Aligning the Medical Expenditure Panel Survey to Aggregate U.S. Benchmarks, 2007

Didem Bernard and Thomas M. Selden and Yuriy O. Pylypchuk

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ABSTRACT

Household-level survey data are valuable for a range of research efforts, including health policy microsimulation analyses, distributional studies, and analyses of condition-specific spending. Household data, however, do not provide a complete picture of health care expenditures, because they exclude certain types of outlays, such as administrative costs, government payments to providers that are not linked to patient events, research, and public health. Household data also do not provide information on employer premium contributions or tax subsidies. This paper updates prior research by Selden and Sing (S&S, 2008), applying the S&S method to align the 2007 Medical Expenditure Panel Survey (MEPS) with aggregate benchmarks from the National Health Expenditure Accounts (NHEA) and to supplement MEPS with tax expenditure estimates. The resulting database supports a range of health research initiatives that require comprehensive measures of medical expenditures such as health reform simulations.

Didem Bernard, Ph.D.
Agency for Healthcare Research and Quality
Division of Modeling and Simulation
Center for Financing, Access, and Cost Trends
540 Gaither Road
Rockville, MD 20850
Didem.Bernard@ahrq.hhs.gov
Phone: (301) 427-1682

Thomas Selden, Ph.D.
Agency for Healthcare Research and Quality
Division of Modeling and Simulation
Center for Financing, Access, and Cost Trends
540 Gaither Road
Rockville, MD 20850
Thomas.Selden@ahrq.hhs.gov
Phone: (301) 427-1677

Yuriy Pylypchuk, Ph.D.
Social and Scientific Systems, Inc.
Yuriy.Pylypchuk@ahrq.hhs.gov
Phone: (301) 427-1599

Introduction

      The Medical Expenditure Panel Survey Household Survey (MEPS) is an annual

household survey designed to yield nationally representative estimates of insurance coverage,

medical expenditures, insurance premiums, and a wide range of other health-related and

socioeconomic characteristics for persons in the civilian, noninstitutionalized population (Cohen,

1997). However, no household expenditure survey can be expected to provide a complete picture

of U.S. health care spending for several reasons. First, household respondents cannot be

expected to report administrative costs or payments to providers that are not linked to specific

events. Second, household data can suffer from expenditure shortfalls due to under-reporting

and differential attrition of high-cost cases. Third, household data must be augmented with tax

simulations to measure the level and distribution of tax expenditures.

      MEPS household data are a vital national resource for policy analysis and have already

been used in a large number of microsimulation studies of existing or proposed programs.

However, the value of MEPS for certain applications can be enhanced through the detailed

alignment of MEPS with aggregate expenditure benchmarks – primarily those provided by the

National Health Expenditure Accounts (NHEA).[1] In this paper, we update prior research by

Selden and Sing (S&S, 2008) which aligned the 2002 MEPS with NHEA. We apply S&S's

methodology to align the 2007 MEPS with NHEA and to incorporate simulated tax expenditures.

Methods

      We use data from the 2007 MEPS, which includes 30,964 positively-weighted

observations. This section describes how we align MEPS with aggregate benchmarks for 2007.

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[1] See, for instance, *National Health Expenditure by Service and Source of Funds CY 1960-2010*, at
https://www.cms.gov/NationalHealthExpendData/NationalHealthAccountsHistorical.html

The alignment is conducted on 2007 data to build on the MEPS-NHEA reconciliation analysis in Bernard et al. (2012), a study that focused on 2007 to take advantage of estimates from the quinquennial Economic Census.

NHEA Personal Health Care Benchmarks for MEPS

There are three main differences between NHEA Personal Health Care (PHC) and MEPS expenditures: differences in population, differences in the scope of services, and definitional differences regarding service types and payment sources. Bernard et al. (2012) provide a detailed analysis of the two sources, comparing the 2007 MEPS with the 2007 NHEA.[2] National Health Expenditures in the 2007 NHEA were $2.297 trillion, while the MEPS total was $1.126 trillion. However, MEPS does not capture spending on administrative costs, public health, research, and construction. Thus, MEPS is more comparable to Personal Health Care expenditures in the NHEA, which includes the goods and services rendered to treat or prevent a specific disease or condition in an individual. NHEA PHC for 2007 was $1.915 trillion. Part of the difference between NHEA PHC and MEPS is because MEPS excludes persons in institutions and the active duty military and because MEPS by its design misses a number of other spending types that household respondents would be unlikely to report accurately such as public and private grants to providers. After adjusting NHEA amounts to correspond as nearly as possible with the scope of MEPS, Bernard et al. (2012) found a 17.6 percent shortfall in MEPS.

