Origins and Elaboration of the National Health Accounts, 1926-2006

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The National Health Statistics Group (NHSG) has managed to keep the national health accounts (NHA) apolitical and highly respected. NHSG strategies have included the careful acquisition and presentation of statistics relating to health costs and payers; the use of scholarly journals to disseminate ideas to other government offices and, beyond them, to industry, labor, the professions, and universities; and the promotion of cooperation with related U.S., statistical agencies, provider groups, contractors, and international organizations. Responding to an increasingly complex system of third-party payers in the U.S. health system and controversies over methods, the NHA has continually evolved to meet the demands of health care decisionmakers. Historically, these dialogues have forced health accountants to refine their methods to ensure that their portrayal of spending and financing trends presents information that can inform the decisionmaking process in a non-partisan way.

INTRODUCTION

Systematic modeling and measurement of health care in the national economy, which can be traced to the years between the two World Wars, involved two components: the estimation of national wealth and that of the total costs of health care. Between the 1920s and 1940s, macroeconomists developed measures and models of national economies: national income, gross national product (GNP), and gross domestic product (GDP). These overall measures have provided a context for assessing the role of more specialized sectors within economies, serving as denominators against which various components, as numerators, can be compared.

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This article will trace the origins of the NHA (now known as the national health expenditure accounts—[NHEA]), following its prehistory in private initiatives of the late 1920s and in the Social Security Board (SSB) of the 1930s to the first calculations of health expenditures in the 1950s. The remainder of the article will discuss the development of the NHA from their origin in 1964 to the present. The Federal agency responsible for calculating the accounts is the National Health Statistics Group (NHSG) in the Centers for Medicare & Medicaid Services. It will then explain the recruitment and operational strategies used by the NHSG to sustain and elaborate the NHA[1]; how the NHA gave policymakers ways of assessing proposed programs and the operation of existing ones; and will also document the importance of carefully crafted statistics in formulating ideas that influence thinking and policy directions.

NHE: 1926-1964

Costs of Medical Care: 1926-1932

The earliest effort to capture the magnitude of health expenditures in the national economy came not from the government

[1] In the words of former Administrator Bruce Vladeck, “a national resource” (Rich, 1993).

but from the private sector. In 1926, 15 delegates (from the medical profession, government public health agencies, and academia) to the national convention of the American Medical Association (AMA) met independently of the formal proceedings to discuss ways to enhance Americans' access to medical care by expanding availability and lowering costs. A year later, an enlarged group (also including eight charitable foundations) established the Committee on the Costs of Medical Care (CCMC), which conducted a series of studies on the nature of U.S. medicine (Fox, 1979; Starr, 1987; Ross, 2002; Committee on the Costs of Medical Care, 1932; Howell, 1995). In the 5 years which followed, CCMC produced 26 studies and a final report which contained the first systematic estimate (for 1929) of the cost of U.S. medical care, expressed as a proportion of "the money income of the country". They also calculated the relative importance of four groups of payers: patients, governments, philanthropy, and industry. These calculations laid the groundwork for subsequent analyses of three basic questions: What proportion of national income do Americans spend on health care? Who pays for health care? and what services are purchased?

CCMC's report (1932) estimated total health expenditures—private as well as public—at $3.656 billion, a substantial figure for the era. The CCMC further put the expenditure into context by showing that Americans in the aggregate spent nearly twice as much on tobacco, toiletries, and recreation, and nearly three times as much on automobiles and other travel than on health care. They further estimated that health care amounted to about 4 percent of national income—an economic measurement then still under debate and was not elaborated definitively until 1934 (Carson, 1975; Perlman and Marietta 2005). (GNP, as later calculated, was about 25 percent higher than national income, so the proportion was about 3.2 percent of GNP.) The report calculated expenditures for 13 categories of providers, the most important of which were physicians, drugs, hospitals, and dentists (Committee on the Costs of Medical Care, 1932). Seventy-nine percent of costs were paid out of patients' pockets, while another 14 percent came from local governments, States, and the Federal Government; 5 percent came from philanthropy, and 2 percent from industry. Municipalities probably contributed the lion's share of public expenditures for health. Merriam and Skolnik (1968) estimate that in fiscal year (FY) 1929-1930, State and local governments combined spent roughly seven times as much on health and medical programs as the Federal Government. Before World War II, the involvement of local governments relative to State governments is illustrated by the fact that the city of Milwaukee's expenditures on public health and garbage collection alone were greater than those for health by the entire Wisconsin government (Chapin and Fetter, 2002).

