**State Health Expenditure Accounts:**
**State of Provider Definitions and Methodology, 1980-2009**
Office of the Actuary
December 2011

## OVERVIEW

Periodically, the Office of the Actuary (OACT) estimates health spending by state of provider. These estimates reflect the revenues received by health care providers in a state for providing health care goods and services to both residents and non-residents, and are useful for measuring the portion of a state's economy (or Gross State Product) that is accounted for by health care.

The State Health Expenditure Accounts (SHEA) are a subset of the National Health Expenditure Accounts (NHEA) and represent a consistent set of estimates that utilize the same methodology for all states and all years (1980-2009). The NHEA include a Personal Health Care (PHC) component which is defined as total spending on health care goods and services.[1] PHC excludes administration and the net cost of private health insurance, government public health activities, and investment in research and structures & equipment. In the SHEA, total U.S. health spending for each type of service or good as defined in the personal health care component of the NHEA is distributed among states using various nationally-available data sources.[2] In addition, state-by-state distributions of personal health care expenditures by type of service are developed for Medicare and Medicaid.

The primary data source that is used to develop state-by-state distributions of health care spending for all payer sources is the quinquennial Economic Census.[3] The Economic Census contains data for all 50 states, is available every five years, and covers all health care services as defined in the North American Industry Classification System (NAICS).[4] Other data sources that are used to allocate national personal health care spending estimates among states include population[5]; wages and salaries[6]; business receipts for sole proprietorships, partnerships, and corporations[7]; hospital revenue data[8]; and Medicare and Medicaid administrative data.

Because people are able to cross state borders to receive health care services, health care spending by provider location is not necessarily an accurate reflection of spending on behalf of persons residing in that state. Therefore, computing per capita health spending using state-of-provider expenditure data and resident population is not advised because of the misalignment between state of provider and state of residence expenditures.

## SERVICE-SECTOR METHODOLOGY

### Hospital Care

Hospital Care expenditures (NAICS 622) reflect spending for all services that are provided to patients and that are billed by the hospital. Expenditures include revenues received to cover room and board, ancillary services such as operating room fees,

services of hospital residents and interns, inpatient pharmacy, hospital-based nursing home care, care delivered by hospital-based home health agencies, and fees for any other services billed by the hospital. The value of hospital services is measured by total net revenue, which equals gross patient revenues (charges) less contractual adjustments, bad debts, and charity care. It also includes government tax appropriations as well as non-patient and non-operating revenues. Excluded are expenditures of physicians who bill independently for services delivered to patients in hospitals. These independently-billing physicians are included in the physician sector.

State expenditures for Hospital Care are estimated in two pieces: (1) non-federal hospitals and (2) federal hospitals.

Non-federal hospital expenditures for 1980-2008 are estimated using American Hospital Association (AHA) Annual Survey data that capture information from registered and non-registered hospitals for each state.[8] For 2009, AHA estimates are extrapolated based on data trends from Healthcare Cost Report Information System.[9]

To estimate spending in federal hospitals, state level data from federal agencies that administer such hospitals are used for each year 1980 through 2004. For 2005 forward, the 2004 distributions of state to total federal hospital expenditures are held constant.

The federal and non-federal hospital spending estimates by state are then summed and controlled to the national Hospital Care total as reported in the NHEA.

**Physician and Clinical Services**

Physician and Clinical Services includes expenditures for services provided in establishments operated by Doctors of Medicine (M.D.) and Doctors of Osteopathy (D.O.), outpatient care centers, plus the portion of medical laboratories services that are billed independently by the laboratories. This category also includes services rendered by a doctor of medicine (M.D.) or doctor of osteopathy (D.O.) in hospitals, if the physician bills independently for those services. Clinical services provided in freestanding outpatient clinics operated by the U.S. Department of Veterans' Affairs, the U.S. Coast Guard Academy, the U.S. Department of Defense, and the U.S. Indian Health Service are also included. The establishments included in Physician and Clinical Services are classified in NAICS 6211-Offices of Physicians, NAICS 6214-Outpatient Care Centers, and a portion of NAICS 6215-Medical and Diagnostic Laboratories.

State expenditures for Physician and Clinical Services are estimated in three pieces: (1) expenditures in private physician offices and clinics and specialty clinics;[10] (2) fees of independently-billing laboratories; and (3) expenditures in clinics operated by the U.S. Coast Guard, Department of Defense, Indian Health Service, and the U.S. Department of Veterans Affairs.

