

---

# Future Directions for the National Health Accounts

Haiden A. Huskamp, Ph.D., and Joseph P. Newhouse, Ph.D.

---

*Over the past 15 years, the Health Care Financing Administration (HCFA) has engaged in ongoing efforts to improve the methodology and data collection processes used to develop the national health accounts (NHA) estimates of national health expenditures (NHE). In March 1998, HCFA initiated a third conference to explore possible improvements or useful extensions to the current NHA projects. This article summarizes the issues discussed at the conference, provides an overview of three commissioned papers on future directions for the NHA that were presented, and summarizes suggestions made by participants regarding future directions for the accounts.*

## INTRODUCTION

For the past 15 years, HCFA has engaged in ongoing efforts to improve the methodology and data collection processes used to develop the NHA estimates. The NHA are an annual series of statistics on total NHE that were first published in 1964 (Lazenby et al., 1992). The accounts are designed to “identify all goods and services that can be characterized as relating to health care in the Nation, and determine the amount of money used for the purchase of these goods and services” (Rice, Cooper, and Gibson, 1982). HCFA has responded to changes in the structure of the health care industry, changes in financing arrangements, and changes in the availability and quality of data sources over time with a

series of efforts to re-examine and revise the methods and data used to construct the NHA estimates (Health Care Financing Administration, 1990).

Several of the revisions were introduced as the result of the work of two technical advisory panels. In 1984, HCFA convened a technical advisory panel to review national health expenditures accounting. This panel made many recommendations for changes in the methodology and dissemination strategies used to produce the NHA (Lindsey and Newhouse, 1986). Several of these were implemented in 1988 when important revisions were made in the methodology for estimating annual NHE. In 1990, a second technical advisory panel was convened to review the revisions made in 1988 and to discuss directions that further revisions to the NHA might take (Haber and Newhouse, 1991). A number of significant changes were also made in response to recommendations from the second panel meeting.

HCFA initiated a third conference in March 1998 to explore possible improvements or useful extensions to the current NHA projects. Three papers (one by Peter Berman; one by Stephen H. Long, M. Susan Marquis, and Jack E. Rodgers; and one by Kenneth Thorpe) on future directions for the NHA were commissioned and presented at the conference. These papers appear in this issue of the *Health Care Financing Review* following this introductory article.

This article summarizes the issues discussed at the conference and the suggestions made by participants regarding future directions for the accounts. We first

---

Haiden A. Huskamp and Joseph P. Newhouse are with Harvard University. The views expressed are those of the authors and do not necessarily reflect those of Harvard University or HCFA.

review the recommendations made at the 1990 conference and the changes that have been made in the NHA over the past 8 years. We then describe the format of the 1998 meeting and the participants involved. Finally, we summarize the three commissioned papers and the discussion at the conference of future directions for the accounts.

### **Conference Recommendations, 1990**

Following is a list of the recommendations made at the 1990 conference:

- Disaggregate estimates by type of service, rather than type of establishment.
- Present more disaggregated estimates of hospital expenditures to permit data users to recategorize physician, prescription drugs, nursing home, and home health service expenditures if desired.
- Disaggregate hospital and physician estimates into inpatient and outpatient expenditures. Present a more detailed subanalysis on expenditures for physician services showing inpatient services, hospital outpatient services, physician office services, and clinic services.
- Disaggregate the “other professional services” account to differentiate between institutional providers (such as clinics) and licensed health professionals.
- Include the nursing home components of life care communities and homes for the elderly in nursing home data.
- Provide more complete accounting of home health services, including services provided by agencies not certified by Medicare or financed by Medicaid. Make available expenditures on services such as personal care, homemaker, and meals-on-wheels.
- Subdivide capital expenditures for construction of medical facilities into equipment and construction.
- Estimate capital expenditures that currently are not included in the accounts, i.e., those for other than construction of medical facilities.
- Estimate expenditures for education and training and adjust estimates for personal health care services and research to avoid double counting.
- Provide more detail on administration and the net cost of private health insurance, including segregating the net costs of reserve funding and profits from direct administrative expenses.
- Estimate provider administrative expenses (such as billing clerks), which are currently part of the service sector accounts, at least on a one-time basis.
- Distinguish funds by source of payment, in addition to final payer, in annual expenditure estimates.
- Disaggregate out-of-pocket expenditures into those for Medicare services and all others.
- Present finer breakdowns of expenditure by age, especially within the 65 years or over group, and present expenditures estimates by age group more frequently.
- Present State-level data more frequently and in greater detail.
- Estimate expenditures by race and sex.
- Estimate expenditures by type of illness, at least on a periodic basis.
- Develop a better medical-specific price deflator to support decomposition of expenditure trends into price and quantity increases. A specific recommendation was to develop output price indexes for the hospital and nursing home sectors.
- Present an explanation of why classical sample variances of estimates are not relevant and why confidence intervals are not presented.