Had they been implemented, CCMC's recommendations would have transformed U.S. health care delivery. A majority of its 48 members proposed that provider groups organized around hospitals largely supplant individual practitioners; that public health services be expanded to cover the entire population; and that medical costs be prepaid through a combination of insurance and taxation rather than out-of-pocket fee-for-service (FFS). Fourteen members demurred, collectively producing two minority reports and two personal statements. The minority position reflected the opinion of most practitioners and, in particular, that of the AMA, which had fought for years to promote physician autonomy and pre-eminence over other providers and against group practice or

any other alternative to FFS. Ultimately the dissenters won the day, although CCMC's carefully derived statistics influenced subsequent thinking and policy directions in health care, and some of their ideas were taken over by the New Deal (Starr, 1987; Fox, 1979).

Although their policy proposals failed to carry the day, the CCMC left an important legacy in terms of the NHA. The concept of a matrix presentation of spending figures, coupled with careful derivation of estimates using a variety of data sources, created the prototype for systematic reporting on U.S. health care financing implemented 30 years later. CCMC staff would go on to work for government agencies charged with social welfare accounting and would bring these ideas with them.

Social Welfare Expenditures: 1935-1964

Government action in social welfare was at the heart of Franklin D. Roosevelt's New Deal. After his inauguration in March 1933, Congress created a number of ad hoc agencies which did not fit into the traditional cabinet departments. One of the most important of these was the SSB, established in 1935 to run the new government-sponsored retirement program for salaried workers. Although the SSB was, in 1939, amalgamated with other existing agencies (Public Health Service and the Children's Bureau), into the Federal Security Agency [FSA], predecessor to the Department of Health, Education, and Welfare [HEW]), its initial structure gave it broad authority in the field of social welfare.

Merriam (1982), attributed the agency's reach to a single section of the Social Security Act of 1935. Section 702 charged SSB—and, its successor after 1946, the Social Security Administration (SSA)—with "studying and making recommendations as to the most effective methods of providing economic security through social insurance, and as to legislation and matters of administrative policy concerning old-age pensions, unemployment compensation, accident compensation, and related subjects." This allowed the agency not merely to collect information related to its existing programs, but to examine new policies.

During the late 1930s, SSB grew beyond the scope envisioned in the original legislation, and bureaus within the agency began to compete with each other for the analytical function. Originally, the Bureau of Research and Statistics (BRS) conducted most of the analyses and surveys. During the early 1940s, however, individual bureaus—Old Age and Survivors and Disability Insurance (OASDI), Employment Security, Public Assistance, and the Actuary's Office—began to perform their own analyses. Indeed, specialists in particular programs often had greater familiarity with their constituents than did generalists at BRS. This overlapping jurisdiction put BRS at a disadvantage, because it, unlike most others in SSB, had no field staff of its own. BRS retained some control over the research agenda through an SSB research steering committee chaired by the Bureau's director, which included the other bureau directors (Merriam, 1982).

Nonetheless, the BRS had already established itself as a center for scholarly analyses of social security. Its studies included a broad range of projects. In 1937 BRS began publishing the *Social Security Bulletin*, then a monthly outlet for scholarly papers which attracted a wide audience in other agencies, the private sector, and in universities. In that same year it also published a compendium of social cost estimates for health and disability insurance. In 1939 it began publishing estimates of the fiscal capacity of the States to make cost-sharing grant-in-aid payments and a 1- percent work history

sample of the Social Security beneficiaries. Two years later BRS began a four-city survey of Social Security beneficiaries. It further extended its reach through the (1936-1948) Labor Research Group, which included a number of members from outside the government (Merriam, 1982).

The BRS also began to compare U.S. policies with others abroad. As early as 1937, they began an annual survey of social security provisions in other countries, a practice that was endorsed by the International Labor Organization when it was part of the League of Nations. After the war, SSA worked with a number of United Nations organizations in addition to the International Labor Organization. In 1958, they joined the International Social Security Association, a professional organization in which civil servants discussed the problems of their national agencies.

SSA, like many other New Deal agencies, enjoyed a relative immunity from attack for the 12 years after the passage of its initial legislation in 1935, when a single party controlled the Presidency and both Houses of Congress. That situation changed in 1947 when Republicans regained control of Congress. Majority members of the House Committee on Expenditures in the Executive Department's Subcommittee on Publicity and Propaganda, questioned the propriety of the health workshops established by BRS to discuss the administration's proposals for national health insurance (Merriam, 1982). Indeed, the BRS was identified with proposals included in the SSB's annual reports for the period from 1943-1945 for a unified national social insurance system. One might argue that Congress had no objections to studies of programs already authorized or under consideration, but felt that it was inappropriate for the SSB to advocate new programs.