The starting point for our analysis is the set of MEPS-consistent NHEA benchmarks in Table 5 of Bernard et al. (2012). We made one modification to these benchmarks. We removed the NHEA adjustment pertaining to drug rebates for private and public insurance so that the

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[2] See also Sing et al. (2006) and Selden et al. (2001).

benchmarks are net of such rebates. The resulting NHEA PHC benchmarks by payment source and service type are presented in Table 1.

Aligning MEPS with MEPS-Consistent NHEA PHC Benchmarks

We follow S&S in aligning MEPS with MEPS-consistent NHEA PHC benchmarks in three steps. First, MEPS has fewer persons with coverage from Medicaid and the Children's Health Insurance program (CHIP) than are reported in administrative data. To account for the point in time gap between MEPS and administrative counts, the first step of our alignment was a 11 percent upweighting of Medicaid and CHIP recipients, using raking to preserve the MEPS distribution of poverty level, age, sex, Medicare enrollment and uninsurance. This adjustment modestly reduces the share of the population with private insurance coverage- reflecting the growing evidence that household respondents have more difficulty reporting their type of coverage than whether they are insured or uninsured.

Second, we further modified the sampling weights to increase the prevalence of high-cost cases based on research showing undercoverage of such cases (Aizcorbe et al., 2012, and Zuvekas et al., 2005). These studies suggest that the shortfall in high-cost cases might account for one-third to one-half of the MEPS-NHEA gap. Therefore, we implemented a weighting adjustment rather than simply scaling all MEPS amounts to align with NHEA PHC benchmarks. We upweighted the top three percent of the expenditure distribution in each of four (hierarchically defined) coverage groups: ever on Medicare, ever on non-Medicare Medicaid and CHIP, ever on Private, and full-year uninsured to close 40 percent of the remaining gaps in out-of-pocket, private health insurance, Medicare, and Medicaid expenditures. We used raking to preserve MEPS distributions by age, sex, race/ethnicity, and poverty level (along with insurance

coverage). We targeted these four payment sources, because they align most directly between MEPS and NHEA and because the weighting adjustment was designed to preserve the coverage distribution. After the adjustment the top three percent of the expenditure distribution in each of four coverage groups increased to 3.3 percent for those ever on Medicare, 5.0 percent for those ever on non-Medicare Medicaid and CHIP, 3.4 percent for those ever on Private, and 3.9 percent for the full-year uninsured. The impact of the reweighting is shown in Table 2. The left-most column shows the MEPS source of payment totals from the public use files, and the second column shows the reweighted estimates.

Third, we scaled MEPS expenditure amounts to close any remaining gaps between the reweighted MEPS and the MEPS-consistent NHEA PHC benchmarks in Table 1. Separately-billed laboratory test is one area in which MEPS is particularly low because neither households nor follow-back visits to providers ordering these tests can sufficiently ascertain the quantity and expenditures. We allocated additional spending on laboratory tests based on use of physician services. For most other type of service and source of payment differences, we simply scaled MEPS amounts to close the gap with the adjusted NHEA. The third column of Table 2 shows the effect of this adjustment, bringing MEPS into alignment with the MEPS-consistent NHEA PHC benchmarks in Table 1.[3]

Augmenting MEPS with Additional NHEA PHC Spending

The MEPS-consistent PHC benchmarks in Table 1 exclude PHC expenditures believed to fall outside the definition of medical care in MEPS. Many, however, would be within the scope

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[3] Readers can download public use files that contain aligned expenditures based on the 2007 MEPS projected forward to 2014 and beyond at http://meps.ahrq.gov/mepsweb/data_stats/download_data_files.jsp.

of applications we envision for the aligned data, and thus we have allocated them within MEPS.[4]
These adjustments are detailed in Table 3 under the subheading of PHC Additions.