Expenditures in private physician offices, clinics, and specialty clinics are based on business receipts/revenues for taxable and tax-exempt establishments as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Economic Census.[3] For taxable establishments (NAICS 6211 and 6214), expenditures for non-Census years and for 2008 are estimated using growth in business receipts of sole proprietorships, partnerships, and

corporations.[7] For 2009, taxable expenditures are extrapolated using growth in wages and salaries paid in Offices of Physicians (NAICS 6211) and Outpatient Care Centers (NAICS 6214).[6] For tax-exempt establishments (NAICS 6214), expenditures for non-Census years are estimated using growth in the resident population.[5]

Estimates of expenditures for independently-billing laboratories are based on business receipts for taxable establishments of Medical and Diagnostic Laboratories (NAICS 6215) as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Economic Census. [3] For non-Census years, laboratory expenditures are estimated using growth in taxable physician offices and clinics expenditures.

Estimates of expenditures for clinics operated by the U.S. Coast Guard, Department of Defense, Indian Health Service, and the U.S. Department of Veterans Affairs are estimated using state level data from federal agencies that administer such facilities for each year 1980-2004. For 2005 forward, the 2004 distributions of state to total expenditures for each type of federal clinic are held constant.

Separately, spending estimates by state for physician and clinical services, independently-billing laboratories, U.S. Coast Guard clinics, Department of Defense clinics, Indian Health Service clinics, and U.S. Department of Veterans Affairs clinics are controlled to national totals as reported in the NHEA.

Some physicians may receive professional fees paid by hospitals. These professional fees are included with hospital expenditures and not with physician expenditures; therefore, they are subtracted from the physician estimates. The estimates of professional fees by state are based on professional fee expenses from the AHA Annual Surveys for 1980, 1985, and 1990-1993. Using AHA community hospital revenues and data from the Healthcare Cost Report Information System, professional fees are interpolated and extrapolated for intervening years and for 1994-2009.

**Other Professional Services**

Other Professional Services includes expenditures for services provided in establishments operated by health practitioners other than physicians and dentists. These professional services include those provided by private-duty nurses, chiropractors, podiatrists, optometrists, and physical, occupational and speech therapists, among others. These establishments are classified in NAICS 6213-Offices of Other Health Practitioners.

State expenditures for Other Professional Services are estimated in two pieces: (1) employer-based expenditures, and (2) nonemployer expenditures.

Employer-based expenditures for the services of licensed professionals (such as chiropractors, optometrists, podiatrists, and independently practicing nurses) are based on business receipts for taxable establishments of Offices of Other Health Practitioners (NAICS 6213) as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Economic Census. [3] An estimate of optical goods sales that occur in optometrist's offices are removed from NAICS 6213 taxable receipts and are counted in Durable Medical Products. For non-Census years prior to 1997, expenditures are estimated using growth in business receipts of sole proprietorships, partnerships, and corporations.[7] For non-

Census years subsequent to 1997, expenditures are estimated using growth in wages and salaries paid in Offices of Other Health Practitioners.[6]

Nonemployer expenditures for Other Professional Services are based on data from the Census Bureau's Nonemployer Statistics program for 1997 through 2008.[11] For years prior to 1997, the 1997 distributions of state nonemployer expenditures to total expenditures are held constant. For 2009, nonemployer expenditures are estimated using the growth in employer-based expenditures of Other Professional Services.

Separately, employer and nonemployer-based spending estimates by state for Other Professional Services are controlled to national totals as reported in the NHEA.

**Dental Services**

Dental Services includes expenditures for services provided in establishments operated by a Doctor of Dental Medicine (D.M.D.), Doctor of Dental Surgery (D.D.S.), or Doctor of Dental Science (D.D.Sc.). These establishments are classified as NAICS 6212-Offices of Dentists.

State expenditures for Offices of Dentists are based on business receipts for taxable establishments as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Economic Census.[3] For non-Census years and for 2008, expenditures are estimated using growth in business receipts of sole proprietorships, partnerships, and corporations.[7] For 2009, expenditures are estimated using growth in wages and salaries paid in dental establishments.[6] Finally, the dental spending estimates by state are controlled to national totals as reported in the NHEA.