Retribution came in the form of personnel reductions, at a time when the Federal civil service was being reduced by one-half, from 4 to 2 million employees (U.S. Office of Personnel Management, 2002). The Appropriations Committee, although leaving the operating bureaus' budgets intact, slashed the Social Security Commissioner's staff from 1,100 in 1947 to 361 in 1948 to 59 in 1949. BRS (renamed the Division of Program Research [DPR]) which was responsible for the commissioner's office, planning and research, the information program, and planning, went from 160 to 30. These cuts substantially curtailed the research activities. The Social Security Bulletin survived only because the FSA took it temporarily under their wing (Merriam, 1982).

Government attitudes toward health and social welfare in the post-War period need to be seen in the context of a vast expansion in the U.S. economy triggered by defense needs after Pearl Harbor. Until 1942, the principal indicator used by the government to represent the economy as a whole was Kuznets' National Income, which summarized economic activity at the national level and which could be reduced to a single figure. It did not, however, describe the nature of economic activity very well. This became possible after the introduction of a more complex indicator—devised by Kuznets and Nathan—the GNP, arranged by type of output, that became the new measure for overall economic activity.

In August 1945, new measures were needed to chart the post-War economy. The Commerce Department went through a series of reorganizations which coincided with the demobilization of the economy. As was the case with the calculation of the GNP in 1942, the economic framework for modeling and planning post-War America was left in the hands of a small number of specialists. They were lodged in the Department of Commerce's Office of Business Economics' National Income Division. They found that even the GNP,

which had been used during the war to measure the national production and consumption, was inadequate to capture the inner workings of the U.S. economy. To get a still broader picture of the economy, in 1947 they produced the national income and product accounts (NIPA). NIPA added tables that expanded the ability to track the use of productive resources and to show the disposition of those goods and services to consumers, government, businesses, investment, and the rest of the world (international transactions) (Perlman, 1987).

NIPA, periodically updated and expanded, remain the most authoritative instrument for describing and analyzing the U.S. economy. Like other economic models, however, it preserves the assumptions of its framers, and many of its categories have remained unchanged—in part to satisfy economists' needs for 30 year time series data. After the appearance of the first NIPA, however, Kuznets in 1948 criticized NIPA for its underassessment of the role of government in the economy, stating: "The Department of Commerce conceives the government as an ultimate consumer rather than as a producer."

The statistics contained in the 1947 NIPA afford a glimpse of expenditures on health not found since the CCMC 15 years earlier. Unlike the CCMC, however, these statistics were not integrated into a single table. Instead, they were classified on the product side of the accounts in three tables: personal consumption expenditures, gross private domestic investment, and government purchases of goods and services. Among the personal consumption expenditures, moreover, the first three versions of NIPA lumped medical care together with death expenses—funerals, cemeteries, and tombstones—while other tables combined all categories of social spending. Health expenditures were therefore subsumed in general totals, but were not separable from other related expenses (U.S. Department of Commerce, 1947, 1951, 1954, 1965, 1974, 1982, 1994). Later versions persisted in segregating the various types of health spending. In sum, NIPAs do not really differentiate health from other expenditures. In addition, NIPAs also do not tell whether insurance paid for services or whether they came out of the consumer's pocket. Their interest is in production and consumption of goods and services, while health policymakers are interested in consumption and financing of those goods and services. One hopes for an eventual reconciliation between NIPA calculations and those of the current NHEA.

More explicit treatment of health and other social welfare expenditures did return to national concerns, paradoxically, through the Cold War. During a debate at the United Nations in 1950, the Soviets accused the U.S. of spending more on the military than on social services. This led the State Department to request estimates of the amounts spent on social welfare comparable to those used in other countries. The State Department subsequently appointed labor attachés to U.S. embassies abroad whose tasks included collecting social expenditure data. As far as the U.S. was concerned, the State Department asked the FSA for comparable information, and the administrator referred the matter to SSA's BRS. Merriam (1982; Merriman and Skolnik, 1968) expanded BRS' earlier series on Social Security and related programs to include budgetary data on government expenditure for education, housing, and certain previously omitted veterans' benefits.