The single largest adjustment is for other personal care, including non-medical assistance
with activities of daily living (such as housekeeping assistance), which were allocated in
proportion to home health by source of payment (most is paid by Medicaid). Another large
group of adjustments are hospital subsidies not linked to patient care, such as Medicaid and
Medicare disproportionate share payments and state and local funding for public hospitals. In
each case, allocation to the person level was based on MEPS information regarding receipt of
uncompensated care (UC), which we calculated by comparing MEPS data on "full established
charges" to actual payments. Medicare disproportionate share (DSH) payments were allocated to
low-income Medicare beneficiaries by UC. Medicaid DSH payments were allocated to poor
non-Medicaid recipients by UC. State and local funds for hospitals were allocated across all
remaining cases by receipt of UC regardless of income. Medicare hospital subsidies for graduate
medical education were allocated to all patients in proportion to physician expenditures under the
assumption that lower education costs lead to lower physician pricing.

The result of these PHC additions is shown in the fourth column of Table 2. Note,
however, that non-patient specific Medicaid and Medicare subsidies to hospitals appear in the
Other Federal and Other State and Local expenditure categories, so that the Medicare and
Medicaid lines refer only to payments linked directly to patient care.

Augmenting MEPS with Other Non-PHC Amounts from NHEA

For some applications, it is useful to expand MEPS to include NHEA estimates of

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[4] For all NHEA-based additions to MEPS, we add only those amounts attributable to the civilian,
noninstitutionalized population.

expenditures on administration, public health, research and investment in capital and equipment. These amounts are detailed in Table 3, and their impact is shown in column five of Table 2.

 For Medicaid, Medicare, Workers' Compensation, and other public programs, we allocated NHEA administrative costs in proportion to spending on care, with a portion of such costs allocated to the institutionalized (outside the scope of MEPS).[5]

For private insurance we do not directly apply NHEA estimates of "net cost." Rather, we develop premium estimates at the micro level, aligning the employer-sponsored estimates to benchmarks from the MEPS Insurance Component (MEPS-IC) survey of employers (averages from 2006 and 2008). The MEPS household data contain information on premiums paid by households, but not employer premium contributions. We assign employer premium contributions based on regression-based imputations from employer data in the MEPS-IC (semi-log regressions with smearing factors that align the predicted values with MEPS-IC benchmarks). Private employment-related premiums were benchmarked to the MEPS IC, not to the NHEA, because the NHEA premium estimates include amounts paid by persons outside the scope of MEPS. Column five of Table 2 presents the national sum of private premiums for the civilian, non-institutionalized population, inclusive of amounts paid by households and by employers on their behalf (including TRICARE).

 Note, however, that Table 3 reveals a substantial gap between premiums paid and benefits received ($142.3 billion). Much of this difference is simply the net cost of insurance (the difference between premiums and total benefits paid out). For instance, applying the

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[5] A minor exception to this rule is that we allocated a proportion of Medicaid administrative costs to new enrollees based on enrollment cost estimates from Fairbrother et al. (2004).

average loading factor in NHEA to the Private Health Insurance total in column four of Table 2 explains $95.9 billion of this amount.[6] In addition, premiums paid by members of the noninstitutionalized population may in part fund the $45.2 billion in NHEA PHC Private Health Insurance expenditures that were made on behalf of persons in institutions.[7] Thus, although we cannot rule out errors in our alignment or the underlying data sources, we do not view this gap as necessarily being evidence of inconsistency.

Many of the remaining adjustments were broad-based in nature, such as research, spending on public health, and investment in plant and equipment. We allocated research spending to the full population in proportion to prescription drug expenditures. Investment in plant and equipment was allocated in proportion to hospital use. Public health dollars were allocated uniformly on a per capita basis.

Once we allocate these non-PHC elements of NHEA to MEPS, the resulting expenditure total is $1.789 trillion (column 5 of Table 2). By construction, the remaining $508 billion difference between the benchmarked MEPS and the 2007 NHEA total of $2.297 trillion is by or on behalf of persons outside the scope of MEPS (the institutionalized, active duty military, and foreign visitors).

Tax Expenditures

The final step in our analysis is the simulation of a comprehensive array of tax expenditures. Marginal tax rates were obtained by processing MEPS through the National

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[6] The NHE PHC total for Private Health Insurance in 2007 is $673.463 billion, versus $776.213 in premiums. Thus, [($776.213-$673.463)/$673.463]*$628.3=$95.9 (billion).

[7] This is the difference between the NHEA PHC Private Health Insurance total of $673.5 and the civilian non-institutionalized PHC Private Health Insurance total of $628.3 billion (from the fourth column of Table 2).

