance for less than 5 percent.[12] The surge in employer-sponsored insurance during World War II and the creation of Medicare and Medicaid in the mid-1960s shifted the burden of financing away from patients and onto business and government—ultimately, onto consumers, wage earners, and taxpayers. This remarkable shift in the burden of health care costs over the past nine decades is shown in exhibit 2.

WHAT QUESTIONS CAN HEALTH ACCOUNTS NOT ANSWER? Health accounts are not panaceas,

EXHIBIT 1

Shares of gross domestic product (GDP) accounted for by types of personal consumer expenditures (PCEs), 1929–2016



SOURCE Author's calculations based on National Income and Product Account (NIPA) data. Department of Commerce, Bureau of Economic Analysis. National data: NIPA tables 1.1.5 and 2.3.5 [Internet]. Washington (DC): BEA; [cited 2018 Jan 11]. Available from: https://www.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey.

however. There are critical questions facing policy makers that no accounting framework is able to answer:

▶ **ARE WE SPENDING THE "RIGHT" AMOUNT ON HEALTH CARE?** This is, of course, a normative question, and the answer depends on the societal valuation of health care. I recall being part of a panel testifying in a House of Representatives subcommittee hearing on health care costs several decades ago. One of the panel members—a well-known, well-respected, and highly placed policy expert—opined that national health spending would never reach 15 percent of GDP because there would be a popular revolt and reform before that happened. With current health spending nearly 3 percentage points above that threshold, it appears that society's tolerance has not reached a tipping point—yet. Algebraically, health care spending can continue to grow as a percentage of GDP without there being a reduction in other spending, at least at the national level. But that does not necessarily result in an efficient use of the nation's resources.

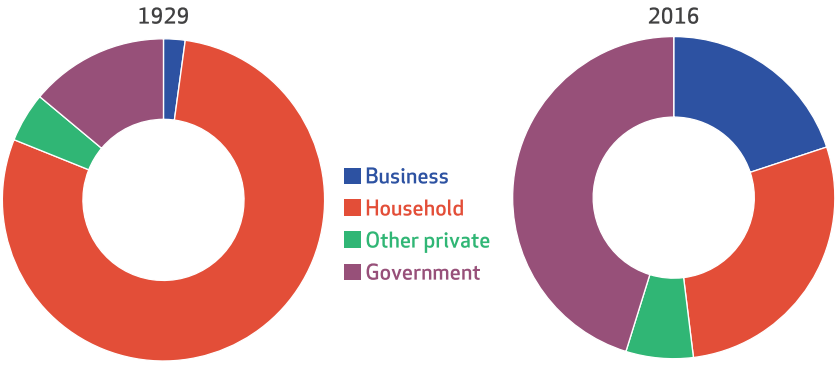
▶ **ARE WE SPENDING ON THE RIGHT PEOPLE AND THINGS?** Over time, a patchwork approach to health care financing has created a set of odd incentives and dynamics. It can easily be argued that too much care is delivered to some people (those whose insurance plans have low cost sharing) and for some things (services that are well covered and well reimbursed by insurance), and too little to other people (those without insurance who have low incomes) and for other things (preventive services, dental care, and mental health care).

▶ **ARE WE PAYING THE RIGHT PRICES?** Beyond the question of whether we are buying the right mix of goods and services and delivering those to the right people, we can ask (and have been asking) whether the amount we pay for each good or service is appropriate. Price inflation for health care goods and services has largely outpaced that for other consumer services and that for consumer goods (exhibit 3). To some extent this reflects Baumol's model of unbalanced growth, but it also reflects the unique nature of the health care market. Given that health care fails virtually every condition needed for market efficiency—free entry and exit, symmetric information, absence of externalities, impartial agency, and so on—there is no reason to assume that pricing is proper. This concern is exacerbated by the insulation of many actors from the prices paid at the point of service.

▶ **ARE WE MEASURING THE RIGHT THINGS?** Health accounts can help cross-national lessons-learned comparisons; the OECD System of Health Accounts codification helped by establishing a consistent framework for those comparisons. But the accounts are arbitrary in the boundaries drawn around health expenditure. The obvious example comes from a comparison of two countries in different stages of development: Water and sanitation infrastructures are vital prerequisites for population health and the logical first step in any health improvement initiative, but they are excluded from health accounts. Does this skew comparisons of how much each country pays for health care? Other examples are less obvious: If social services delivered to homebound patients reduce the likelihood of hospitalization or shift care from the emergency department to the physician's office, should those services be included in a measure of health care spending? Should they be covered by health insurance schemes?