**Home Health Care**

Home Health Care includes expenditures for medical care services provided in the home by freestanding home health agencies (HHAs) and are classified in NAICS 6216-Home Health Care Services. The HHAs included in this category are private sector establishments primarily engaged in providing skilled nursing services in the home along with a range of the following: personal care services; homemaker and companion services; physical therapy; medical social services; medications; medical equipment and supplies; counseling; 24-hour home care; occupation and vocational therapy; dietary and nutritional services; speech therapy; audiology; and high-tech care, such as intravenous therapy. Medical equipment sales or rentals not billed through HHAs and non-medical types of home care (e.g., Meals on Wheels, chore-worker services, friendly visits, or other custodial services) are excluded. Also excluded are hospital-based home health agencies.

State expenditures for Home Health Care services are estimated in two pieces: (1) employer-based expenditures, and (2) nonemployer expenditures.

Employer-based expenditures for private freestanding home health agencies are based on business receipts/revenues for taxable and tax-exempt establishments as reported in the 1987, 1992, 1997, 2002, and 2007 Economic Census.[3] Because government-supplied home health services are not surveyed by the Economic Census, an add-on is developed for estimates of government-owned home health agencies by state using Medicare

statistical data. For non-Census years prior to 1992, employer-based home health expenditures by state are estimated using growth in Medicare and Medicaid home health spending. For non-Census years subsequent to 1992 expenditures are estimated using growth in private wages and salaries paid by home health care establishments.[6]

Nonemployer expenditures for Home Health Care services are based on data from the Census Bureau's Nonemployer Statistics program for 1997 through 2008.[18] For years prior to 1997, the 1997 distributions of state nonemployer expenditures to total expenditures are held constant. For 2009, the 2008 distributions of state nonemployer expenditures to total expenditures are held constant.

Separately, employer and nonemployer-based spending estimates by state for Home Health Care Services are controlled to national totals as reported in the NHEA.

**Nursing Care Facilities and Continuing Care Retirement Communities**

Expenditures in this category include those for inpatient nursing care services, rehabilitative services, and continuous personal care services to persons requiring nursing care that are provided in freestanding nursing home facilities. These establishments are classified in NAICS 6231-Nursing Care Facilities and NAICS 623311-Continuing Care Retirement Communities with on-site nursing care facilities. These services are generally provided for an extended period of time by registered or licensed practical nurses and other staff. Expenditures for care received in state and local government facilities and nursing facilities operated by the U.S. Department of Veterans Affairs are also included. Excluded are nursing home services provided in long-term care units of hospitals.

State expenditures for Nursing Care Facilities and Continuing Care Retirement Communities are estimated in three pieces: (1) private freestanding nursing care facilities and continuing care retirement communities; (2) state and local government nursing homes; and (3) nursing homes operated by the U.S. Department of Veterans Affairs.

Expenditures for private freestanding nursing care facilities (NAICS 6231) and continuing care retirement communities (NAICS 623311) are based on business receipts/revenues for taxable and non-taxable establishments as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Economic Census.[3] For non-Census years, nursing home expenditures by state are estimated using growth in wages and salaries paid in private nursing home establishments.[6]

For all years 1980-2009, expenditures for state and local government-owned nursing homes are estimated by inflating wages and salaries paid in state and local nursing home establishments using the ratio of private nursing home revenues to private nursing home wages and salaries.[6]

Expenditures for nursing homes operated by the U.S. Department of Veterans Affairs (DVA) are estimated using state level data furnished by the DVA for each year 1980-2004. For 2005 forward, the 2004 distributions of state to total DVA nursing home spending are held constant.

Separately, spending estimates by state for private freestanding nursing care facilities and continuing care retirement communities, state and local government nursing homes, and nursing homes operated by the U.S. Department of Veterans Affairs are controlled to national totals as reported in the NHEA.

**Prescription Drugs and Other Non-Durable Medical Products**

Prescription Drugs includes expenditures for the "retail" sales of human-use dosage-form drugs, biological drugs, and diagnostic products that are available only by a prescription. Other Non-Durable Medical Products includes expenditures for the "retail" sales of non-prescription drugs and medical sundries.

State expenditures for Prescription Drugs and Other Non-Durable Medical Products are estimated in two pieces: (1) expenditures for prescription drugs, and (2) expenditures for other non-durable medical products (non-prescription medicines and sundries).

For both pieces, expenditures are based on retail sales data as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Census of Retail Trade, Merchandise Line Sales.[12] Expenditures for prescription drugs in non-Census years are estimated using data from the Retail Prescription Method of Payment Report.[13] Expenditures for other non-durable medical products in non-Census years are estimated using growth in personal income per capita.[14]

Separately, spending estimates by state for Prescription Drugs and Other Non-Durable Medical Products are controlled to national totals as reported in the NHEA.

