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# The AAMC-NIH Crosswalk: An Institutional-Level Review of NIH Funding to US Medical Schools

To better understand the National Institutes of Health (NIH) funding received by U.S. medical schools (USMS) that offer Liaison Committee on Medical Education-accredited medical education programs, the AAMC developed a new methodology that links or "crosswalks" faculty grants with medical schools and their affiliated organizations. The AAMC Crosswalk ("the Crosswalk") systematically maps extramural grants received by full-time faculty members engaged in research with their respective schools of medicine and their affiliated hospitals, research institutes, and other related organizations, collectively constituting the broader academic health system. In doing so, the Crosswalk is a powerful tool for a more accurate assessment of the role of academic medicine in advancing biomedical research. Moreover, it offers rich data for analyzing funding trends at the institutional level. This snapshot presents an overview of aggregate funding spanning fiscal years (FY) 2017 through 2022.

## Methods

To match affiliate organizations to medical schools, the AAMC Crosswalk methodology[1] utilized data from both the NIH "Worldwide" file found via the "NIH Awards by Location & Organization" search tool on its RePORT website[2] and data resources unique to the AAMC. AAMC data included a crosswalk of primary teaching hospitals to medical schools from voluntary, annual and quarterly Council of Academic Health System Executives (previously, the Council of Teaching Hospitals and Health Systems®) Hospital Operations and Financial Performance surveys, as well as a crosswalk of full-time faculty members to medical schools, facilitated by the AAMC Faculty Roster. The AAMC Organizational Characteristics Database was also utilized to identify public and private institutions.

Linkages were created between faculty members, organizations, and medical schools that aggregated awards to the level of the medical school writ large. Additionally, NIH project numbers were decomposed to ascertain the funding institute and center, as well as the grant mechanism.

In addition to institutional level characteristics, and while the NIH supports nearly 250 research-related programs, this analysis reviewed NIH R01-equivalent awards. R01-equivalent grants are defined as activity codes DP1, DP2, DP5, R01, R37, R56, RF1, RL1, U01, and R35.[3] Not all activities are necessarily in use by the NIH every year; in fact, RL1 first appeared in FY 2020.

## Findings

All U.S. Medical Schools

- From FY 2017 to FY 2022, USMS writ large received an average of 61% of total NIH extramural research funding (Figure 1, Table 1).