- Reconsider the Medicare Cost Reports as a data source for institutional expenditures.
- Reconcile differences between health expenditures measured in the NHA and the National Income and Product Accounts (NIPA).

### Status of 1990 Recommendations

Within the constraints imposed by the underlying data and by resource limitations, HCFA has addressed several of the recommendations made at the 1990 meeting, as follows:

- Additional text tables have been published that disaggregate some data by establishment. In the 1996 NHE article (Levit et al., 1997), HCFA prepared a breakout of both home health and nursing home services based in hospital-owned facilities. Previously published articles included estimates of home health services produced in both free-standing and hospital facilities, and all recent *Health Care Financing Review* articles contain a breakout of inpatient and outpatient hospital services in community hospitals. Also, in 1991, HCFA asked the U.S. Bureau of the Census to collect additional detail on revenues received by medical professionals for various types of services. Beginning in 1992, U.S. Bureau of the Census in its Services Annual Survey requested sources of revenues from physicians, dentists, and other professionals in their practices. These breakouts include amounts received from the sale of drugs and medical products, and of X ray and lab services; from inpatient, outpatient, and office based visits; and from other services (Levit et al., 1996). Combined with information from the 5-year economic census on health service industries (with detailed information on hospital revenue sources) and with newly developed data from Medicare Cost Reports, these sources will be useful for disaggregating hospital and physician expenditures estimates. HCFA plans to publish estimates that break establishment revenue into service revenue in the near future.
- In the early 1990s, HCFA expanded its estimates of home health by using data collected by the U.S. Bureau of the Census which covers all home health agencies, not just those certified by Medicare.
- Changes to the estimates of capital expenditures previously described are nearing completion. Currently, the NHA measure only expenditures for the value of hospital and nursing home construction put-in-place. HCFA is working on equipment estimates for these sectors, as well as estimates of construction and equipment for additional health care sectors (i.e., for more than just the hospital and nursing home sectors).
- Estimates of spending by age group will be prepared more frequently in the future. In the past, age estimates have been prepared infrequently because the household survey information used as a basis of these estimates has only been available once every 10 years. This is now changing. HCFA surveys Medicare beneficiaries each year since 1992 about their health care spending through the Medicare Current Beneficiary Survey (MCBS), and the new Medical Expenditure Panel Survey (MEPS) run by the Agency for Health Care Policy and Research (AHCPR) will be produced annually, beginning with 1996 data. The health accounts staff is currently extracting MCBS data and is preparing for the receipt of the 1996 MEPS data that will form the basis of expenditure estimates by age. Age estimates will be produced in finer age categories than before,

focusing on the 65 years or over population, as well as the near elderly. Depending upon available resources, HCFA may explore whether modeling techniques could be used to produce estimates more frequently than every 10 years, especially considering the expanded data availability.

- Since 1989, at least four State-related articles containing State-level estimates have been produced. In addition to the production of personal health care service estimates by State, HCFA has presented State estimates of Medicare and Medicaid spending by service. HCFA has also developed estimates of interstate flows of health spending, transferring spending from the State where services were rendered back to State of residence of the beneficiary of those services. This has enabled HCFA to create per capita personal health care spending by State for the first time. Efforts in this area are ongoing. HCFA is currently updating estimates through 1997 for publication and additional data are being processed for calculating interstate flows of spending. HCFA also participated in developing and fielding a health insurance survey of employers designed to yield State-level employer- and employee-paid premium estimates. The results of this study should be included in the next State level personal health care expenditure report.
- HCFA now uses the Producer Price Index (PPI) for hospitals (rather than developing its own output price index for hospitals).
- The National Center for Health Statistics has recently prepared estimates of national health expenditures by disease category (National Center for Health Statistics, 1998).
- HCFA is exploring the use of the Medicare Cost Reports as a data source for institutional expenditures. Currently,

Medicare hospital cost reports show higher spending and more facilities than that reported by both the American Hospital Association and the U.S. Bureau of the Census in their surveys of hospitals. HCFA is exploring the comparability of these surveys/reports.