EXHIBIT 2

National health expenditures by sponsor, 1929 and 2016

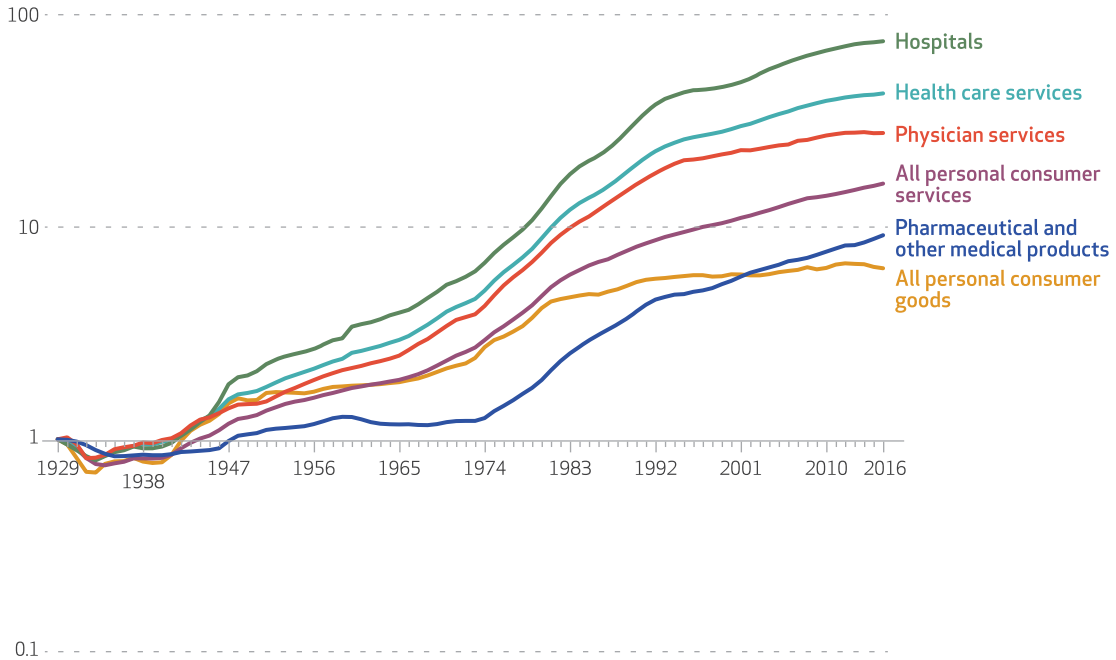


SOURCE Author's calculations based on data from the following sources: (1) Committee on the Costs of Medical Care, *Medical Care for the American People* (note 4 in text). (2) Hartman M, et al. National health care spending in 2016 (note 13 in text). **NOTES** "Business" includes Medicare Federal Insurance Contributions Act (FICA) taxes, direct health care spending, and employers' contributions to health insurance. "Household" includes employees' or enrollees' Medicare premiums, out-of-pocket spending, and premiums paid for private health insurance. "Other private" includes philanthropy, private research, private structures and equipment, and other non–patient care revenues. "Government" includes general revenues used for health care and the government's share of its employees' health insurance premiums. See Centers for Medicare and Medicaid Services. National Health Expenditure Accounts: methodology paper, 2016: definitions, sources, and methods [Internet]. Baltimore (MD): CMS; [cited 2018 Jan 11]. Available from: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/DSM-16.pdf.

FRAMING THE QUESTION, CHECKING THE ANSWER Even where health accounts cannot answer a question, they can frame the question or provide a check on the answer. We cannot say whether we are spending the right amount on health care until we know what we are spending now. Surveys of the population need to be calibrated to some set of numbers if we are to compare two points in time or two different surveys with any accuracy—or even place the survey results in a larger context. The effects of policy changes can be measured at a micro level, but at some point the changes need to be understood in the light of total spending.

EXHIBIT 3

Price indexes for all personal consumption expenditures and for selected health care goods and services, 1929–2016



SOURCE Author's calculations based on data from Department of Commerce, Bureau of Economic Analysis. National data: NIPA table 2.4.4 [Internet]. Washington (DC): BEA; [cited 2018 Jan 11]. Available from: https://www.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey. **NOTES** Values are rescaled so that 1929 equals 1.000. For example, a drug that cost $1 in 1929 would cost $9 in 2016 (relating to the line labeled "Pharmaceutical and other medical products").

Summary

Health accounts play an important role in the health care financing debate. Sometimes they can answer questions directly, especially those regarding levels and trends in spending. Sometimes they can provide a context for assessing the capacity and sustainability of existing or proposed mechanisms, or for a specific research finding. Combined with survey data and other economic accounting data,[15] they can shed light on the appropriateness or adequacy of existing programs.