**Figure 1. NIH extramural funding to USMS, FY 2017 to FY 2022.**

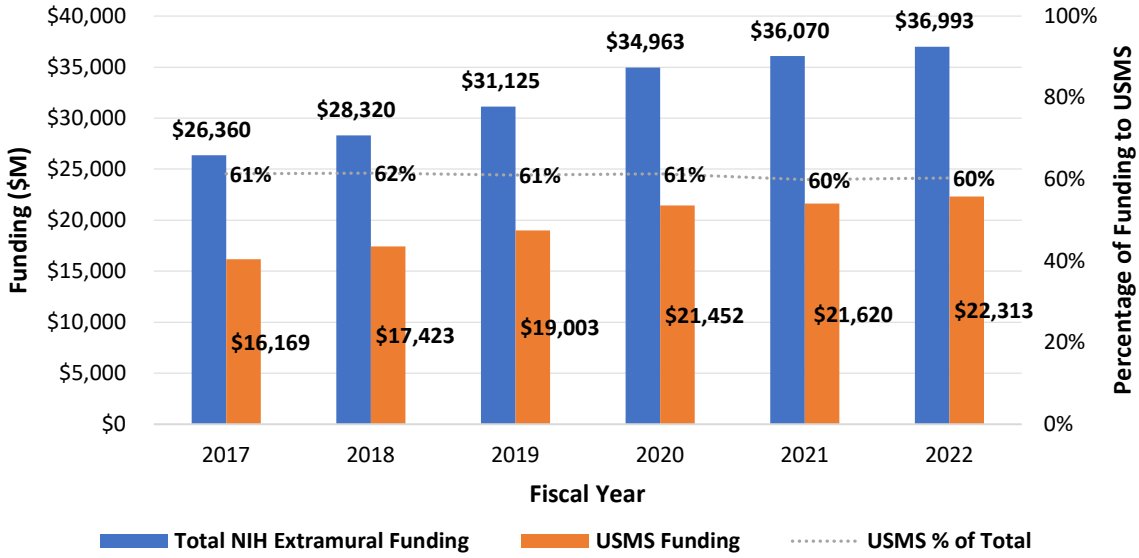



**Table 1. NIH Extramural Funding to USMS: Crosswalk Comparisons (%)**

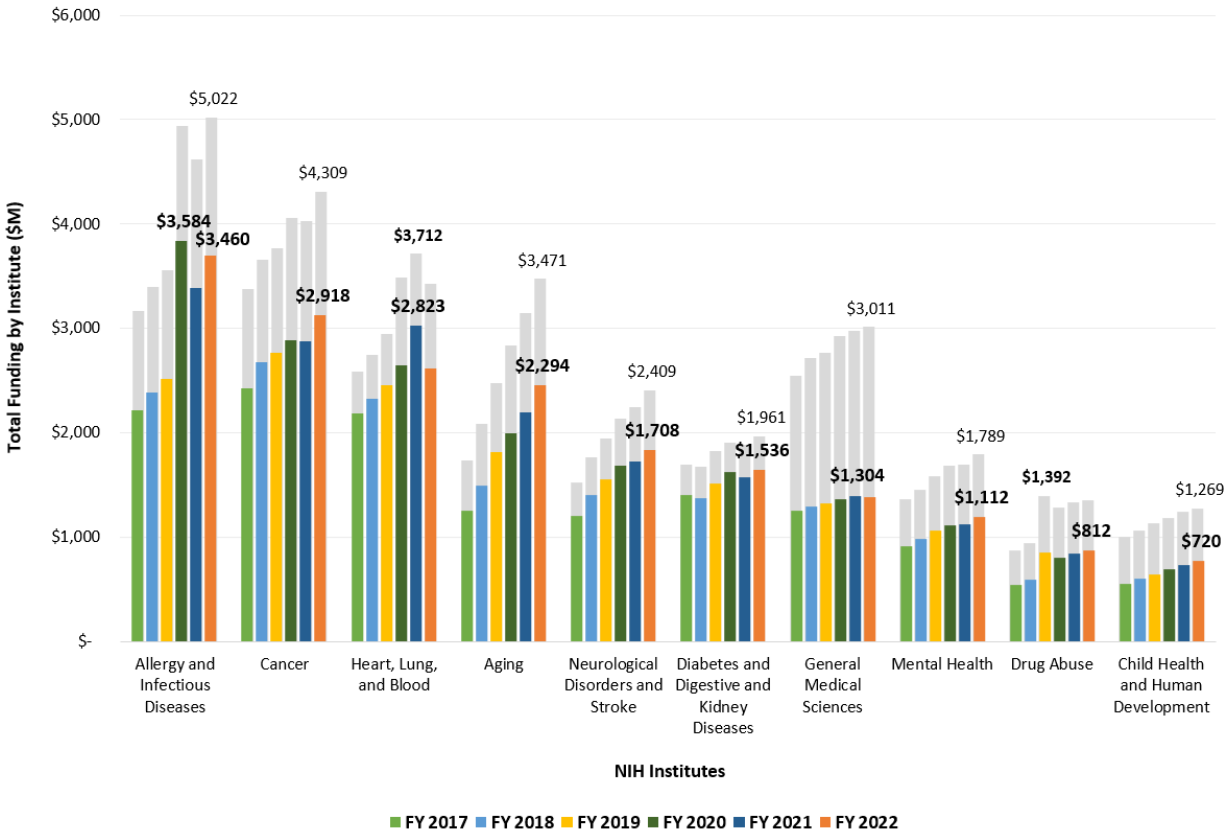
| Fiscal Year | Total NIH Extramural Funding Awarded | NIH Indicator | Blue Ridge Institute for Medical Research | AAMC Crosswalk |
|---|---|---|---|---|
| 2017 | $26,359,962,564 | $12,392,281,536 (47) | $13,320,416,626 (51) | **$16,168,814,845 (61)** |
| 2018 | $28,319,914,865 | $13,418,237,780 (47) | $14,327,082,262 (51) | **$17,423,025,752 (62)** |
| 2019 | $31,124,772,123 | $14,671,835,617 (47) | $15,620,707,283 (50) | **$19,002,859,949 (61)** |
| 2020 | $34,963,147,380 | $16,103,280,433 (46) | $17,309,297,458 (50) | **$21,452,122,819 (61)** |
| 2021 | $36,069,914,661 | $16,886,466,436 (47) | $17,992,158,494 (50) | **$21,620,350,255 (60)** |
| 2022 | $36,993,042,996 | $17,667,301,871 (48) | $18,599,406,519 (50) | **$22,312,896,461 (60)** |

**Findings**

All U.S. Medical Schools (cont'd)

- Out of the 27 NIH institutes and centers, the National Institute of Allergy and Infectious Diseases; the National Cancer Institute; the National Heart, Lung, and Blood Institute; and the National Institute on Aging funded 48% of all research during FY 2017 to FY 2022, totaling over $57B (Figure 2).
- During the same period, both the National Institute for Diabetes and Digestive and Kidney Diseases and the National Heart, Lung, and Blood Institute allocated nearly 80% of funding to USMS. The only institute not to allocate the majority of their funds to USMS in any given year during the six-year period was the National Institute of General Medical Sciences, which averaged 44%.