The first estimate of the total proportion of GNP spent on social welfare was produced in 1953. In the next few years, the categories describing social spending changed frequently. In 1955, BRS added private expenditures for health, education,

and welfare. In 1958 (for the first time) BRS included Defense Department expenditures for medical care and education of military personnel and their dependents. Between 1952 and 1964, the number of items classed as social welfare grew substantially. These changes in accounting altered the way social welfare spending was seen. The inclusion of these previously excluded social welfare items had the effect of further increasing the social welfare numerator without affecting the GNP denominator. This accounting practice made social welfare seem to increase in magnitude. Successive iterations, of course, were recalculated to reflect current categories, but the changes blurred the depiction of the actual growth of social spending by mingling changes attributable to counting previously excluded programs with changes attributable to growth of those already included.

The complexity of social welfare statistics made it difficult to differentiate expenditures on health from those on other items. Indeed, establishing the boundaries of the health sector is a perennial problem, since all manner of expenditures for comfort and recreation can be attributed to health care (Abraham and Mackie, 2005). Even the limited range of expenditures subsumed in social welfare statistics fell in other categories such as veterans' programs, workmen's compensation, rehabilitation, and public assistance (Merriam and Skolnik, 1968). The calculation of health expenditures was further complicated by the fact that public agencies operated on different fiscal years (beginning on July 1 up to 1976 for the Federal Government, then October 1; and several other dates for various States [Levit, 2004]).

Nonetheless, health was an increasingly urgent topic in national politics, and this was reflected in DPR. After the inauguration of Dwight Eisenhower in 1953, FSA obtained full cabinet status as HEW.

Between 1960 and 1972, a group of advisers was created from outside the agency which judged competitive proposals for research grants and contracts. Interagency cooperation enhanced DPR's capacity to conduct surveys on vital issues. These included discussions of the ability of Federal programs to meet client needs and the development of projections for the economy as a whole (Merriam, 1982). In 1951 and again in 1957 OASDI's survey on the health of senior citizens was incorporated into a report on hospitalization insurance for retirees was later presented to the House Ways and Means Committee in 1959 (Merriam, 1982).

By the end of Eisenhower's second term, Congress was extending health benefits. In 1960 it passed the Kerr-Mills Act that expanded government-funded health care beyond the category of indigent mothers and dependent children to certain categories of persons age 65 or over (Oberlander, 2003). This process accelerated with the election of John Kennedy in that same year. Even before his inauguration, Kennedy appointed a special task force under the direction of Wilbur Cohen to formulate new health policies. DPR, in conjunction with other agencies, produced a series of studies that showed the need for medical care for social security recipients. A key milestone was the 1963 survey comparing the cost of medical services provided to social security retirees with those of other seniors, documenting the argument for Medicare at a time when many groups of retirees such as the disabled, widows, and single women were still not eligible for full Social Security benefits (Merriam and Skolnik, 1968; Merriam, 1982; Rice, 1969). In addition, DPR continued to publish Merriam's annual estimates of total public and private health expenditures as part of the national expenditures on social welfare. Beginning in 1962, DPR also

published a series of estimates of private consumer expenditures and data relating to voluntary health insurance by CCMC. Both estimates appeared in the Social Security Bulletin (Reed and Rice, 1964).

In 1963, the expansion of functions under Social Security triggered yet another reorganization into two large sections, one devoted to insurance programs (OASDI) and the other to grant-in-aid Federal-State matching programs (Welfare Administration).

By this time, the stage was set for a new integrated program to measure the importance of health care in the national economy. The Office of Research and Statistics (ORS) and the Office of Program Evaluation and Planning (OPEP) were recognized as major arbiters in the study of the economics of health care through carefully derived social accounts, studies of health and disability insurance, and their transnational work on social security.

Since 1941 the predecessors of ORS had reviewed all statistical forms before they went to the Bureau of the Budget for final approval, establishing them as an arbiter in the collection of economic data related to Social Security. ORS had also successfully collaborated with the Commerce Department's Bureau of the Census on a survey of the retirement systems of the 48 States. In addition, it also worked with the Labor Department's Bureau of Labor Statistics (BLS) on private employee benefits. Opinion leaders on the Council of Economic Advisors, the National Planning Association, and the Twentieth Century Fund's survey of America's Needs and Resources had relied on its intellectual output in the Social Security Bulletin and in its other publications (Merriam, 1982). Now it would play a pivotal role in the government's projects for the provision of medical insurance for seniors.