Bureau of Economic Research's (NBER) TAXSIM web-based simulation package (Feenberg and Coutts, 1993, NBER, 2007). Estimates by type of subsidy are presented in Table 4. For tax subsidies regarding employer-sponsored insurance (ESI), we assume that the incidence of employer contributions falls on the workers who enroll in coverage.[8] Thus, the tax subsidy on employer contributions equals the amount of taxes that would have been paid if the worker instead received cash wages (holding total employer cost constant). Not surprisingly, the largest subsidy is the exclusion of premiums for ESI from federal income, Social Security and Medicare payroll, and state income taxation, which totaled $207.5 billion exclusive of subsidies for retiree coverage. This aligns well with estimates developed from the MEPS-IC: Selden and Gray (2006), which projected the comparable total for 2006 to have been $209 billion (in 2006 dollars), and Miller and Selden (2012), which estimated the 2008 tax subsidy to have been $214 billion (in 2008 dollars).

The second largest component is the exemption of medical care from state and local sales taxes (average state and local sales tax rates are from Fox and Murray, 2005). We assume that sales taxes, if levied on private medical care expenditures, would be borne by households and private insurance companies in proportion to their payments (rather than providers).[9] We also assume that absent the exemption, higher payments by insurers would translate into higher premiums (borne by households).[10]

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[8] Our analysis ignores the possibility that employers adjust cash wages across workers to alter the true incidence of employer premium contributions across workers. For an analysis of how this might affect incidence of the tax subsidy, see Selden and Bernard (2004).

[9] Sales tax, if levied on publicly funded care, would represent an intergovernmental transfer that we did not attempt to simulate.

[10] Note, however, that a portion of this increase would be borne by the public sector in the form of premium subsidies, and thus we reduced the sales tax subsidy accordingly.

In most cases, tax expenditures do not represent a net increase in national health spending. Instead, they shift the burden of a given expenditure across payers. The sales tax exemption for medical care, however, is an exception to this rule, because national health spending would have been larger had sales taxes been levied on medical care. The same argument can be made for a number of smaller tax subsidies, such as tax exemptions for non-profit hospitals and insurers. Had such subsidies not been granted, it is likely that provider revenues would have risen to offset at least partially the higher cost.[11] For simplicity, we count tax subsidies of this type as Other Federal and Other State and Local expenditures. Adding these amounts to Table 2 column five yields the fully benchmarked MEPS estimates in the last column, with the benchmarked total being $1.858 trillion.

Sources of Funds

Table 5 summarizes how we allocated each source of payment expenditure estimate form the adjusted MEPS to private and public sources of funds. The totals in the first row of Table 5 repeat the source of payment totals for the fully adjusted MEPS expenditures from Table 2. The first two columns show the amount of total estimated private out-of-pocket spending ($233.0 billion) and total estimated private health insurance premiums ($770.6 billion) re-allocated to public sources to account for tax subsidies ($2.6 billion and $225.1 billion, respectively). The next two columns show the amount of total estimated Medicare and Medicaid payments re-allocated to private sources ($43.0 billion and $1.0 billion, respectively) to account for premiums

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[11] This, like our methodology for simulating tax subsidies for employer premium contributions, reflects a "statutory" approach to measuring tax subsidies, ignoring the potential for economic actors to respond to taxes and subsidies and thereby shift the incidence of taxes throughout the economy.

paid by enrollees.[12] We did not, however, account for the intergovernmental transfer that occurs when federally and state funded Medicaid pays federally-funded Medicare Part B premiums. Table 5 also shows our estimate that public sector spending for health care of the civilian, noninstitutionalized population, inclusive of tax expenditures and net of premiums paid for public coverage, was $1.026 trillion in 2007.

Discussion

Any effort to study health care benefit incidence or conduct microsimulation must necessarily rely on household-level data. Household data, however, by their design are unlikely to provide a complete picture of outlays on health care, and they miss tax expenditures entirely. Thus, in our opinion, household data from MEPS aligned with aggregate benchmarks from NHEA and supplemented by tax expenditure estimates provide the best resource for conducting benefit incidence or microsimulation analyses. In this paper we have presented a methodology for aligning MEPS with benchmarks from the NHEA for differences in the scope of populations studied, differences in definitions for types of services and sources of payments, and simulating taxes.

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[12] Note, however, that MEPS undercounts premiums paid by Medicaid recipients.

