

Age Estimates in the National Health Accounts: Definitions, Sources, and Methods

Introduction

Estimates of health spending by age allow policymakers to focus on the differential expenditure, utilization, and financing mechanisms inherent to various age groups. These estimates are linked to the national health accounts and use the same definitions for the types of service and sources of funds as the national health accounts.¹ Thus, our age estimates are on an establishment basis, grouping services together according to place of service, rather than according to type of service. For example, hospital-based nursing homes are shown in our hospital category; only freestanding nursing homes are shown in the nursing home category.

Age estimates are shown for personal health care (PHC), rather than national health expenditures (NHE), because data is not available to break out the non-PHC categories by age group. PHC expenditures include spending for hospital care, physician and clinical services, dental care, other professional services, home health care, nursing home care, and health care products purchased in retail outlets (such as prescription drugs or over-the-counter medicines sold in pharmacies and eyeglasses sold in optical goods stores). Included in NHE but not PHC are estimates of spending for public health programs, administration, research, and construction of health facilities.

We chose to break out PHC in the following seven age categories: 0-18, 19-44, 45-54, 55-64, 65-74, 75-84, and 85 and over. Analysis and data are also provided for three broader age groupings: children (age 0-18), working-age adults (age 19-64), and the elderly (age 65 and over). We only provided age data for three years: 1987, 1996, and 1999. The main reason for this was that household survey data was not available in the years between 1987 and 1996. Also, since these age estimates were last released in 1989, we wanted to be diligent and take the time necessary to make sure that the trends we report in these numbers were not influenced by survey outliers. As we become more familiar with the available data sources, we plan on being able to provide an annual data series of health spending by age. Our future plans are described in more detail in the final section of this methodology.

¹ For a complete methodology of the national health accounts, see <http://www.cms.hhs.gov/statistics/nhe/definitions-sources-methods/>.

Data Sources

Since complete data on health spending by age was not available in one location, we used a variety of data sources and methods to generate these estimates. The table below lists the data sources that we used to create these estimates. Discussion on exactly how we used these sources is contained in the type of service and source of funding sections of this methodology.

#	Data Source	Years Used	Reference
1	Medical Expenditure Panel Survey (MEPS)	1996-2000	http://meps.ahrq.gov/
2	National Medical Expenditure Survey (NMES)	1987	http://www.chas.uchicago.edu/healthdata/national/nmes/
3	Medicare Current Beneficiary Survey (MCBS)	1992-2000	http://www.cms.hhs.gov/mcbs/
4	National Hospital Discharge Survey (NHDS)	1987-2000	http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm
5	National Hospital Ambulatory Medical Care Survey (NHAMCS)	1992-2000	http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm
6	National Ambulatory Medical Care Survey (NAMCS)	1985, 1989-2000	http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm
7	National Survey of Ambulatory Surgery (NSAS)	1994, 1996, 1998	http://www.cdc.gov/nchs/products/elec_prods/subject/nsas.htm
8	National Nursing Home Survey (NNHS)	1995, 1997, 1999	http://www.cdc.gov/nchs/about/major/nnhsd/nnhsdesc.htm
9	National Home and Hospice Care Survey (NHHS)	1994, 1996, 1998, 2000	http://www.cdc.gov/nchs/about/major/nhhcsd/nhhcsdes.htm
10	1990 Census Group Quarters Population	1990	http://www.census.gov/population/www/censusdata/grpqtr.html
11	National Claims History Files (NCH)	1992, 1993, 1996, 1999	http://www.cms.hhs.gov/data/durg/
12	Medicaid Analytic eXtract (MAX) data	1995-1999	http://www.cms.hhs.gov/researchers/max/
13	Medicaid Statistical Information System (MSIS)	1995-1999	http://www.cms.hhs.gov/medicaid/msis/

For each type of service, we typically followed a four-step process to generate estimates by age group. The first step was data gathering, which entailed examining the National Medical Expenditure Survey (NMES) and Medical Expenditure Panel Survey (MEPS) event files and specifying that all data corresponding to the national health accounts definition of that particular type of service be pulled from these files. Once the data was extracted and reviewed, the next step, data manipulation, could begin.

