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## AAHC Report: How Much Does Research Cost?

### Three Key Findings for U.S. Medical Schools

#### KEY FINDINGS

1. Medical schools invest heavily in research. The average portion of total medical school academic expenses spent on research is 47%, with most medical schools spending between 33% and 63% of their total direct and indirect academic expenses on research.
2. When sponsored research increases, so does medical schools' additional expenditures. For every \$1.00 increase in research expenditures funded by external grants and contracts, total research expenditures by medical schools increase by an additional \$0.52.
3. On average, 35% of medical schools' total research expenditures are funded with internal institutional funds, with most medical schools funding between 19% and 49% of total research expenditures with internal institutional funds, not external funding sources.

### Policy Implications

Research grants do not come close to covering the costs of research at the nation's Medical Schools. The implications of these findings are important in that they suggest the large component of the U.S. biomedical research enterprise led by the nation's Medical Schools is dependent on the ability of external research funding sources (*e.g.*, NIH, NSF, and others) to complement the schools' internally derived funding sources (*e.g.*, clinical income, philanthropy, and others). Thus, changes in any of these parameters will have profound effects on biomedical research in the U.S.

### Background

A seminal concern providing impetus for AAHC's *Benchmarks & Metrics Initiative Financial Expense and Funding Source Data Project* was the desire to determine what portion of medical schools' total research expenditures are supported by internal institutional funds (rather than by external funding sources). To answer this question required calculating the true "all-in" cost of medical research conducted by academic health centers above what they receive in funding from external research sponsors (*e.g.*, government, industry and foundation research grants and contracts). Although conventional wisdom among AAHC members held that total research expenditures exceeded external funding by perhaps 15-

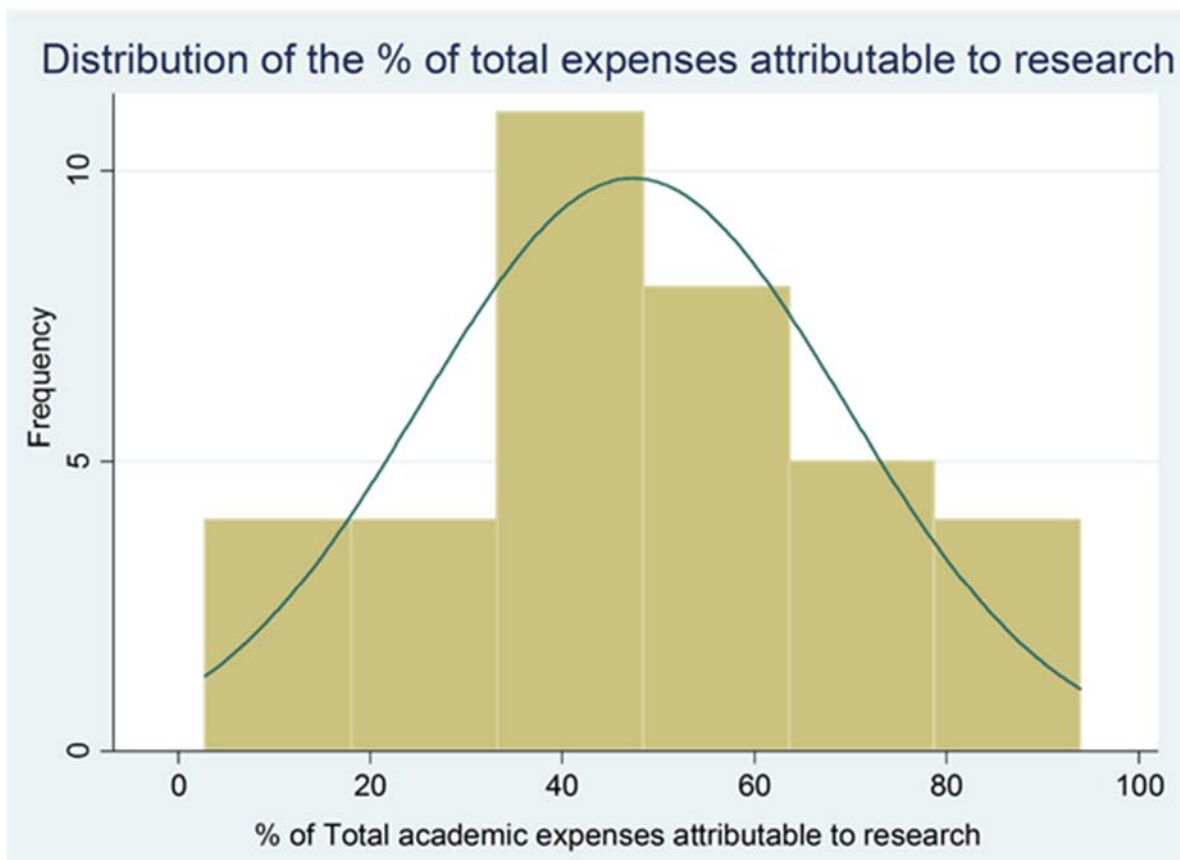
20%, some academic health center leaders speculated that actual internal funding of research expenditures was significantly higher.