NHE: 1964-1978

The final stage in SSA's delegated role in the run-up to Medicare was the establishment of the national health expenditures (NHE), consciously modeled on the statistics assembled by CCMC (Reed and Rice, 1964). Reed and Rice studied the annual estimates of public spending and private expenditures while reconciling differences in fiscal year and in spending and medical delivery categories.

Their sources were both public and private. Federal agencies included the Internal Revenue Service's (IRS's) Statistics of Income, Business Tax Returns, the Federal budget for expenditures by Veterans' Affairs, the Department of Defense's costs of Military Dependents' Medical Care Program, and the Department of Commerce's *Construction Review*. From within HEW, they obtained data from the National Institutes of Health, the Bureau of Family Services, the Welfare Administration, the Children's Bureau, and the Public Health Service. The most important of their industry sources was the American Hospital Association.

The first NHE for 1962 and subsequent ones followed the basic CCMC model with modifications that reflected changes in U.S. health care delivery and payment. Hospitals, which now headed the list of providers, were first divided between those owned by the Federal Government and those which were not. Soon, however, the distinctions were refined to include privately owned hospitals (run by charitable bodies and not-for-profits) and those owned by the Federal, State, and local governments. This same distinction applied to the reporting of hospital construction costs. Two further elements were added: net cost of insurance, which estimated administrative costs above and beyond payments to

providers, and medical research. Payers were now divided between private and public, the latter term designating programs established by law to benefit certain targeted groups of people. These targeted groups included workers (Federal, State, or local), aged, disabled, poor, American Indians, children, veterans, active military, etc. These categories of payers allowed policymakers to track spending for programs designed by Congress to meet specified social goals (Levit, 2005).

Reed and Rice then compared the distribution of U.S. medical expenditures between 1929 and 1962 and found many changes. Hospitals now received double their previous share of the total health dollars (33.2 versus 17.9 percent), while physicians (19.7 versus 29.9 percent) and dentists (7.0 versus 12.2 percent) suffered relative declines. Overhead expenditures for insurance now amounted to 3.3 percent of each health dollar. The increased role of insurers, however, reduced the share of health care paid directly by consumers by 10 percentage points, from 79 percent in 1929 to 69 percent in 1962. Health expenditures had risen from about 3.2 to about 5.0 percent of GNP.

The NHE provided information on health care spending unavailable in accounting structures maintained by other government agencies. The data collected were more focused and flexible than those collected from more traditional statistical agencies such as the BLS and Bureau of the Census. ORS authorized the establishment of an annual series of NHE and the construction of back estimates for key years (back to 1950 and, eventually, to 1929). The production of this series imparted a sense of continuity to the NHE and allowed the analysis of 30-year series, a time depth required by the conventions of econometric analysis. In addition, it allowed each year's statistics to be included in a matrix in which each entry could be analyzed in relation to the other entries for that year and for the same item in previous years.

During the Johnson years, SSA continued to undergo frequent reorganizations. In 1961 the Defense Department had introduced program budgeting accounting practices which were adopted 5 years later by HEW becoming a template for the SSA. New projects were henceforth subjected to tests of their cost effectiveness and were evaluated separately through cost benefit analysis. Health matters were increasingly subjected to the question of whether the government, businesses, and individuals were getting good value for their expenditures. This represented a step well beyond the CCMC. Instead of simply calculating how much was spent, the accounts were interrogated to determine whether monies were spent wisely.

In the early years, NHE were organized by a number of SSA divisions which collected and processed the data. In 1965, ORS's Health Insurance Research Group can therefore be considered the first group directly responsible for the production of the NHE. With the creation of the National Health Insurance Modeling Group in 1972, staff from ORS and SSA's Chief Actuary's Office were brought together for the first time (Freeland, 2005).

The most important problem raised by Medicare's hospital coverage in the program's early years was costs. Between 1966 and 1983, Medicare Part A paid out 100 percent of seniors' hospital costs plus a 2-percent supplement for administration, without any restraints on the providers. According to Mayes (2004), expenditures for hospitalization doubled between 1970 and 1975 and again between 1975 and 1980. By 1981, Medicare was predicted to go bankrupt by the end of the decade. Only cost controls imposed in 1983 and increases in the tax rate in 1981 and 1986

saved the program. The main agent for controlling costs was the prospective payment system that in 1983 abolished the 2-percent administrative supplement and controlled Medicare reimbursements for acute care hospitalizations. The Medicare tax rate was raised in 1981 (from 1.05 percent of wages up to $25,900 paid by both employers and workers to 1.30 percent of $29,700) and again in 1986 (to 1.45 percent of $42,000). In addition, each year the maximum income on which the tax was imposed was also raised. With the exception of 1966-1967 and 1968-1971, the maximum wage amount subject to the Medicare tax was increased each year until 1994 when the maximum taxable wage amount was eliminated (Board of Trustees of the Federal Hospital Insurance and Supplementary Medical Insurance Trust Funds, 2004).