This next step of the estimation process involved obtaining levels of spending calculated in most cases as the product of MEPS average cost per use and provider survey utilization. The first part of this step was to create a matrix with sources of funds on top and age groups on the side. The sources of funds data was contained primary payer data, as well as all secondary payers under that primary payer. For example, if a MEPS respondent had a doctor visit that cost \$50 with private health insurance covering \$40 and the remainder was out-of-pocket. Then, the private health insurance section of the matrix recorded \$40 with private health insurance as the primary payer and \$10 under out-of-pocket as a secondary payer to private health insurance. With this

information, an average payment per use could be calculated using the MEPS unit counts, which were recorded by primary payer.

The next part of the data manipulation step was to replace the MEPS units with units from a provider survey. This was done because the provider surveys also cover the institutionalized population and typically have a more precise tally of utilization. Spending and utilization can be underreported in the household surveys because they predominantly rely on respondent recall, rather than provider records, to identify use. An implicit assumption here is that cost per use for an institutionalized person is the same as a non-institutionalized person. We determined that this assumption was reasonable because greater overall spending by the institutionalized population would be picked up by their higher number of visits. If no provider survey was available for a particular type of service, then we used the MEPS utilization and made an adjustment to account for the institutionalized population. For a more detailed description of the adjustments needed in each sector, refer to the type of service sections below. Then, we were able to create spending levels for each payer group by multiplying the MEPS cost per unit by the units from the provider survey. The final part of the data manipulation step was to combine the spending levels for each payer where that source of funding was the primary payer with the several columns that contained spending levels where that source of funding was a secondary payer. The end result was a matrix by age group and payer for each type of service that we labeled “interim expenditures.”

Medicare Current Beneficiary Survey (MCBS) data was used to supplement the MEPS data for the population age 65 and over. These data sets were particularly useful in the inpatient hospital and prescription drug components, where the higher sample sizes in MCBS enabled us to improve upon the reliability of the MEPS data. We used MEPS as a primary data source rather than MCBS because we needed to have a consistent data source for all age groups, not just the elderly.

The third step in this process was to scale these aggregate spending levels to match the control totals in the national health accounts by type of service and source of funding. We labeled these levels “interim expenditures” since the levels for each age group did not sum up to national health account control totals by type of service and source of funding. In several instances, this step was more complicated than applying the distribution of age categories to a control total. For each type of service and source of funding (for example, hospital care paid for by private health insurance), we compared the sum of the interim expenditure levels of the seven age groups with the control total from the national health accounts. In most cases, the control total was 10 to 15 percent above the sum of the interim expenditure levels. If we determined that the difference was due to survey underreporting problems common to most household surveys, then we assumed that the difference could be applied according to the distribution of the interim expenditures. However, if the discrepancy was above 15 percent and/or we determined that the difference was caused by something other than underreporting, we investigated the problem and usually adjusted the numbers up to the control totals by a method other than scaling. For example, if we determined that a portion of the difference was because data from the State Children’s Health Insurance Program was not picked up using our methods, then we would apply a greater share of the discrepancy to the age 0-18 category.

The fourth and final step of this process was to analyze the results, check for reasonableness, and compare them to other published results. For most types of service, we were able to compare our age distribution with the age distribution provided in the published MEPS results. Definitional

differences, most specifically the exclusion of the institutionalized population in MEPS, accounted for most of the discrepancies in these series.²

Although this data set represents our best estimate of health spending by age, our numbers may not reflect the true levels of health spending in each age group. Because of data limitations, we had to make some significant adjustments to the raw data, which will be describe and justify below. We recognize that these adjustments may not accurately depict the missing data in all cases. In addition, there may have been distributional issues that we missed when scaling our interim expenditures to national health account control totals.

Description of Our Methods by Type of Service

Hospital

There are three event files from MEPS used in the data gathering process for hospitals: inpatient hospital, outpatient hospital, and emergency room. The units that we used for this type of service were days of care. The MEPS inpatient file provided this information, while for the hospital emergency and outpatient departments we assumed that one record constituted one day of care. With this data, we were able to calculate cost per day of care in each of these three sub-categories of hospital care.

The next step was to obtain days of care for each subcategory from a provider survey. We used the National Hospital Discharge Survey for inpatient days of care. We used the National Hospital Ambulatory Medical Care Survey for days for care for hospital emergency and outpatient departments, assuming that each record contained one day of care.

