



AAMC

Tomorrow's Doctors, Tomorrow's Cures®

# The Economic Impact of AAMC-Member Medical Schools and Teaching Hospitals

2008

Conducted for the AAMC by Tripp Umbach

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## Executive Summary

In March 2009, the Association of American Medical Colleges (AAMC) retained Tripp Umbach to measure the economic impact<sup>1</sup> of AAMC member institutions on the 46 individual states (and the District of Columbia)<sup>2</sup> in which they are located, as well as the nation as a whole. This report presents results of the combined economic impact that AAMC members have on states and the country.

During 2008, the combined economic impact of AAMC members equaled over \$512 billion.<sup>3</sup> AAMC members accounted for more than 3.3 million full-time jobs; this statement means that one in every 43 wage earners in the U.S. labor force works either directly or indirectly for an AAMC member institution. Additionally, AAMC member institutions generated more than \$22 billion in total state tax revenue generated through income taxes and sales tax, corporate net income tax, and capital stock/franchise taxes produced by businesses who receive revenue from AAMC members.

AAMC member organizations have substantial economic and social impacts to their multi-county regions and within the counties and cities where they have operations. Substantial local and regional tax impacts, while beyond the scope of this study, are measured in the billions. Communities in all regions of the country typically rely on these organizations for job creation, advanced research, new business development, and education of medical professionals.

Total national impacts as well as individual state totals for economic, employment, government revenue, and out-of-state medical visitor impacts for each of 24 states and the District of Columbia in which AAMC members' total economic impact is highest are presented in Table 1:

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<sup>1</sup> For the purposes of this report, "economic impact" includes both the direct and indirect business volume generated by an institution. Direct impact includes items such as institutional spending, employee spending, and spending by visitors. The indirect impact, also known as the multiplier effect, results from the re-spending of dollars generated directly by the institution.

<sup>2</sup> Medical Schools in Puerto Rico were not included in this research even though AAMC does have members in Puerto Rico.

<sup>3</sup> This study measures the impact of AAMC member institutions only. There are medical schools (osteopathic) and teaching hospitals in the United States that are not members of the AAMC; therefore, the total impact of all medical schools and teaching hospitals on the nation is higher than the impact recorded in this report.

**Table 1**

Summary of Economic, Employment, and Government Revenue Impact for AAMC Members, 2008

States	State Rank	Total Economic Impact	Total Employment Impact	Total Government Revenue Impact
New York	1	\$ 69,365,955,031	476,240	\$ 3,359,078,175
Pennsylvania	2	\$ 42,111,601,119	257,824	\$ 1,853,816,983
California	3	\$ 41,644,267,579	234,862	\$ 2,021,755,594
Massachusetts	4	\$ 32,310,974,785	184,049	\$ 1,508,196,323
Texas	5	\$ 31,566,102,793	210,501	\$ 968,186,757
Ohio	6	\$ 27,197,352,694	200,094	\$ 876,546,659
Illinois	7	\$ 25,450,786,398	147,156	\$ 806,253,886
Michigan	8	\$ 24,193,228,100	150,962	\$ 1,261,661,489
Florida	9	\$ 19,439,944,164	147,029	\$ 977,886,813
North Carolina	10	\$ 15,049,651,900	112,973	\$ 588,668,923
New Jersey	11	\$ 12,979,569,543	80,283	\$ 505,203,940
Maryland	12	\$ 11,875,337,024	75,080	\$ 649,667,988
Missouri	13	\$ 11,595,798,281	76,539	\$ 354,347,561
Georgia	14	\$ 10,912,119,779	81,632	\$ 218,562,088
Tennessee	15	\$ 10,625,599,180	76,403	\$ 316,496,724
Virginia	16	\$ 9,911,458,631	66,514	\$ 321,133,221
Connecticut	17	\$ 8,649,070,534	60,080	\$ 428,182,473
Wisconsin	18	\$ 8,485,257,185	42,799	\$ 403,157,556
Minnesota	19	\$ 8,430,426,634	65,430	\$ 496,554,749
Indiana	20	\$ 7,964,823,326	52,025	\$ 274,821,274
South Carolina	21	\$ 6,937,400,208	35,510	\$ 301,059,857
Arizona	22	\$ 6,342,395,460	41,332	\$ 373,060,978
District of Columbia	23	\$ 6,253,916,710	44,639	\$ 843,889,342
Louisiana	24	\$ 6,088,577,583	39,099	\$ 194,108,159
Alabama	25	\$ 5,233,789,818	33,262	\$ 227,203,499
All Other States		\$ 51,671,187,636	360,284	\$ 2,402,320,695
US Total		\$ 512,286,592,095	3,352,604	\$ 22,531,821,705

Note: Tables include impacts of the 24 individual states and the District of Columbia in which AAMC members' impact is highest plus "All other states" total which reflects the impact of the remaining 22 states where AAMC members are located.