Either because of or in spite of broader coverage, however, medical costs were rising. But how much of that increase was due to Medicare? Existing indicators, particularly the consumer price index (CPI), provide a rough, although sometimes exaggerated picture (Newhouse, 2001). BLS estimated that between 1965 and 1968, CPI as a whole had risen by 10 percent, while medical care services rose over twice as fast, by 23 percent. In addition to price increases, some of the growth in medical expenditures came from demand by seniors, who could now afford hospitalization, physicians' services, and nursing home care previously beyond their means. Hospital revenues rose by 48 percent, more than twice the rate of medical services as a whole, in part because hospitals were now able to collect on what had previously been uncompensated care. Physicians' fees, by contrast, rose by 20 percent. Rice (1969) found that Medicare was still paying only 46 percent of seniors' total expenses. The rest came from supplementary insurance coverage (medigap) and out of pocket. In the early 1970s, Medicare costs increased still further because of congressional legislation in 1972 to extend benefits to those under age 65 who were disabled or suffering from end stage renal disease.

HCFA, CMS, and HHS: 1977-2006

By the inauguration of Jimmy Carter, the Federal Government's social welfare programs were well beyond the administrative capacity of a single cabinet department. Although HEW would be broken up in 1980 into the Department of Education and the Department of Health and Human Services (HHS), the first stage in the breakup process was a substantial reorganization of SSA. With the intent of centralizing Federal health programs, Carter asked HEW to establish an institutional framework that would bring Medicare, Medicaid, and three smaller SSA units into a single organization. A seven-member HEW work group was established to design the new organization.

This project proved administratively difficult. These programs both paid medical expenses, but had rather different responsibilities. Medicaid, which was run through the States, oversaw the health care for the indigent, paying for medical expenses and pharmaceuticals out of a combination of funds from the Federal Government and the States. Within Medicaid, moreover, long-term care was becoming the largest category of expenditures and it was mainly utilized by persons also covered by Medicare. The latter covered hospitalization costs with Federal general revenue and through taxes paid by employers and employees before retirement and outpatient expenses through general revenue and premiums paid by eligible beneficiaries.

A third program, the Office of Professional Standards Review, attempted to limit costs by seeing that operations and procedures were both efficacious and cost effective.

The administration assembled a budget of $50 billion to fund the new organization and its programs. Indeed, this budget was large when compared with the $189 billion spent on health care for FY 1978 (then estimated at 8.2 percent of GNP). In March 1978, HCFA was established and the NHE group obtained a level of recognition. It continued to prepare the expenditure estimates in the NHA accounts. Management control fell under HCFA's research and budget and actuarial offices. As the actuarial activities grew in importance, the actuarial office to which NHE staff were deliberately assigned emerged from other multifunctional organization structures eventually to become a separate organization.

From the inception of HCFA, the HHS group was linked organizationally to the HCFA Chief Actuary. The Office of the Actuary interacted between two groups of specialists on certain issues such as the cost of a prescription drug benefit, but did not attempt to merge the activities of the groups (Waldo, 2005). Although both actuaries and economists worked with complicated mathematical models, those of the actuaries were concerned primarily with predicting trends in mortality and morbidity among large populations and their implications for Trust Fund revenues (income) and Medicare health costs, while health economists worked to describe and model the productive and financial systems contributing to health care.

Office of the Actuary staff were beginning to expand the functions of the NHA group. New resources came from a merger that brought together social scientists and actuaries, who had previously operated in separate divisions of SSA.

The expanded NHE group's work did not lack challenges. A particularly devastating blow came in 1982, when the IRS curtailed the sample size used to compute the annual Statistics of Income (Internal Revenue Service, 1982). Previously, these publications had been a major source for estimates for physicians' and dentists' incomes and for nursing home care (Luft, 1976/1977; Internal Revenue Service, 1982; Arnett et al., 1990b). The group persevered by turning to data on physicians and dentists from the Census Bureau's Services Annual Survey. Getting supplemental material on nursing homes required bringing together The National Nursing Home Survey from the National Center of Health Statistics, and reports on hours worked by nursing home employees compiled by BLS (Paringer, 1994). Other new work in 1982 included a 20 percent upward reevaluation in the administrative costs of private insurance (Paringer, 1994).