We then used our general methods (described above) to calculate hospital estimates by age since we were able to obtain all of the needed data. These estimates were next scaled to the national health accounts by each source of funding category. During the process, a few adjustments were required to generate a reasonable distribution by age. The major adjustment was using the MEPS inpatient event files for adjacent years (1997, 1998, 2000) in order to obtain higher sample sizes in some of the age groups. This was necessary because there were a few outliers in these age groups that were disproportionately affecting the results and making the distribution by age unreasonable. Also, we had to estimate 1987 data for the National Hospital Ambulatory Medical Care Survey, which began in 1992. Our method to move this provider survey back to 1987 was to use a proxy series, the American Hospital Association Panel Survey, and take the percentage changes of this series from 1987 to 1992 to estimate a 1987 distribution of days of care in hospital emergency and outpatient departments.

Physician and Clinical Services

For the physician and clinical services estimate, there were four sub-categories that corresponded with four MEPS event files: inpatient hospital, outpatient hospital, emergency room, and office-based medical providers. The records from the hospital event files were kept only if there was a record from a separately billing physician. The units that we used for this type of service were physician visits, whether they occurred in a doctor's office or the inpatient, outpatient, or emergency department of a hospital. For inpatient, MEPS did not provide a visit count, but it did

² For a more complete description of these definitional differences, see Selden, T.M., et al.: "Reconciling Medical Expenditure Estimates from the MEPS and the NHA, 1996." *Health Care Financing Review* 23(1):161-177, Fall 2001.

provide days of care. Therefore, we made the assumption that there was one physician visit per each day of care. Visits were more easily found in the office-based provider, outpatient hospital, and emergency room MEPS event files. With these data sources, we were able to calculate cost per visit in each of these four sub-categories of physicians.

The next step was to obtain physician visits for each subcategory from a provider survey. For inpatient, we used the National Hospital Discharge Survey for inpatient days of care, which we used as a proxy for inpatient physician visits. We used the National Hospital Ambulatory Medical Care Survey for days for care for hospital emergency and outpatient departments, assuming that each record contained one physician visit. Finally, the National Ambulatory Medical Care Survey provided office-based physician visits.

Since we had all of the necessary data, we were then able to use our general methods (described earlier) to calculate physician and clinical services estimates by age. These estimates were then scaled to the national health accounts by each source of funding category with relatively few adjustments. The major adjustment here was estimating 1987 data from the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey, which began in 1992. For the National Ambulatory Medical Care Survey, 1987 data was not available but 1985 and 1989 data was. Therefore, we used a straight interpolation of the data from these years to estimate the 1987 values. Our method to move the National Hospital Ambulatory Medical Care Survey back to 1987 was to use a proxy series, the American Hospital Association Panel Survey, and take the percentage changes of this series from 1987 to 1992 to estimate a 1987 distribution of physician visits in hospital emergency and outpatient departments.

Prescription Drugs

With prescription drugs, only the prescribed medicines event file from MEPS was used in the data gathering process. These records had the distinct advantage, compared to the other MEPS event files, of higher sample size because a respondent is much more likely to fill or refill a prescription than have a hospital visit. The units that we used for this type of service were the script, whether it was a new prescription or a refill. The prescribed medicines file did provide a script count and total expenditures. Therefore, we were able to calculate cost per script in each of the age categories from the MEPS prescribed medicines file. An estimate of total drug spending (non-institutionalized population only) was calculated by multiplying the cost per script by the estimated number of scripts for each age group.

The next step from our general method was to obtain units from a provider survey. However, no publicly available provider survey exists for prescription drugs. Therefore, we were forced to adjust our data from the MEPS prescribed medicines file to pick up the prescription drug spending of the institutionalized population. In order to make this adjustment, we first needed to calculate a ratio of relative cost of prescription drug spending for institutionalized persons compared with non-institutionalized persons using both MEPS and MCBS. Then, we adjusted this ratio because the 1999 National Nursing Home Survey Current Resident and Discharged Resident file states that 40 percent of patients in each file were reported to have the cost of drugs included with the nursing home charge. To be consistent with national health account definitions, this drug spending must be removed. Once this ratio was generated and smoothed, a total drug spending level (not cost per script) for the institutionalized in each age group was calculated by multiplying this ratio by the drug spending level of the non-institutionalized population. Then, interim expenditures for prescription drugs were calculated by adding the

non-institutionalized population spending level with the institutionalized population spending level. Finally, these interim expenditures were scaled to the national health account control totals by source of funding.