**Durable Medical Products**

Durable Medical Products includes expenditures for the "retail" sales of items such as contact lenses, eyeglasses and other ophthalmic products, surgical and orthopedic products, hearing aids, wheelchairs, and medical equipment rentals.

State expenditures for Durable Medical Products are estimated in two pieces: (1) durable goods sold in retail outlets, excluding those sold in Offices of Optometrists, and (2) expenditures for optical goods sold in Offices of Optometrists (NAICS 621320).

Expenditures for durable goods sold in retail outlets, excluding those sold in Offices of Optometrists, are based on retail sales of optical goods as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Census of Retail Trade, Merchandise Line Sales.28

Expenditures for optical goods sold in Offices of Optometrists (NAICS 621320) are based on business receipts for taxable establishments as reported in the 1977, 1982, 1987, 1992, 1997, 2002, and 2007 Economic Census.3

For Census years, expenditures by state for durable goods sold in both retail and non-retail establishments are summed. For non-Census years, these expenditures are estimated using growth in per capita personal income.30

Finally, spending estimates for Durable Medical Products by state are controlled to national totals as reported in the NHEA.

**Other Health, Residential, and Personal Care**
Expenditures in this category include those for care provided in residential care facilities, ambulance services, and for services provided in non-traditional settings.

State expenditures for Other Health, Residential, and Personal Care services are estimated in 3 pieces: (1) private residential facilities for the intellectually disabled and residential mental health and substance abuse facilities, as classified in NAICS 62321-Residential Facilities for the Intellectually Disabled, and NAICS 62322-Residential Mental Health and Substance Abuse Facilities; (2) private expenditures for ambulance services, as classified in NAICS 62191-Ambulance Services; and (3) services provided in non-traditional settings.

Private spending by residential facilities for the intellectually disabled (NAICS 62321), and residential mental health and substance abuse facilities (NAICS 62322) are based on business receipts/revenues for taxable and tax-exempt establishments as reported in the 1997, 2002, and 2007 Economic Census.3 For non-Census years subsequent to 1990, expenditures by state are estimated using growth in wages and salaries paid in private residential establishments.6 For non-Census years prior to 1990, expenditures by state are estimated using the distribution of state to total spending for Nursing Care Facilities and Continuing Care Retirement Communities.

Private spending by ambulance services (NAICS 62191) are based on business receipts/revenues for taxable and tax-exempt establishments as reported in the 1997, 2002, and 2007 Economic Census.3 For non-Census years subsequent to 1990, expenditures by state are estimated using growth in wages and salaries paid for private ambulance providers.6 For non-Census years prior to 1990, expenditures by state are estimated using the distribution of state to total spending for Medicare ambulance services.

Services provided in non-traditional settings include spending for Worksite Health Care, School Health, and other types of miscellaneous care funded by federal or state programs. The largest component of spending in this category includes expenditures for home and community-based waivers under the Medicaid program. Under this program, States may apply for waivers of some of the statutory provisions in order to provide care to beneficiaries who would otherwise require long-term inpatient care in a hospital or nursing home. Examples of types of services provided are habilitation, respite care, and environmental modifications. This care is frequently delivered in community centers, senior citizen centers and through home visits by various kinds of medical and non-medical personnel. Expenditures by state for this program are developed using data from CMS-64 reports that are filed by state Medicaid agencies for all years 1980-2009.

State expenditures for worksite health care services (care provided by employers for the health care needs of their employees) are based on the number of occupational health nurses for 1977, 1984, 1992, 1996, 2000, 2004 and 2008.15 The number of occupational nurses for the intervening years is interpolated using growth in private wages and salaries in the private healthcare and social assistance sector.16 Next, the number of occupational health nurses is multiplied by average annual wages in the private health services sector to obtain estimates of worksite health care spending by state.17 Finally, spending

estimates for worksite health care services by state are controlled to national totals as reported in the NHEA.

State expenditures for school health services (health care provided in elementary and secondary education establishments) are based on expenditures for public elementary and secondary education by the U.S. Department of Education. These estimates of school health expenditures by state are then controlled to national totals as reported in the NHEA.

For other types of miscellaneous care funded by federal or state programs, distributions by state are obtained using data specific to each of these programs. Examples include care funded by the Indian Health Service, Maternal and Child Health Bureau, Department of Veterans Affairs, Children's Health Insurance Program, and SAMHSA.