Among other projects, they developed market basket studies—input price indices—for hospitals, skilled nursing facilities, home health agencies, and physicians' services. Beginning in 1980, they ran projections on future NHE (Freeland, 2005). In addition, they studied the costs of medical education and of long-term care. They also conducted an employer survey of health insurance coverage, and long-term projections of the revenues and costs of Medicare, which were done by the actuaries aided by NHE staff for Part B (voluntary health coverage) estimates.

By this time the NHE group had reached the point where it was necessary to assess their own procedures. The first extensive review came in a conference held in 1984. Attendees included representatives from such major U.S. government bodies as the Council of Economic Advisors and the Office of Management and the Budget and private organizations concerned with

health care. Waldo (2004) characterizes the rationale for the first conference as "…technically inclined users' and producers' desire to improve the product."

After two days of discussion, the participants arrived at a series of informal recommendations. Conference participants observed "…that for the most part, data used by HCFA to generate estimates have been collected by other entities for other purposes…," (Lindsey and Newhouse, 1986) an observation that was already true when the organization was established. Generally, however, participants agreed on only minor changes in data collecting and analysis. These included greater use of survey data, finer definitions of spending categories, and further analyses by State and age group.

A followup conference in 1990 was organized as a technical advisory panel. Its agenda was to assess a new set of revisions in the NHA and to propose further changes (Arnett et al., 1990a, b; Haber and Newhouse, 1991). Beyond the changes in the general rules of reporting NHE, they suggested the use of finer breakdowns within NHA categories to allow more extensive comparison of costs and benefits. The conference also discussed three special studies carried out on aspects of the health care system that could not be calculated for the entire time series since 1960. One topic included studies of the sponsors of health care: those businesses, households, and governments' payments for private health insurance premiums or for contributions to Medicare through taxes. This categorization made it possible to distinguish between the role of households and that of business in paying for health care (Levit, Freeland, and Waldo, 1989 ; Levit and Cowan, 1990; Cowan and Braden, 1995). The other studies revived themes from the old SSA days. They first disaggregated health expenditures into three age groups: 0-18, 19-64, and 65 or over, in the process demonstrating the relatively low cost of providing health care for all uninsured children (Fisher, 1980; Waldo, 1989). Another topic was the classic question of the potential strain on States to pay for the mandated costs of Medicaid. This was done by disaggregating health expenses by State (Levit et al., 1995; Basu, Lazenby, and Levit, 1995).

These activities positioned the NHA group, as a valued source for the evaluation of current and proposed programs, for expansion in the 1990s. The Clinton administration that took office in January 1993, placed health care reform at the top of its priorities. Thorpe (1999) requested modeling activities that produced cost estimates for administration health reform proposals. These models keyed into totals produced by the NHA, but utilized household survey information from the Medical Cost Expenditure Survey to model individual behavior under these proposals.

In 1995, the Office of the Actuary, promoted greater interaction between economists and the actuaries in order to capitalize on the best techniques, theories, and talents of both disciplines in the preparation of the estimates. This greater interaction consisted of inclusion of economists in actuarial projects and actuaries in economic outputs, such as the projections (Foster, 2004). Simultaneously, the NHA group grew from 12 in 1997 to about 15 in 2001 as the responsibilities of the group increased and estimation became more challenging.

In 1998, NHA convened its third conference, Future Directions of National Health Accounts. Like the original 1984 conference, the participants included a broad range of government, foundation, university, and professional associations. Speakers included representatives of most of the cabinet departments concerned with health care. Conferees heard presentations from

the World Bank, the European Union, and U.S. Agency for International Development on national health accounts for developing countries and by OECD on the establishment of a common instrument for the comparison of national health systems (Huskamp and Newhouse, 1999; Berman, 1999).

Longstanding questions relating to the collection and presentation of health statistics urgently needed to be addressed, because of dramatic changes in private insurance market stemming from the shift from FFS medicine to managed care. Another problem lay in the identification of the relative importance of the ultimate sources of health care payments—Federal, State, employer, and out-of-pocket consumers—who acted as the sponsors of health care.