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Table 1: MEPS-Consistent Adjusted NHEA Personal Health Care Benchmarks, 2007

Type of Service	Sources of Payment (Billions of 2007 dollars)										
	Out-of-Pocket	Private Health Insurance	Medicare	Medicaid & CHIP	Defense	Veterans' Affairs	Workers' Compensation	Other Federal	Other State & Local	Other Sources	Total
Hospital[a]	14.6	215.2	140.2	71.7	3.0	15.7	11.0	0.4	1.7	7.3	480.8
Physician[b]	25.6	175.4	70.9	26.0	5.9	1.9	10.8	3.1	0.0	2.5	322.1
Other Providers	27.0	46.0	20.2	8.2	0.8	0.3	3.0	0.4	0.5	1.7	108.1
Dental	42.5	46.5	0.2	5.2	0.4	0.1	0	0.2	0.1	0.6	95.8
Home Health	5.4	7.7	25.0	18.7	0.2	0.6	0.1	0.1	3.8	0.2	61.8
Prescription Drugs	53.2	108.7	39.7	17.2	4.9	2.3	0.9	0.0	1.0	0	277.8
Other Medical Equipment	25.1	8.1	11.7	6.9	0	0	0.5	0.0	0.2	0.4	52.9
Total	193.4	607.6	307.9	153.9	15.2	20.9	26.3	4.2	7.3	12.7	1,349.3

SOURCE: Authors' calculations based largely on unpublished details of the MEPS-NHEA reconciliation in Bernard et al. (2012).
Service type definitions are consistent with those in MEPS, subject to the caveats noted. Payment source definitions are consistent with those of MEPS if Other Private is added to Private Health Insurance and if Other Public is added to Medicaid.

[a] Facility expenditures only (for all hospital-based services).

[b] Includes separately-billing physicians for hospital-based care.

Table 2: Benchmarking Pooled MEPS (Billions of 2007 dollars)

	2007 MEPS	Post-stratified to upweight Medicaid/ CHIP enrollees and high-cost cases[a]	Aligned to MEPS-consistent NHEA Personal Health Care benchmarks	Augmented with additional NHEA Personal Health Care amounts[b]	Augmented with other NHEA (non-PHC) expenditures[c]	Adjusted to include tax subsidies outside the scope of NHEA[d]
Out-of-Pocket	185.1 (4.8)	188.6 (5.0)	193.3 (5.5)	233.0 (6.1)	233.0 (6.1)	233.0 (6.1)
Private Health Insurance[e]	522.0 (21.5)	568.7 (23.4)	622.6 (26.6)	628.3 (26.7)	770.6 (17.2)	770.6 (17.2)
Medicare	290.6 (11.6)	290.4 (12.3)	307.8 (13.2)	310.4 (13.2)	315.6 (13.4)	315.6 (13.4)
Medicaid/CHIP	141.9 (9.0)	140.1 (16.5)	153.7 (15.9)	213.1 (16.7)	226.2 (17.7)	226.9 (17.7)
Veterans' Administration	25.0 (2.8)	25.4 (3.2)	21.0 (3.7)	22.3 (3.9)	22.3 (3.9)	22.3 (3.9)
Workers' Compensation	11.9 (1.6)	12.8 (1.9)	26.3 (3.9)	26.3 (3.9)	29.2 (4.3)	29.2 (4.3)
Other Federal	1.9 (0.4)	2.0 (0.4)	1.7 (0.4)	22.7 (2.5)	69.2 (3.0)	78.5 (3.2)
Other State and Local	11.2 (1.2)	11.6 (1.4)	9.8 (1.3)	34.6 (2.8)	110.7 (3.6)	170.2 (4.4)
Other Sources[f]	14.5 (2.4)	15.5 (3.1)	12.7 (2.6)	12.7 (2.6)	12.7 (2.6)	12.7 (2.6)
Total	1,126.0 (31.9)	1204.0 (37.3)	1,349.3 (40.8)	1,503.0 (44.1)	1,789.0 (41.4)	1,858.0 (42.6)

Sample size= 30,964

SOURCE: Authors' calculations using 2007 MEPS aligned with 2007 NHEA and other national benchmarks. Standard errors (in parentheses) are adjusted for the complex design of the MEPS sample, but do not reflect uncertainties regarding the adjustments to align MEPS with national benchmarks.