Nursing Home

The estimates of nursing home expenditures for 1996 were prepared using the MEPS Nursing Home Component for 1996 and the National Nursing Home Survey. For 1987, estimates of nursing home expenditures were prepared using the National Medical Expenditure Survey. We tabulated aggregate spending by age and source of funds from MEPS and converted these to per capita rates by dividing by the population in each age group for 1996. The age distribution for each payer was smoothed and then re-inflated to the aggregate level. These values were scaled to match the national health accounts nursing home expenditures for each payment source.

For 1999, the 1996 procedure was repeated after “aging” the 1996 values to 1999. Aging consisted of multiplying each age-sex-payer cell in the unmodified MEPS data by the ratio of nursing home current residents in 1999 to current residents in 1996 reported in the National Nursing Home Surveys for the same age-payer cells. The 1996 values were a simple average from the 1995 and 1997 National Nursing Home Surveys. This process generated interim expenditure values, which were then scaled to the 1999 nursing home control totals in the national health accounts.

Home Health

In order to generate home health care estimates tied to the national health accounts, it was necessary to develop two methods because utilization data for home care providers first became available in 1992. For all years, we consolidated the national health accounts payer estimates for home health expenditures to match the format of the age estimates. The age distributions for each year were smoothed to account for data anomalies.

For the earlier years of the time series, we developed the age distribution for expenditures from 1987 National Medical Expenditure Survey (NMES) data adjusted for institutionalized persons. This survey collected data on home care expenditures for persons living in the community. We used the 1990 Census of Group Quarters to estimate the proportion of the population who were in institutions and adjusted these data to estimate the proportion of the population that had never been institutionalized. We used home health data from the Medicare Current Beneficiary Survey data to estimate the ratio of per capita spending for persons who had ever spent time in an institution during the year in contrast to persons who had never spent time in an institution. We also used NMES and MEPS data to develop ratios of Medicare per capita spending to per capita spending by all payers.

For the later years, we used a combination of National Home and Hospice Care Survey (NHHCS) utilization data for current users and MEPS expenditure data to develop the age distributions. The NHHCS is a provider survey and would have included utilization data for persons who spent part of the year in an institution, making an institutional adjustment not necessary. NHHCS data were available for 1994, 1996, and 1998. MEPS data were available for 1996 through 2000. Because the sample sizes for these surveys tended to be small, we combined several years of data in order to increase the number of observations for developing the age distributions.

Other Professional Services

“Other professional services” covers spending for services provided by health practitioners other than physicians and dentists. Professional services include those provided by private-duty nurses, chiropractors, podiatrists, optometrists and physical, occupational and speech therapists, among others. In MEPS, the office-based medical provider event file provided the data needed for the first stage of the data gathering process. The unit for this type of service was the office visit to a practitioner classified under other professional services in the national health accounts. We were able to calculate cost per visit in each of the age categories from the MEPS office-based medical provider file.

The next step was to obtain visits from a provider survey, the National Ambulatory Medical Care Survey. We were able to differentiate visits to a physician, which were recorded under physician and clinical services, from visits to a practitioner classified under other professional services in the national health accounts. We had all of the necessary data to use our general methods (described earlier) to calculate other professional services estimates by age. However, the sample sizes were smaller than for physician and clinical services, which made it necessary to smooth a few age groups where outliers were distorting the distribution. These estimates were then linked to the national health accounts by each source of funding category and contained relatively few adjustments. The major adjustment here was estimating 1987 data from the National Ambulatory Medical Care Survey; we used a straight interpolation of the data from 1985 and 1989 to estimate the 1987 values.

Dental Care

In MEPS, the dental event file provided the data needed for the first stage of the data gathering process. The unit for this type of service was the office visit to a Doctor of Dental Surgery (D.D.S.), Doctor of Dental Medicine (D.M.D.), or Doctor of Dental Science. We were able to calculate cost per visit in each of the age categories from the MEPS dental file.

The next step from our general method was to obtain units from a provider survey. However, no publicly available provider survey exists for dental care. Therefore, we were forced to adjust our data from the MEPS dental file to pick up the dental spending of the institutionalized population. The method for picking up the institutionalized spending was similar to the methods described earlier for prescription drugs. However, for this type of service, we assumed that the average spending on dental care for an institutionalized person was the same as the average spending on dental care for a non-institutionalized person. A total dental spending level for the institutionalized in each age group was calculated by multiplying the average dental spending level of a non-institutionalized population by the number of institutionalized people in each age group. Then, interim expenditures for dental care were calculated by adding the non-institutionalized population spending level with the institutionalized population spending level.