## Introduction

### Goals of the Economic Impact Study of AAMC Members

The AAMC identified a need for updated data on their members' current economic impact on states' economies, employment, and government revenue. Specifically, Tripp Umbach was commissioned to perform research that:

- Measures the direct economic impact on individual states' and the nation's economy as a result of the education, research, and clinical services of AAMC-member medical schools and teaching hospitals.
- Measures the direct and indirect employment generated in the United States as a result of AAMC-member medical schools and teaching hospitals.
- Measures government revenues that are generated by the presence and operations of AAMC-member medical schools and teaching hospitals. (Medical schools and hospitals that are public and not-for-profit *indirectly* generate government revenue through income taxes paid by staff, employed physicians, and medical residents; sales tax revenues paid by businesses providing goods and services to medical schools and hospitals; corporate net income taxes paid by businesses providing goods and services to medical schools and hospitals; and other selective business taxes such as gross receipts taxes, public utility realty taxes, insurance premium taxes, motor vehicle taxes, and financial institutions taxes).

### Methodology Employed in the Economic Impact Study

As shown above, AAMC members impact the national economy by hundreds of billions of dollars annually. AAMC members are major employers in their home states and therefore major generators of personal income for state residents. Businesses operating within each state in the wholesale, retail, service, and manufacturing sectors benefit from the direct expenditures of the institution and its staff on goods and services. In addition, businesses in each state are recipients of spending by hospital patients, patients' visitors, medical students and their visitors.

All of these "direct" expenditures are re-circulated in the economy as recipients of the first-round of income "re-spend" a portion of this income with other businesses and individuals within each state. This re-spending is often termed the "multiplier" or "indirect" effect. Tripp Umbach's research has determined a medical school/teaching hospital business volume multiplier effect of 2.3. Therefore, for every dollar directly spent by a medical school or teaching hospital, an additional \$1.30 is indirectly generated for a total impact of \$2.30. The methodology used for this study measures the effect of both direct and indirect business volume, employment, and government revenue impacts for states containing an AAMC member.

Not included in Tripp Umbach's impact model are patient spending at the hospital itself or economic benefits which result from AAMC members' provision of community health improvement activities, preventive and primary care, access to care, and physician training. Additionally, the impact generated by the existence of non-employed physicians with privileges at AAMC member institutions is not included in this study.