[a] Post-stratification upweighted persons with Medicaid and persons in the top 3 percent of the distribution of total expenditures by insurance coverage. Raking was used to preserve MEPS control totals by age, sex, race/ethnicity, poverty status, region, and insurance coverage.

[b] Includes only spending amounts for the civilian, noninstitutionalized population. NHEA Personal Health Care amounts not linked to patient care are excluded (Bernard et al., 2012). These adjustments are detailed in Table 3.

[c] Includes only spending amounts for the civilian, noninstitutionalized population. NHEA Personal Health Care amounts added to MEPS include administrative costs, public health, research, and public spending on structures and equipment (Bernard et al., 2012). These adjustments are detailed in Table 3.

[d] Includes the exemption of health care spending from state and local sales taxes and tax subsidies for non-profit health care establishments.

[e] Includes TRICARE.

[f] Includes automobile, homeowner's, and liability insurance, and other miscellaneous or unknown sources.

Table 3: Additions to MEPS after calibrating to MEPS-Consistent NHEA Personal Health Care Benchmarks, 2007 ($ in billions)

Description *NHEA Personal Health Care Additions*	Allocation Method	Private	Public Federal	Public State and Local	Total
Personal Care[a]					
Medicaid and CHIP	In proportion to Home Health by payment source	0	36.1	23.3	59.4
Veterans' Administration	In proportion to Home Health by payment source	0	1.4	0	1.4
Other Federal, State, Local	In proportion to Home Health by payment source	0	5.6	14.1	19.7
Non-Prescription Nondurable Goods					
Medicare	In proportion to total prescription	0	2.5	0	2.5
Private Out-of-Pocket	In proportion to total prescription spending by payments source	38.5	0	0	38.5
Miscellaneous Clinics, including Family Planning					
Private Out-of-Pocket	In proportion to physician spending by private payment source	1.2	0	0	1.2
Private Health Insurance	In proportion to physician spending by private payment source	5.7	0	0	5.7
Hospital payments not directly linked to patients[b]					
Medicaid Disproportionate Share	In proportion to uncompensated care among poor non-Medicaid or Medicare enrollees	0	7.7	4.9	12.6
Medicare Disproportionate Share	In proportion to uncompensated care among Medicare beneficiaries	0	1.0	0	1.0

Description	Allocation Method	Private	Public Federal	Public State and Local	Total
Medicare retrospective adjustments and capital pass throughs	In proportion to Medicare hospital expenditures	0	4.1	0	4.1
Medicare Graduate Medical Education	In proportion to physician expense[c]	0	2.5	0	2.5
State and local subsidies to public hospitals	In proportion to uncompensated care (all income levels)	0	0	4.8	4.8
Miscellaneous other public NHEA PHC amounts	In proportion to total spending among low-income persons	0	0	1.0	1.0
Other NHEA National Health Expenditure Additions					
Administrative costs					
Private Health Insurance[d]	Implicit difference between premiums and expenditures paid by private insurance	142.3	0	0	142.3
Medicaid and CHIP	In proportion to Medicaid expenditures[e]	0	7.3	5.8	13.1
Medicare	In proportion to Medicare expenditures	0	5.2	0	5.2
Other Public Programs[f]	In proportion to Other Public expenditures by program	0	0.1	3.0	3.1
Public Health	In proportion to total expenditures	0	9.7	59.3	69.0
Public Research	In proportion to total prescription drug expenditures	0	30.8	4.8	35.6
Public Investment in Structures and Equipment	In proportion to hospital expenditures	0	5.9	11.8	17.7

SOURCE: Spending amounts excluded from NHEA in the Bernard et al. (2012) reconciliation with MEPS, adjusted to exclude amounts attributable to persons in institutions.

[a] Includes non-medical assistance with activities of daily living.

[b] Hospital payments by Medicare and Medicaid that are not linked to patient events are reported in the Other Federal and Other State and Local categories in Tables 2 and 5, so that the Medicare and Medicaid/CHIP estimates pertain solely to payments for patient care and the administration thereof.

[c] Medicare Graduate Medical Education subsidies are assumed to lower prices physicians charge, by reducing the education expenses they must recoup.

[d] Includes TRICARE.

[e] A small proportion was allocated to cover the enrollment costs of new enrollees in Medicaid/CHIP.

[f] Includes Veterans' Administration, Workers Compensation, and other public programs.