Other Personal Health Care

Other personal health care covers two types of expenditure. One is industrial in-plant expenditure and the other is government expenditure for medical care not specified by kind. Industrial in-plant services are facilities or supplies provided by employers for the health care needs of their employees. The second type of medical expenditure included in other personal health care is those expenditures for medical care not delivered in traditional medical providers sites. Unfortunately, no event file from MEPS or provider survey recorded this type of information.

Therefore, we were forced to estimate an age distribution using other methods. In the national health accounts, there is no spending on other personal health care in the out-of-pocket, private health insurance, or Medicare source of funding. However, there are spending levels for this type of service in other private, Medicaid, and other public (see below for a description of what is contained in each source of funding). The distribution for Medicaid was calculated in a similar way as the distribution of Medicaid for other types of service (see Medicaid section below). However, for the other private and other public sources of funding, the distribution was calculated by using the distribution by age for the different personal health care categories in proportion of their weight. For example, if other private hospital comprised 40 percent of other private (not including the other private in other personal health care), then hospital's distribution of other private would make up 40 percent of the distribution of other personal health care.

Non-durable Medical Products

The category of other non-durable medical products includes such items as rubber medical sundries, heating pads, bandages, and nonprescription drugs and analgesics. The other medical expenses event file from MEPS contained some information on non-durable medical products. However, the sample sizes were far too low to generate meaningful results, even after we combined the MEPS results of adjacent years. This meant that we needed to supplement the MEPS information in order to come up with a meaningful distribution of non-durable medical products by age.

In 1999, 96 percent of non-durable medical products were paid for out-of-pocket and Medicare paid for 4 percent. We used the distribution of out-of-pocket for prescription drugs to supplement the distribution of out-of-pocket for non-durable medical products. For Medicare, administrative data (described in more detail below) provided the information that we needed to create the distribution of this source of funding by age.

Durable Medical Products

The category of durable medical products includes such items as contact lenses, eyeglasses and other ophthalmic products, surgical and orthopedic products, equipment rental and hearing aids. The MEPS other medical expenses event file provided information on durable medical products. The sample sizes here were much larger than for non-durable medical products, but not large enough that we were completely satisfied with the age distribution it created.

Therefore, we included data from adjacent years in with the 1996 and 1999 data to create cells with larger sample sizes. We also adjusted the MEPS data to include the institutionalized in a method similar to that used for dental care. We assumed that the average spending on durable medical products for an institutionalized person was the same as the average spending on durable medical products for a non-institutionalized person. At the end of this process, we applied some smoothing techniques to eliminate some of the spikes in the distribution that we determined were caused by outliers.

Description of Our Methods by Source of Funding

Out-Of-Pocket and Private Health Insurance

In the description of our methods by type of service, a distribution by source of funding is also created. The distribution created using our general methods was determined to be the best available distribution by age for the out-of-pocket and private health insurance source of funding categories. As stated earlier, these distribution follow national health accounts methodology,

which imply that employee premiums appear in the private health insurance section rather than out-of-pocket.³

Other Private

Other private funds are those revenues received for which no direct patient care services are rendered. The most widely recognized source of other private funds is philanthropy. For institutions such as hospitals, nursing homes and home health agencies, other private funds also include income from the operation of gift shops, cafeterias, parking lots and educational programs, as well as investment income.

MEPS is not able to provide complete spending levels in this source of funding category because survey respondents would be unlikely to have knowledge that philanthropy picked up a share of funding for their health care. Also, a household survey will not record investment income or income from other operations of hospitals, nursing homes, or home health agencies. Therefore, we had to supplement the limited information that we received from MEPS in order to create a meaningful distribution by age. We used the distribution of the combined out-of-pocket and private health insurance sources of funds to create a distribution of other private for most types of service.

Medicare

Even though our general methods provided Medicare spending by age for each type of service, we reallocated this spending based on Medicare administrative data. Two separate distributions of Medicare spending were constructed from this data: one for fee-for-service expenditures and another for capitated payments to managed care organizations. The fee-for-service distribution was based on claims recorded in the Medicare National Claims History (NCH) files for calendar years 1992, 1993, 1996, and 1999. Published and unpublished reimbursement data from Medicare's Annual Person Summary files were used to allocate NCH data to missing years between 1987 and 1999.