- A paper reconciling differences between the NHA and the NIPA estimates of hospital and physician spending was presented at a National Bureau of Economic Research meeting on June 12, 1998.

Other recommendations could not be implemented because of data, methodologic, or resource limitations. These included:

- Disaggregate the “other professional services” account to differentiate between institutional providers (such as clinics) and licensed health professionals.
- Include the nursing home components of life care communities and homes for the elderly in nursing home data.
- Estimate expenditures for education and training and adjust estimates for personal health care services and research to avoid double counting.
- Provide more detail on administration and the net cost of private health insurance, including segregating the net costs of reserve funding and profits from direct administrative expenses.
- Estimate provider administrative expenses (such as billing clerks), which are currently part of the service sector accounts, at least on a one-time basis.
- Distinguish funds by source of payment, in addition to final payer, in annual expenditure estimates.
- Estimate expenditures by race and sex.
- Present an explanation of why classical sample variances of estimates are not relevant and why confidence intervals are not presented.
- Develop an output price index for the nursing home sector.

## **Format and Goals of 1998 Meeting**

The goals of the March 1998 meeting were to:

- Expand understanding of how health accounts products are being used.
- Assess how well customer needs are being met.
- Anticipate future customer needs.
- Gain a sense of customer priorities.
- Provide data suppliers with information on customer needs.

The one and one-half day meeting began with a presentation by a panel of NHA staff that outlined recent and planned improvements in the NHA and the problems faced in implementing those improvements. Next, a panel of staff from the Bureau of the Census, the Bureau of Economic Analysis, the Bureau of Labor Statistics, HCFA, and AHCPR discussed initiatives of their agencies that relate to the NHA. The next sessions focused on the commissioned papers. During these sessions the author(s) of each paper presented the paper, reactors commented on the paper, and the audience discussed the topic. The meeting concluded with an open discussion of future directions for the NHA.

Participants included staff from HCFA, other Federal agencies, Congress, and State government agencies, as well as academic and private-sector researchers and representatives of trade associations and professional groups.

## **Summary of the Commissioned Papers**

The following summarizes those papers commissioned by HCFA for presentation and discussion at the 1998 meeting:

## **“What Can the U.S. Learn from National Health Accounting Elsewhere?” by Peter Berman**

In this paper, the author acknowledges that the rest of the world has learned from the health accounting methodology used in the United States but posits that this country can learn from the experience of other countries as well. He describes the three main approaches to national health accounting used internationally: the Organization for Economic Cooperation and Development approach, the U.S. NHA approach, and the United Nations' System of National Accounts. Berman discusses the status of health accounting efforts in lower and middle income countries and summarizes what has been learned from these efforts about health expenditures and the outcomes of these expenditures.

He outlines several areas in which the United States can learn from the health accounting efforts of these other countries. These include reclassifying sources of financing so that those entities that receive funds from a financing source (e.g., a health insurance fund) and use the funds to pay for the final consumption or production of health care (e.g., a hospital stay) are the lowest level of aggregation for financing sources. Berman refers to these entities as “financing agents or intermediaries.” He states that the entities are best defined in institutional terms so they “capture the policy-relevant organizational structure of the payers.” This reclassification would allow analysts to better capture the diversity of payer types, changes in their market share, and changes in their financing. Such reclassification does not prevent the determination of the ultimate incidence of financing, although doing so



would require linking flows of funds to higher-level sources. He also suggests producing multiple accounts on the same expenditures which classify uses of expenditures in various ways, for example, classifying expenditures by provider type as well as by service type and disease. This project should be done using classifications based on a common concept such as types of providers and should not mix categories (e.g., providers and inputs).