AAHC developed a novel platform to collect comparative financial data from member institutions relating to both direct and indirect academic expenses, as well as academic funding sources, for each health professions school within the academic health center. The data reported here focuses on research-related medical school academic expenses<sup>1</sup>. It comes from the first data submission cycle of AAHC's Financial Expense and Funding Source Survey, which was conducted after a lengthy design and pre-testing process. While the quality and consistency of data submissions will continue to improve during subsequent reporting cycles, AAHC is confident that the initial data supports what many academic health center leaders had already suspected: that medical schools are supporting a far larger share of total research expenditures from internal institutional funds than was previously believed to be the case.

## Findings

1. **Most medical schools spend between 33% and 63% of their total direct and indirect academic expenses on research.** The range of spending on research reflects the diversity of AAHC members, with some placing more emphasis on research than others.

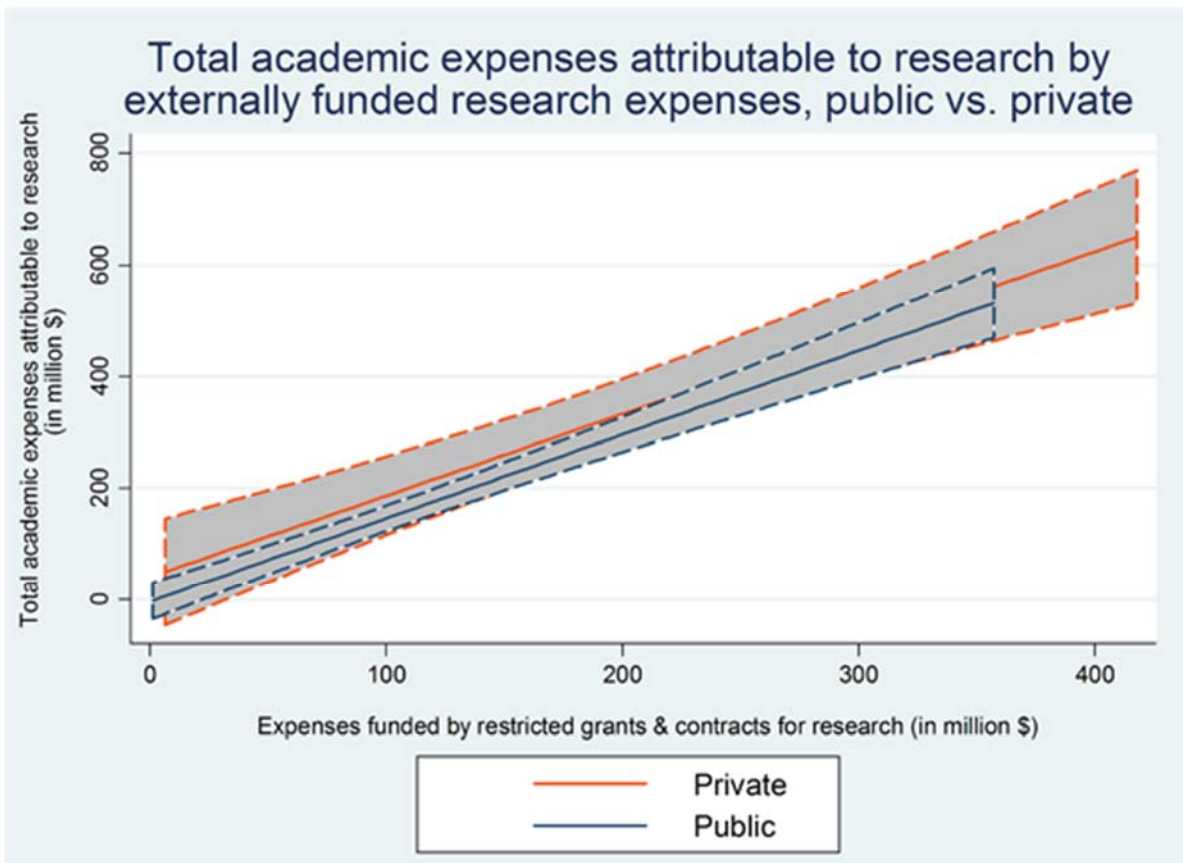
**Figure 1: The average portion of total medical school academic expenses spent on research is 47%.**



<sup>1</sup> This research-related discussion focuses solely on medical schools within academic health centers for two reasons: first, the majority of biomedical research takes place in medical schools; and second, AAHC's database includes significantly more Medical Schools than other health professions schools.