The managed care capitated expenditure for each type of service except prescription drugs and dental care was estimated using fee-for-service per enrollee spending for comparable services times the average number of Part B managed care enrollees. The age distribution for prescription drugs and dental care was derived from a calculation of per capita estimates of the non-institutionalized population from MEPS. Like the other services, we multiplied these per capita estimates by the average number of Part B managed care enrollees to get a spending distribution by age.

Next, the fee-for-service expenditures were added to the managed care expenditures. As a final step, this sum was controlled to the Medicare source of funding control totals in the national health accounts.

Medicaid

Like Medicare, we replaced the MEPS distribution of Medicaid spending by a distribution based on Medicaid administrative data. The major data source was the 1995 State Medicaid Research Files (SMRF), which was developed from the Medicaid Statistical Information System (MSIS). The new name for the SMRF data set is MAX (Medicaid Analytic eXtract). MAX is a set of

³ For a more complete description of what is contained in each national health accounts source of funding category, see <http://www.cms.hhs.gov/statistics/nhe/definitions-sources-methods/>.

person-level data files on Medicaid eligibility, service utilization, and payments. The MAX data are extracted from the Medicaid Statistical Information System (MSIS). The MAX development process combines MSIS initial claims, interim claims, voids, and adjustments for a given service into this final action event. Unlike fiscal-based MSIS quarterly files, MAX data sets are annual calendar year files.

The 1995 MAX contained data from 28 states; therefore, MSIS data needed to be used to fill in data for the missing states. This created a lot of difficulties to fill in the data from the missing states because of the following differences in the data sets. First, MAX files are organized by calendar year while MSIS data are organized by Federal Fiscal year. Second, MAX services data are organized by dates of service while MSIS services are organized by date of payment adjudication. Third, the unit of observation in the MAX services files is a final action event (e.g. hospital stay, visit, service, monthly nursing home stay record). Interim claims (initial bills, voids and other adjustments) have been combined. Once we resolved these issues, we had a Medicaid distribution by age for all types of services for 1995.

We are currently in the process of tabulating MAX data for later years. For these age estimates, we used the 1995 distribution and moved it to 1996 and 1999 based on MSIS data. As a final step, this sum was controlled to the Medicaid source of funding control totals in the national health accounts.

Other Public

All health care expenditures that are channeled through any program established by public law are treated as a public expenditure in the national health accounts. To be included in the national health accounts, a program must have provision of care or treatment of disease as its primary focus. Examples of programs under the other public source of funding category are: Veterans' Administration, Department of Defense, and Workers' Compensation.

Similar to other private, MEPS is not able to provide complete spending levels in this source of funding category. Survey respondents are able to record if care was paid for by the Veterans' Administration or the Department of Defense. However, the large discrepancy between national health account control totals and our interim expenditures created using these methods told us that our methods were missing a substantial amount of spending. It is possible that respondents incorrectly characterized spending in these categories as private health insurance but this does not account for all of the differences. We looked into each separate category of other public and compared the control total for that piece with the interim expenditures for that piece. For example, if a large portion of workers' compensation dollars were not being picked up by our methods, we would supplement the distribution in a way that reflected the nature of that category, with most spending concentrated between the ages of 19 and 64.

Future Plans

As stated earlier, this is the first time that we have published health spending by age estimates since 1989. Therefore, we only concentrated on three years and attempted to accurately depict the actual spending by age in these years. Now that MEPS is established as an annual household survey, we should be able to provide a continuous time series of health spending by age data in the future, beginning from 1996.

In addition, we would like to also break out the spending by gender as well as age in the next release of these estimates. The challenge of doing this is that the sample sizes of the individual cells get quite small when we take small age groups and break them out further by male and female. However, this type of exercise seems to be worthwhile because it could show different trends in health spending by age for males and females. If we can resolve the sample size issues so that the results are meaningful, then we plan to publish estimates by age and gender for our next release. Also, we hope to expand the data behind the Other Public source of funding estimates by including additional data sources such as Veterans' Administration data.

Now that we have a methodology in place for creating these estimates, we hope to update and publish these estimates on a more regular basis (possibly every two to three years). As this methodology has been significantly changed since our earlier release, we invite and encourage feedback from knowledgeable data users on our data sources and methods. We will attempt to incorporate any suggestion that improves these estimates for our next update. If you have any comments or suggestions on this document, please do not hesitate to e-mail us at dnhs@cms.hhs.gov and include "Age Estimates Methodology" in the Subject line.