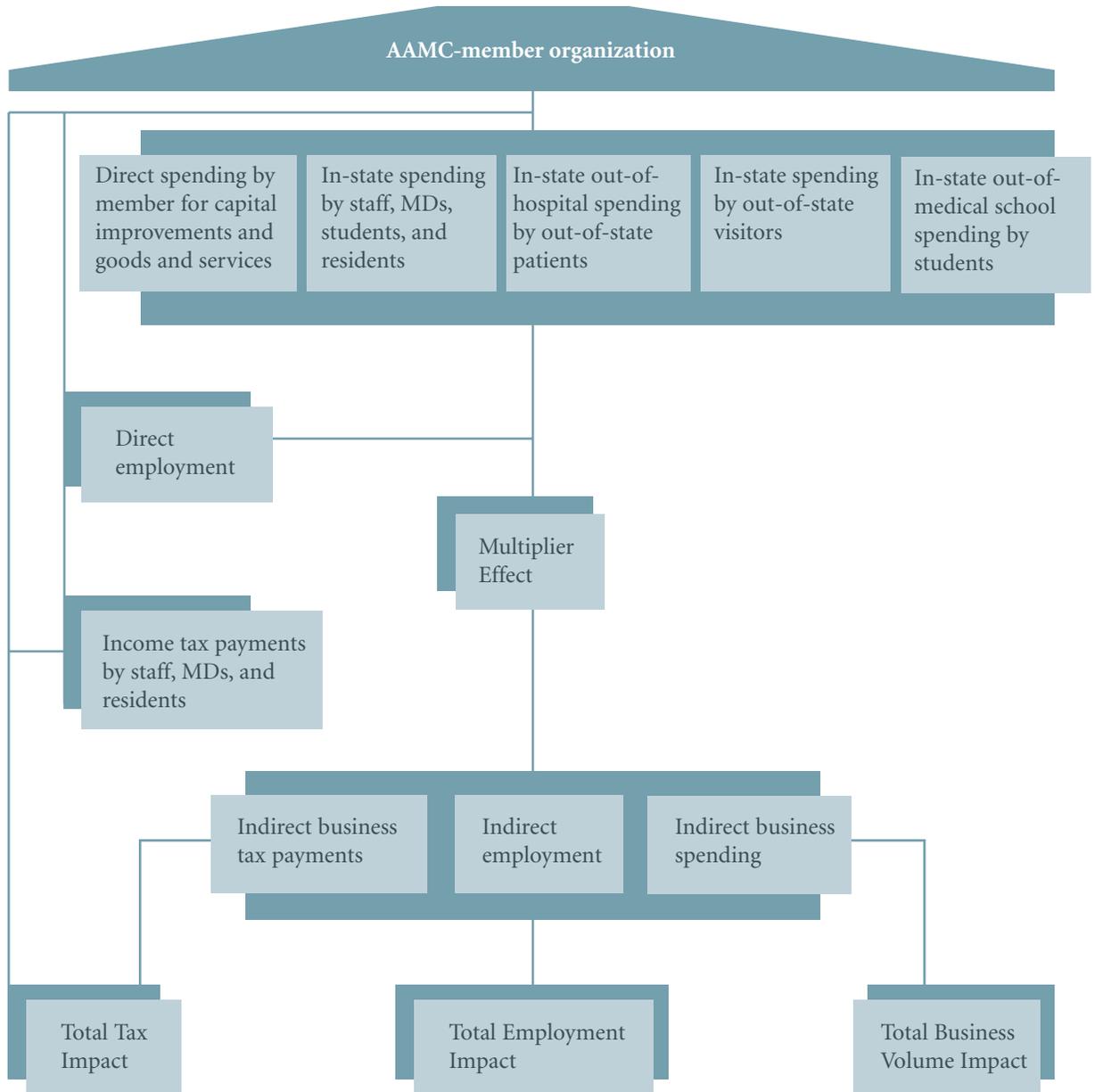


Tripp Umbach has performed more than 150 economic impact studies for both academic institutions and large health care systems, including the Mayo Clinic Rochester, UPMC Health System, and all Ohio medical colleges. The firm has completed similar statewide studies in Pennsylvania, Minnesota, Wisconsin, Ohio, Virginia, and South Carolina. The Tripp Umbach methodology generally employed in these studies was originally derived from a set of research tools and techniques developed for the American Council on Education (ACE).<sup>4</sup> The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area. Tripp Umbach modified the ACE model to accommodate the complexities of AAMC member organizations (see Figure 1).

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<sup>4</sup> Caffrey, John and Isaacs, Herbert, "Estimating the Impact of a College or University on the Local Economy," American Council on Education, 1971.

**Figure 1**  
AAMC-Member Economic Impact Model



## Impact on Employment

### *The direct and indirect expansion of employment attributable to AAMC members*

Perhaps the benefit that comes closest to home is the sheer number of United States citizens who depend on AAMC members, either directly or indirectly, for their jobs and livelihoods. A total of 3,352,604 jobs in the United States in 2008 were directly or indirectly attributable to AAMC members.

Even on a direct employment basis (i.e., only counting those directly paid by AAMC members such as regular staff, faculty, independent contractors, or residents receiving training), AAMC members are responsible for a substantial component of national employment. During 2008, AAMC members employed a total of 1,861,549 full-time equivalent persons. This includes staff, physician employees, and independent physician contractors. It also includes residents, who are paid a stipend while they continue their graduate medical education.

While direct employment is significant, the actual extent of employment impact on the state stemming from AAMC members is considerably larger. The business volume generated by AAMC members creates jobs in a broad range of sectors throughout the nation's economy. These jobs are proportionate to the need to service the AAMC members themselves and their related populations (staff, physicians, students, etc.). In addition, the tax revenues generated at the state and local levels by AAMC members and their business volume also create government employment opportunities.

Table 16 includes the top 24 states and District of Columbia totals for AAMC total employment impact in each of the states.

**Table 16**

AAMC Members' Total Employment Impact in FTEs, 2008

States	State Rank	Total Employment Impact
New York	1	476,240
Pennsylvania	2	257,824
California	3	234,862
Texas	4	210,501
Ohio	5	200,094
Massachusetts	6	184,049
Michigan	7	150,962
Illinois	8	147,156
Florida	9	147,029
North Carolina	10	112,973
Georgia	11	81,632
New Jersey	12	80,283
Missouri	13	76,539
Tennessee	14	76,403
Maryland	15	75,080
Virginia	16	66,514
Minnesota	17	65,430
Connecticut	18	60,080
Indiana	19	52,025
District of Columbia	20	44,639
Wisconsin	21	42,799
Arizona	22	41,332
Louisiana	23	39,099
South Carolina	24	35,510
Alabama	25	33,262
All Other States		360,284
US Total		3,352,604

Note: Tables include impacts of the 24 individual states and the District of Columbia in which AAMC members' impact is highest plus "All other states" total which reflects the impact of the remaining 22 states where AAMC members are located.