Separately, spending estimates by state for residential care facilities, ambulance services, and for care provided in non-traditional settings are summed and controlled to national totals as reported in the NHEA.

## PAYER METHODOLOGY

### Medicare

Medicare is a health insurance program for people age 65 or older, people under the age of 65 with certain disabilities, and people of all ages with End-Stage Renal Disease. Estimates of Medicare spending for personal health care are based on information prepared by the Office of the Actuary (OACT) for the Medicare Trustees Report, reports submitted by Medicare contractors, and administrative and statistical records. Medicare spending is estimated in two pieces, fee-for-service (FFS) and managed care.

Medicare fee-for-service expenditures by state are based on state-of-provider payments recorded in Medicare's National Claims History (NCH) files.[18] These detailed claim records, which were tabulated for 1991-1993, 1996, 1999, 2002, 2005, and 2009, are assembled for each Medicare service category. For years where NCH data is not available, Medicare claims-based statistical records are used, along with interpolation and extrapolation techniques, to obtain estimates of state-level Medicare expenditures based on provider location. When state-of-provider data are unavailable, NCH data is extrapolated using state-of-beneficiary reimbursement information. The resulting fee-for-service payments by state are then controlled to the national level of Medicare fee-for-service expenditures for each service.

Expenditures by state for Medicare managed care services, known as "Medicare Advantage", are estimated separately from fee-for-service expenditures. Because Medicare expenditures on behalf of managed care organizations are not reported to CMS by type of service, spending is estimated by type of service and by state using data from forms that managed care plans submit annually to CMS. Aggregate capitated payments by type of service and by state are obtained from Adjusted Community Rating (ACR) proposals (1998-1999, 2001-2005) and from the Bid Pricing Tools (BPT's) (2007-2009).[41] For 1980-1994, Part A and Part B reimbursements for group health plans are

used to estimate managed care spending by state. For years where managed care spending data is not available, expenditures are estimated by interpolating per enrollee managed care spending. The resulting payments to managed-care organizations by state are then controlled to the national level of Medicare managed care payments for each service.

**Medicaid**

Medicaid is a joint state and federal insurance program that is available only to certain low-income individuals and families who fit into an eligibility group that is recognized by federal and state law. Since states pay only for residents of their state, estimates of Medicaid spending by state primarily reflect spending by state of residence. Medicaid estimates are based primarily on financial information reports filed by the state Medicaid agencies on CMS-64 reports. These state level reports provide total program net expenditures by Medicaid program category, including premiums.[19]

Reported program data from the CMS-64 reports are adjusted to fit the estimates into the framework of the SHEA. First, Medicaid expenditures are classified according to SHEA service categories by state. Second, adjustments are made for prior period payments. Third, an estimate of hospital-based nursing home expenditures is added to hospital care expenditures and subtracted from nursing home care expenditures. Fourth, an estimate of hospital-based home health care spending is added to hospital care expenditures and subtracted from home health care expenditures. Fifth, an estimate of Medicaid buy-ins to Medicare is deducted to avoid double counting with Medicare. Finally, an estimate for durable medical equipment is developed from the Medicaid Analytic eXtract file (MAX) — a set of person-level data files on Medicaid including payments by service — and this estimate is removed from other services payments included in the other health, residential, and personal care category. In addition, durable medical equipment estimates are smoothed to account for inconsistencies between MAX and CMS-64 reporting.

Excluded from Medicaid estimates by state for some years are portions of Medicaid Disproportionate Share Hospital (DSH) payments to hospitals and Upper Payment Limit (UPL) payments to nursing homes. These excluded payments are offset either by taxes and donations paid by the receiving facilities or by intergovernmental transfers from the receiving facilities and state governments. Such payments are excluded because they do not contribute additional state funds to overall hospital and nursing home operations.[20]

Lastly, Medicaid managed care premiums are allocated to the SHEA service categories based on the distribution of FFS spending by state. The Medicaid premiums payments are reduced by administrative costs before they are allocated to service categories based on the distribution of FFS spending. In certain states, adjustments are made to account for specific services or products that are carved out of premiums. These carve-outs typically occur for prescription drugs and dental services.

---

[1] Centers for Medicare & Medicaid Services: *National Health Expenditure Accounts: Definitions, Sources, and Methods, 2009.* http://www.cms.gov/NationalHealthExpendData/downloads/dsm-09.pdf December 15, 2010.