Table 4: Simulated Federal, State, and Local Tax Expenditures, 2007 ($ in billions)

	Federal Income Tax Expenditures	Social Security/ Medicare Tax Expenditures	State & Local Tax Expenditures[a]	Total Tax Expenditures
Employer-Sponsored Insurance Exemption				
Current workers	109 (2.8)	73.6 (1.8)	25.0 (0.8)	207.5 (5.2)
Retirees	8.8 (0.5)	0	1.9 (0.1)	10.7 (0.6)
Self-Employed Tax Deduction	2.1 (0.2)	0	0.6 (0.1)	2.7 (0.3)
Medical Expense Deduction	5.5 (0.4)	0	1.1 (0.1)	6.6 (0.5)
Sales Tax Exemption	0	0	51.9 (1.1)	51.9 (1.1)
Other[b]	9.3 (0.6)	0.04 (0.01)	7.6 (0.6)	17.0 (1.2)
Total	134.7 (3.3)	73.6 (1.8)	88.1 (2.1)	296.5 (6.9)

SOURCE: Authors' calculations using 2007 MEPS aligned with 2007 NHEA and other national benchmarks. Standard errors (in parentheses) are adjusted for the complex design of the MEPS sample, but do not reflect uncertainties regarding the adjustments to align MEPS with national benchmarks.

[a] Includes state income tax expenditures, state and local sales tax expenditures, and local property tax expenditures. Local income taxes are not modeled. Local tax expenditures are captured only through our use of average state and local sales tax rates and through a national estimate of non-profit hospital exemptions (primarily for property taxes).

[b] Included are tax subsidies for Flexible Savings Accounts, Medical Savings Accounts, charitable giving, non-profit hospitals, hospital bonds, and Blue Cross/Blue Shield.

Table 5: Allocating Adjusted Expenditures to Sources of Funds, 2007 ($ in billions)

	Out of Pocket Spending on Care	Private Health Insurance[a]	Medicare	Medicaid & CHIP	Other Public[b]	Other Sources[c]	Sources of Funds Totals
Adjusted Expenditure Totals	233.0 (6.1)	770.6 (17.2)	315.6 (13.4)	226.2 (17.7)	300.2 (10.2)	12.7 (2.6)	1,858.0 (42.6)
Private Sources							
Out-of-Pocket Spending on Care	230.4 (5.9)	0	0	0	0	0	230.4 (5.9)
Premiums	0	545.5 (12.0)	43.0 (1.3)	1.0 (0.2)	0	0	589.5 (12.5)
Private Sources Total	230.4 (5.9)	545.5 (12.0)	43.0 (1.3)	1.0[d] (0.2)	0	0	819.9 (16.9)
Public Sources							
Tax Expenditures	2.6 (0.4)	225.1 (5.5)	0[e]	0[e]	68.8 (1.9)	0	296.5 (6.9)
Public Outlays	0	0[f]	272.6 (12.8)	225.2 (17.7)	231.4 (9.3)	0	729.2 (28.7)
Public Sources Total	2.6 (0.4)	225.1 (5.5)	272.6 (12.8)	225.2 (17.7)	300.2 (10.2)	0	1,026.0 (31.2)
Other Sources[c]	0	0	0	0	0	12.7 (2.6)	12.7 (2.6)

SOURCE: Authors' calculations using 2007 MEPS aligned with 2007 NHEA and other national benchmarks. Standard errors (in parentheses) are adjusted for the complex design of the MEPS sample, but do not reflect uncertainties regarding the adjustments to align MEPS with national benchmarks.

[a] Private health insurance premiums (including TRICARE).

[b] Includes Veterans' Administration, Workers' Compensation, the NHEA categories of Other Federal and Other State and Local spending, as well as Medicare and Medicaid payments to hospitals and tax expenditures arising from the state and local sales tax exemption and tax subsidies for non-profit providers.

[c] Includes sources such as automobile, homeowner's, and liability insurance, and other miscellaneous or unknown sources.

[d] MEPS undercounts premiums paid for public coverage through Medicaid and CHIP.

[e] In principle, out of pocket spending on Medicare (or Medicaid) premiums could be offset by tax expenditures through the medical

expense deduction on federal (and many state) income taxes. Although we included premiums for public coverage in our tax simulation, all tax expenditures for medical expense deductions were attributed to private out-of-pocket spending on care and private spending on health insurance premiums.

[f] We were unable to account for the small amount of private health insurance premiums paid by non-tax-related public premium subsidy programs.