**“State Health Expenditure Accounts: Purposes, Priorities, and Procedures” by Stephen H. Long, M. Susan Marquis, and Jack Rodgers**

The authors describe their effort to develop State health spending accounts, which was undertaken as part of technical assistance provided to States under the Robert Wood Johnson Foundation’s State Initiatives in Health Care Reform Program. Long, Marquis, and Rodgers note that HCFA produces periodic estimates of spending by State using the NHA framework. They argue, however, that the account framework that is best suited to the needs of national policymakers is not always best suited to the needs of State policymakers, a constituency they have sought to serve by developing State health expenditure accounts (SHEA). The authors note four key differences between the SHEA and the NHA framework, including: (1) as presently constituted, SHEA include only the major acute care categories of services (hospital, physician, other professional services, and prescription drugs), (2) SHEA include more categories than the NHA. For example, SHEA have separate categories for inpatient and outpatient hospital spending and for inpatient and outpatient physician care. SHEA also disaggregate private insurance plan expenditures into separate categories for fully insured, self-

insured, State and local employees and medigap and other individual plans; (3) SHEA are based on service categories rather than provider categories like the NHA. For example, expenditures for drugs dispensed in hospitals would be included in the prescription drug account in the SHEA but would be included in the hospital account in the NHA; and (4) SHEA measure expenditures on all services consumed by State residents rather than on all services delivered by providers located in the State. The authors discuss general principles of their estimation strategy and outline specific procedures for estimation.

The authors propose a cooperative effort by HCFA and the States for producing State-level health expenditure estimates. Under their proposed approach, HCFA would produce timely annual State estimates of payments to providers by provider category while the States would produce estimates of the distribution of payments by payer category. The authors note that States are likely to have better access to data about private insurance payments in their State from State regulatory authorities and have detailed information on State and local expenditures for health care. They also suggest other ideas for facilitating the exchange of information between States and HCFA and across States, for example, creating a web page for this purpose.

**“Matching Health Policy with Data: Data and Analytic Requirements for Federal Policymakers” by Kenneth E. Thorpe**

The author argues that there is a significant gap between: (1) the health expenditure data that are available to Federal policymakers and policy analysts from the NHA, as well as from various population-based surveys conducted by the Federal

Government and (2) the data these individuals require for estimating the potential impacts of proposed policy changes. The article discusses the current sources of data on health expenditures for the Federal Government, describes the data needs of policymakers, and identifies gaps between the two. Data needs identified by Thorpe include: health spending by type of managed care plan, benefit payments and out-of-pocket spending by plan type and status of coverage (insured versus uninsured), employment information on the individual (e.g., firm size, industry, plan choices provided to the household, employer contributions), demographic information, State level information on health insurance spending, and spending by service category rather than provider type. Thorpe calls for better coordination across Federal data collection efforts, which would involve allowing linkages across surveys and developing a unified data collection approach. He also suggests that a direct link be made between measurement categories used in the NHA and simulation models used to estimate the impact of policy or program changes.

### **Areas of Discussion and Additional Recommendations**

The participants generally agreed that most of the feasible technical improvements to the accounts had already been made, in part as a response to the recommendations made at the 1984 and 1990 conferences. As a result, the discussion focused on new products or directions that HCFA could undertake to produce useful information for the users of the NHA estimates. Discussion focused on the following items, listed in the order of the number of participants who raised the point:

- *State-level estimates.* Some participants argued that HCFA should focus more

resources on estimates of health expenditures at the State level because many of the important policy changes that are now taking place or being considered involve the State as the locus of policy-making rather than the Federal Government. As noted previously, HCFA produces periodic estimates of State health spending using the NHA framework and is planning additional work in this area. Some participants argued that without more detailed HCFA state-level estimates, States will make estimates on their own without any shared methodology, making comparisons across States very difficult. Other participants expressed concerns about the difficulties of preparing detailed estimates at the State level, given the dangers of extrapolating from national surveys whose sampling frame was not necessarily designed to produce State estimates, the difficulty of determining proper numerators and denominators, and the need to rely on data from other States or national data for some pieces of the accounts. These individuals argued that these difficulties could reduce the accuracy and usefulness of state-level estimates. A few participants suggested that states “buy into” augmenting the MEPS sample to obtain more detailed information on health expenditures in their State.