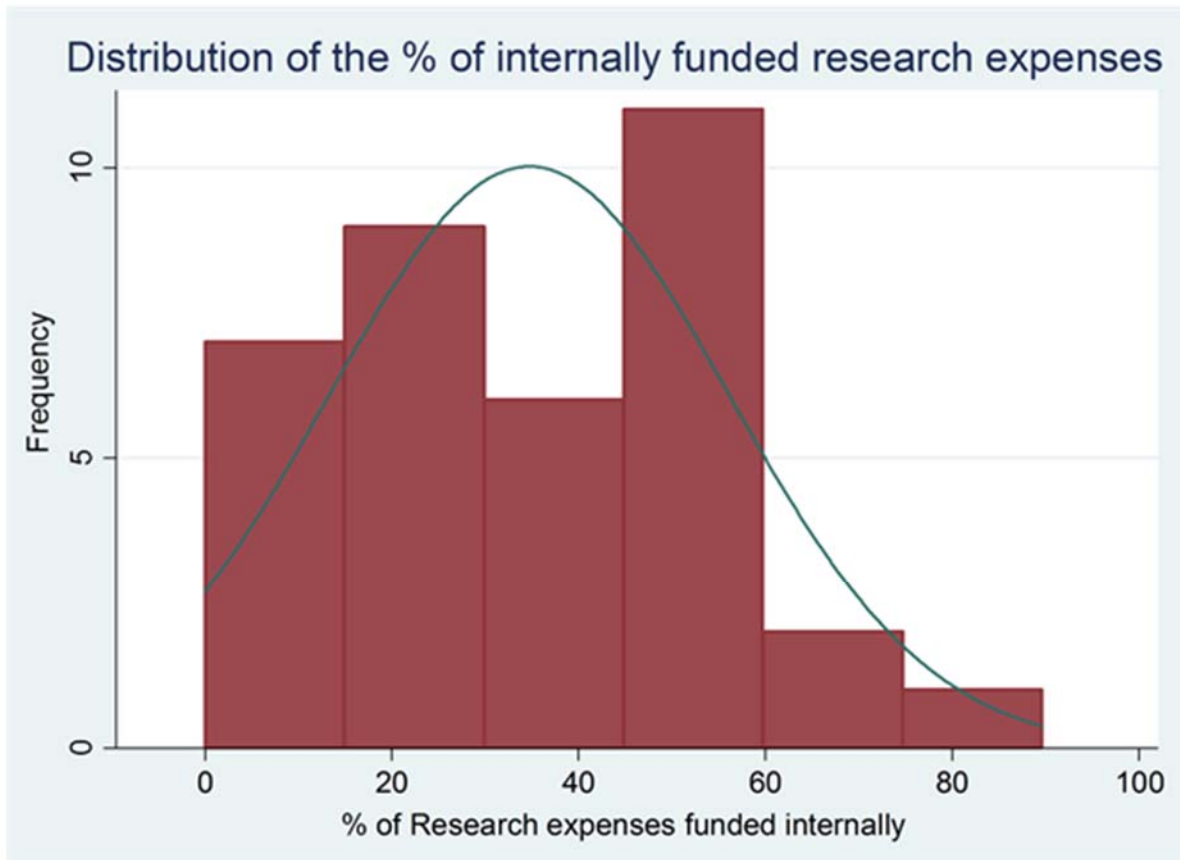
2. **For every \$1.00 increase in research expenditures funded by external grants and contracts, medical schools' total research expenditures increase by \$1.52.** There is a strong relationship between externally funded research and total research expenditures, even at relatively small expenditure levels. Figure 2 below depicts the fitted lines for total research expenditures (both internally and externally funded) as a function of externally funded research expenses. The figure includes separate fitted lines for public and private medical schools. The strong relationship between externally funded research expenses and total research expenditures holds for both public and private schools, with no statistically significant differences.

**Figure 2: There is a strong relationship between research expenses funded by external grants and contracts and total research expenditures.**



3. **Most medical schools fund between 19% and 49% of total research expenditures with internal institutional funds, not external funding sources.** Research grants and contracts rarely cover the full cost of the research being funded. Thus, medical schools must expend additional internal institutional funds to make up the shortfall. The range of internal institutional funding levels reflects the diversity of AAHC members, with some willing to internally fund a higher proportion of total research expenses than others.

**Figure 3: On average, 35% of medical schools' total research expenditures are funded with internal institutional funds**



A number of factors are likely to contribute to the variation among medical schools in the portion of total research expenses supported by internal institutional funding of research, including (but not limited to) differences in:

- The indirect cost recovery rate on government, industry, and foundation sponsored research, as well as the mix of grant and contract funding sources, given that some types of grants and contracts provide for significantly higher indirect cost recovery rates than other types;
- The proportion of faculty with salary above the NIH cap;

- The type of research being conducted, given that some types of research require laboratory infrastructure that is significantly more expensive than other types of research; and
- The willingness of an institution to provide:
  - Start-up funding for younger researchers who have not yet received grant funding;
  - Bridge funding for researchers between grants, and
  - Protected time to conduct research for faculty who are no longer conducting sponsored research.

Data Source: AAHC Benchmarks & Metrics Initiative, Financial Expense and Funding Source Data Project, March 2014

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