Indeed, three major changes in U.S. health care have taken place since the 1980s: (1) the transition to managed care; (2) the Balanced Budget Act (BBA) of 1997; and (3) the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003. The first of these is the shift of delivery systems from FFS to managed care. Mayes (2004) explains this transformation as the unexpected consequence of cost-plus payments to hospitals in the initial Medicare legislation. After corrective legislation in 1983, which replaced cost-plus reimbursements with fixed payments for each admission, hospitals tried to maintain profits by shifting costs to non-Medicare patients. As insurance costs for workers and their families increased, employers changed their insurance benefit to managed care in order to lower costs, thereby transforming payment systems.

A second change was occasioned by BBA. According to Liu and colleagues (1999), the BBA "…mandated prospective payment systems for skilled nursing facilities…, home health care, and rehabilitation facilities, and required a legislative proposal on a prospective payment system for long-term care hospitals." This legislation, therefore, extended the cost controls imposed on acute care hospitals in 1983 to post-acute care, whose charges had been growing at a rate of 25 to 35 percent a year. According to industry sources, this alone reduced home health care spending from 9 percent of total Medicare outlays in FY 1997 to 5 percent in FY 1999 (National Academy for Home Care, 2000).

The final recent transformation in U.S. health care is the 2003 MMA, which has now been implemented. This legislation provides an outpatient pharmaceutical benefit for Medicare recipients and compensates insurers and employers for providing continued Medigap drug benefits to retirees. It also bars the government from negotiating with pharmaceutical manufacturers for lower costs for beneficiaries.

Despite changes in the health scene, NHA itself has experienced few substantive changes during the Bush administration. NHSG currently works on many ongoing projects ranging from the NHE nationally, by State, and age to econometric projections and analysis, to disentangling the economic factors (such as insurance, income, research and development, and technology) that cause the NHE to rise over time, to measuring Medicare price changes by sector (market baskets).

As with NIPA, NHA are continually faced with issues of classifying payers and providers in health accounting to meet the informational needs of policymakers. This is part of the evolutionary nature of income accounting. For NHA, this has taken the form of estimates of new services as they become important parts of the health care system, major new insurance programs as they emerge, or spending estimates of demographic groups, by geographical area, program sponsors, or through projections over time.

There are additional proposals which health accounts must also address. OECD proposes that spending be differentiated between acute and recuperative care—separately from long-term care—for each service measured. For example, the long-term care nursing services provided in hospitals would be measured separately from the acute and rehabilitative services delivered by the same institution. This display would provide a basis for international comparisons of service delivery and for the public or private payers in each country that assume responsibility for various types of care—undoubtedly important as most developed countries face financing issues associated with aging populations (Organization for Economic Co-operation and Development, 2000).

Current MMA legislation that is the enabling legislation for the new Medicare drug benefit mandates several new flows of funds that must be categorized in the NHA. These flows include exchanges of funds between States and Medicare and between Medicare and private employers. These payers, however, can only be counted once. Depending on the accounting purpose, these payer flows may be counted as part of Medicare or Medicaid or private health insurance, and new tables for displaying these estimates could be designed to meet different needs. Recently published (Cowan, 2002) projections of health spending count these flows as spending from the payer who pays the bill. In the case of the Medicare drug benefit, Medicaid flows to Medicare are counted as Medicare spending, while flows of subsidies from Medicare to private employers to maintain drug coverage for retirees are treated as spending by private employers.

Other researchers would like to see the health accounts include foregone spending by Federal and State governments when they provide preferential tax treatment for private health insurance plans. They would also like to see spending by Federal and State governments for health insurance premiums for their workers included with government expenditures to capture a more complete picture of spending by government (Fox and Fronstin, 2000). These proposals conflict with contested international accounting conventions and likewise may require the design of new tables to meet these needs (Cowan, 2002; Organization for Economic Co-operation and Development, 2000).

Determining how to meet various informational needs through health accounting will continue to be addressed by health accounts as resources permit, and will be part of the evolutionary process of income accounting.

CONCLUSIONS

NHA is a small working group within an enormous government that, for over 40 years, has produced remarkable analyses of U.S. health care. The alumni of the CCMC contributed to the belief that U.S. health care can be understood as a system, not just a collection of healing activities. Part of the NHA's success was due to the protective cover provided by its connection with OACT, protection that was similar to that afforded to other statistically oriented government agencies such as the BLS, BEA, and Census. Their group moved from SSA to HCFA to CMS, but survived intact despite transfers from one inner cell to another[2]. Whether NHA members refined a single set of skills or acquired an increasingly broad outlook, however, their work can be traced to article 702 of the original Social Security Act: to study and make recommendations relating to social insurance and matters of administrative policy.

[2] Information available from author on request.

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