And one should not forget a characteristic of the health accounts that sometimes is overlooked: the reputation of the staff that prepares these accounts. The lack of bias and the consistency over time with which the numbers are prepared take one side issue (are these the real numbers?) off the table and allow policy makers to concentrate on the important issues facing the nation. Those issues were articulated in 1932 by Interior Secretary Wilbur: "The quality of medical care is an index of a civilization. When in earlier centuries the entire time and energy of a people were consumed in providing food, clothing, and shelter there was little left for the care of the sick and disabled. As the margin between production and the needs of mere subsistence expanded the preservation of health was one of the first needs to receive attention. Today in American civilization, health occupies a high place among accepted social values. As we emerge from the present depression and build up a surplus of income not necessary for mere subsistence, we shall do well to realize that we can invest this surplus in no better way than in the preservation of health. ...[This] report affords for the first time a scientific basis on which the people of every locality can attack the perplexing problem of providing adequate medical care for all persons at costs within their means. It is hoped that the report may thus aid materially in bringing greater health, efficiency, and happiness to all the people."[4(p ix–x)] ■

[*Published online February 14, 2018.*]

NOTES

1 Cuckler GA, Sisko AM, Poisal JA, Keehan SP, Smith SD, Madison AJ, et al. National health expenditure projections, 2017–26: despite uncertainty, fundamentals primarily drive spending growth. Health Aff (Millwood). 2018;37(3):482–92.

2 The national income and product accounts (NIPA) are a set of economic accounts from which one can generate measures of the value and composition of national output and of the income that output creates. Calculated by the Commerce Department's Bureau of Economic Analysis, the accounts "provide a detailed snapshot of the myriad transactions that make up the economy—buying and selling goods and services, hiring of labor, investing, renting property, paying taxes, and the like." See Department of Commerce, Bureau of Economic Analysis. An introduction to the national income and product accounts [Internet]. Washington (DC): BEA; 2007 Sep [cited 2018 Jan 11]. p. 2. Available from: https://www.bea.gov/scb/pdf/national/nipa/methpap/mpi1_0907.pdf

3 Changes in the way the consumption of health care is treated in the NIPA have made it easier to compare estimates in the two sets of accounts, but there remain timing and definitional differences in addition to differences in estimation methods and approaches. See, for example, Kornfeld R, Hartman M, Catlin A. Health care expenditures in the National Health Expenditures Accounts and in gross domestic product: a reconciliation [Internet]. Washington (DC): Department of Commerce, Bureau of Economic Analysis; 2010 Sep [cited 2018 Jan 11]. (BEA Working Paper). Available from: https://www.bea.gov/papers/pdf/healthrecon_workingpaper_Sep2010.pdf

4 Committee on the Costs of Medical Care. Medical care for the American people: the final report of the Committee on the Costs of Medical Care. Chicago (IL): University of Chicago Press; 1932.

5 The Committee on the Costs of Medical Care [see note 4] made five recommendations. The first was that "medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists, and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office, and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician" (p. xvi). Another recommendation was that "the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both of these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method" (p. xvi).

6 Levit KR. Personal health care expenditures by state, selected years 1966–1978. Health Care Financ Rev. 1982;4(2):1–45.

7 Levit KR, Freeland MS, Waldo DR. Health spending and ability to pay: business, individuals, and government. Health Care Financ Rev. 1989;10(3):1–11.

8 Freeland M, Calat G, Schendler CE. Projections of national health expenditures, 1980, 1985, and 1990. Health Care Financ Rev. 1980; 1(3):1–27.

9 Organization for Economic Cooperation and Development, Eurostat, World Health Organization. A System of Health Accounts: 2011 edition. Paris: OECD; 2011.

10 For example, the World Bank, World Health Organization, and US Agency for International Development funded a how-to manual for local health ministry teams. See World Health Organization. Guide to producing national health accounts with special applications for low-income and middle-income countries [Internet]. Geneva: WHO; c 2003 [cited 2018 Jan 101. Available from: http://www.who.int/health-accounts/documentation/English_PG.pdf?ua=1

11 Consistent definitions and methods contributed to international comparisons of health spending in World Health Organization. World health report 2002: reducing risks, promoting health life [Internet]. Geneva: WHO; c 2002 [cited 2018 Jan 11]. Available from: http://www.who.int/whr/2002/en/whr02_en.pdf?ua=1

12 Reed LS. The ability to pay for medical care. Chicago (IL): University of Chicago Press; 1933.

13 Hartman M, Martin AB, Espinosa N, Catlin A, National Health Expenditure Accounts Team. National health care spending in 2016: spending and enrollment growth slow after initial coverage expansions. Health Aff (Millwood). 2018;37(1):150–60.

14 Baumol WJ, Bowen WG. Performing arts—the economic dilemma: a study of problems common to theater, opera, music, and dance. New York (NY): Twentieth Century Fund; 1966.

15 Satellite accounts, for example, can provide some of this information. For example, 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)." See Department of Commerce, Bureau of Economic Analysis. Health Care Satellite Account [Internet]. Washington (DC): BEA; [cited 2018 Jan 11]. Available from: https://www.bea.gov/national/health_care_satellite_account.htm