- *Disaggregate accounts by payer type.* Several participants argued that HCFA should disaggregate expenditures by plan/payer type. This disaggregation would allow tracking of trends across types of health plans and would provide information that is useful in estimating simulation models for policy proposals. One participant expressed concern about disaggregating by plan type given the lack of a meaningful taxonomy for “managed care.” (Without such a taxonomy, this disaggregation would provide

little insight.) One participant suggested that disaggregating Medicaid spending and Medicare spending into a fee-for-service and a managed care category would be a helpful (and fairly simple) classification.

- *Disaggregate expenditures by service category instead of provider category.* Authors for two of the commissioned papers resurrected the recommendation of the previous conferences that service-level expenditure categories, as opposed to the provider-level expenditure categories currently used by the NHA, would be helpful. One author argued that many proposed reforms focus on service categories rather than provider categories while the other noted that States wish to see a flow of funds from payers to services. One participant noted a tradeoff with this disaggregation: the service-level categories would be useful for some purposes but would be much harder to estimate (separating provider-level data into service categories would be difficult) and might sacrifice ease of replicability and consistency across time. This participant did suggest that it might be useful to collect data from the provider units that the U.S. Bureau of the Census tracks and refine estimates of within hospital or within physician office activity from other sources from time to time. Several participants felt that disaggregating expenditures to create inpatient and outpatient expenditure categories would be useful, a suggestion voiced at previous conferences. HCFA plans to disaggregate as many service categories as possible given resource and data constraints.
- *Disaggregate by age group.* Several participants thought that more frequent and disaggregated expenditure breakdowns

by age group would be useful. As indicated previously, HCFA plans to present such breakdowns.

- *Treatment of capital investment.* Several recommendations were made to change the treatment of capital investment in the NHA. One participant suggested that estimates of the cost of medical education (for example, the Indirect Medical Education subsidy) should be included in the estimate of capital investment. This view, however, assumes that the Medicare subsidies actually finance education rather than patient care, an assumption that has recently been challenged (Medicare Payment Advisory Commission, 1999). One suggested moving pharmaceutical research costs to capital investment. The 1990 panel suggested including investment in training and research in the capital investment category. Berman argues for a consistent approach between public sector investment and private sector investment.

Other suggestions from this conference include: disaggregating spending by type of illness/medical condition; disaggregating expenditures by market; agreeing on broad expenditure categories to facilitate international comparability across each nation's accounts; developing a crosswalk between the NHA and satellite accounts from selected other countries, and presenting real spending (using the all-item rather than medical deflators) rather than or in addition to nominal spending. Several participants also requested a more timely release of the NHA estimates. In addition, there was agreement on the need to coordinate Federal data collection efforts in order to produce more timely and useful data for policymakers.



## REFERENCES

Haber, S., and Newhouse, J.: Recent Revisions to and Recommendations for National Health Expenditures Accounting. *Health Care Financing Review* 13(1):111-116. Fall 1991.

Health Care Financing Administration. Revisions to the National Health Accounts and Methodology. *Health Care Financing Review* 11(4):42-54. Summer 1990.

Lazenby, H., Levit, K., Waldo, D., et al.: National Health Accounts: Lessons from the U.S. Experience. *Health Care Financing Review* 13(4): 89-103. Summer 1992.

Levit, K., et al.: National Health Expenditures, 1995. *Health Care Financing Review* 18(1):175-214. Fall 1996.

Levit, K., et al.: National Health Expenditures, 1996. *Health Care Financing Review* 19(1):161-200. Fall 1997.

Lindsey, P., and Newhouse, J.: Summary of a Conference on National Health Expenditures Accounting. *Health Care Financing Review* 7(4):87-96. Summer 1986.

Medicare Payment Advisory Commission: Report to the Congress: Rethinking Medicare's Payment Policies for Graduate Medical Education and Teaching Hospitals. Washington, DC. August 1999.

National Center for Health Statistics: Unpublished Estimates of National Health Expenditures by Disease Category. Washington, DC. 1998.

Rice, D., Cooper B., and Gibson, R.: U.S. National Health Accounts: Historical Perspectives, Current Issues, and Future Projections, in Levy, E., ed. *La Sante Fait Ses Comptes* (Accounting for Health), Paris, Economica, 1982.

---

Reprint Requests: Haiden A. Huskamp. Ph.D., Harvard Medical School, Department of Health Care Policy, 180 Longwood Avenue, Boston, MA 02115. E-mail: huskamp@hcp.med.harvard.edu