[2] Personal health care expenditures by state are controlled to estimates presented in the following NHEA paper: A. Martin et al.,"Recession Contributes to Slowest Rate of Annual Increase in Health Spending in Five Decades," Health Affairs 30, no.1 (2011): 11-22.

[3] U.S. Census Bureau, Department of Commerce: *Economic Census: Health Care and Social Assistance: Geographic Area Series* Washington D.C. 2010. http://www.census.gov/econ/census07/.

[4] Office of Management and Budget: *Standard Industrial Classification Manual, 1987*. Executive Office of the President. Washington. U.S. Government Printing Office, 1987 and Office of Management and Budget: *North American Industrial Classification System, 1997*. Executive Office of the President. Washington. U.S. Government Printing Office, 1997.

[5] U.S. Census Bureau, Population Division: *Annual Estimates of the Population for the United States and States*. Washington D.C. http://www.census.gov/popest/eval-estimates/eval-est2010.html 1977-2010 . May 9, 2011.

[6] U.S. Bureau of Labor Statistics: *Quarterly Census of Employment and Wages*. Washington. Internet address: http://www.bls.gov/cew/home.htm. 2002-2009. December 06, 2010.

[7] U.S. Internal Revenue Service: *Business Master File*. Unpublished. Washington, U.S. Department of the Treasury, 1977-2008.

[8] American Hospital Association: *Annual Survey*. Chicago. 1980-2008.

[9] Centers for Medicare and Medicaid Services, Hospital Cost Report Data files, Baltimore (MD) Available from: http://www.cms.gov/CostReports/02_HospitalCostReport.asp #TopOfPage. August 4, 2011.

[10] Specialty clinics include family planning centers, outpatient mental health and substance abuse centers, all other outpatient care facilities, and kidney dialysis centers.

[11] U.S. Census Bureau, *Nonemployer Statistics*, Washington DC, Available from: http://www.census.gov/econ/nonemployer/index.html. March 25, 2011.

[12] U.S. Census Bureau: Census of Retail Trade, Merchandise Line Sales Report. Washington, U.S. Government Printing Office, 1977, 1982, 1987 and 1992 and U.S. Census Bureau: Census of Retail Trade, Merchandise Line Sales Report, 1997, 2002, and 2007 Washington. Internet address: http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=D &-ds_name=EC0744SLLS1&-_lang=en. March 26, 2011.

[13] IMS Health: *Retail Prescription Method of Payment Report.* Plymouth Meeting, PA. 1992-2010.

[14] U.S. Bureau of Economic Analysis: *State Per Capita Personal Income*. Washington. Internet address: http://www.bea.gov/bea/regional/data.htm. 1980-2009. January 11, 2011.

[15] U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, Division of Nursing*: The Registered Nurse Population, 1984, 1992, 1996, 2000, 2004, and 2008: Findings from the National Sample Survey of Registered Nurses*. Washington, U.S. Government Printing Office, 1985, 1993, 1997, 2001, 2005, and 2009.

[16] U.S. Bureau of Economic Analysis: *Wage and Salary Disbursements*. Washington. Internet address: http://www.bea.gov/regional/index.htm. 1980-2009. April, 4, 2011.

[17] U.S. Bureau of Economic Analysis: *Wage and Salary Disbursements*. Washington. Internet address: http://www.bea.gov/regional/index.htm. 1980-2009. April, 4, 2011 and U.S. Bureau of Economic Analysis: *Wage and Salary Employment*. Washington. Internet address: http://www.bea.gov/regional/index.htm. 1980-2009. April, 4, 2011.

[18] Centers for Medicare & Medicaid Services, Office of the Actuary: *National, State and Age Accounts Data Analysis*. "Interstate Flows of Health Spending: Update for 2002," (Memoranda dated 30 January 2004, 19 May 2006, 6 Dec 2008, and 10 Dec 2008), Contract no. CMS-03-01070, prepared for the Centers for Medicare & Medicaid Services, Baltimore, 2009.

[19] Centers for Medicare & Medicaid Services, Center for Medicaid and State Operations: *Medicaid State Financial Management Report*. (CMS-64). Baltimore, MD. 1980-2009. Available from: http://www.cms.gov/MedicaidBudgetExpendSystem/02_CMS64.asp.

[20] Coughlin, T.A., Ku, L., and Kim, J.: *Reforming the Medicaid Disproportionate Share Hospital Program in the 1990s.* The Urban Institute. Washington, DC. January 2000.