**Figure 2. NIH extramural funding to USMS by top-10 funding institutes and centers, FY 2017 to FY 2022.**



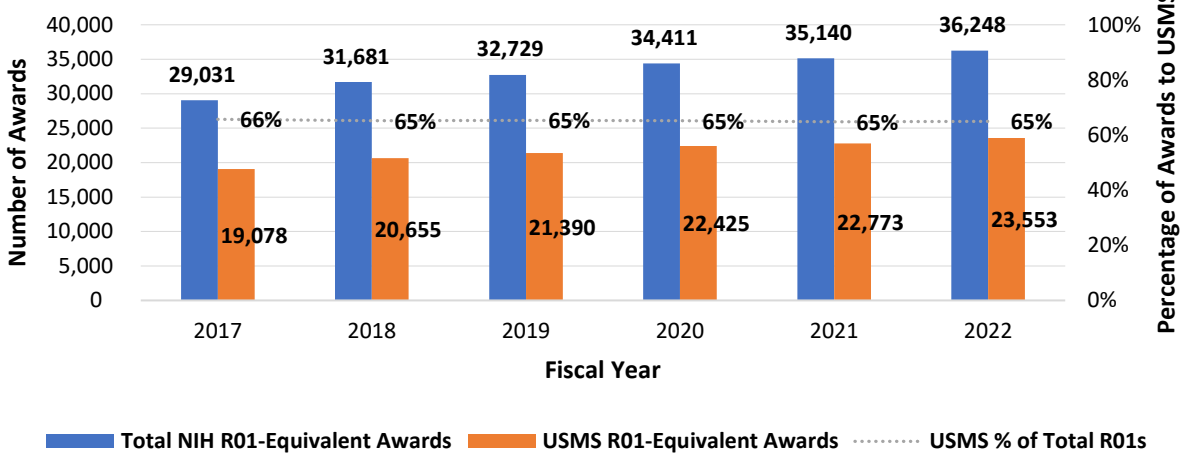

*Note: Gray-shaded areas equate to total NIH extramural funding per center, per year.*

**Findings**

All U.S. Medical Schools (cont'd)

- From FY 2017 to FY 2022, the NIH issued over 360K awards in total, including over 199K R01-equivalent grants, with the traditional R01 accounting for 85% of this group. On average, USMS were awarded 65% of all NIH R01-equivalent grants (Figure 3).

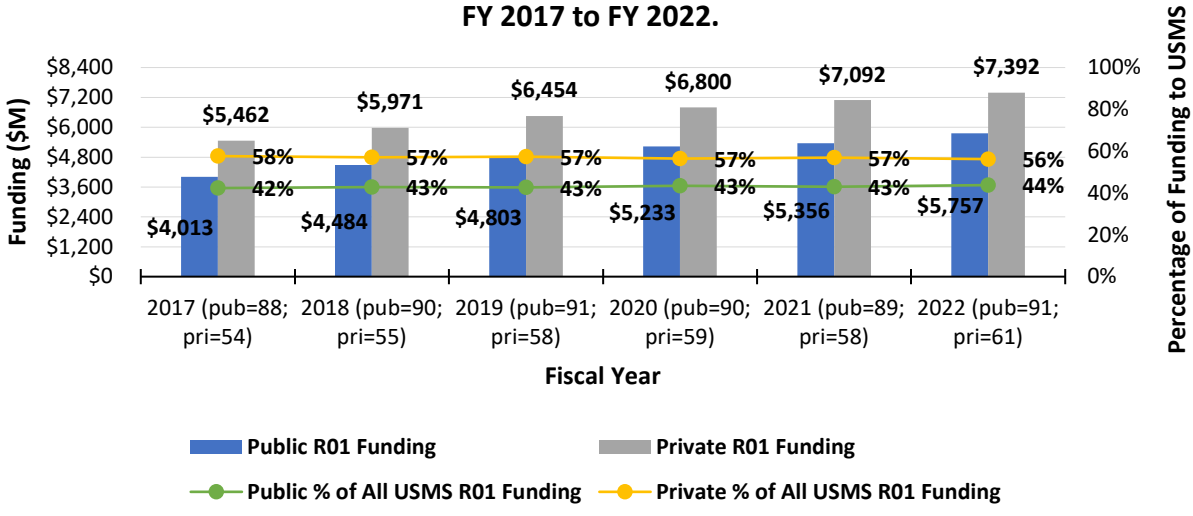
**Figure 3. NIH R01-equivalent awards to USMS, FY 2017 to FY 2022.**




Public vs. Private U.S. Schools

- Though fewer in number, private schools received an average of 32% more in R01 funding than public schools (Figure 4).

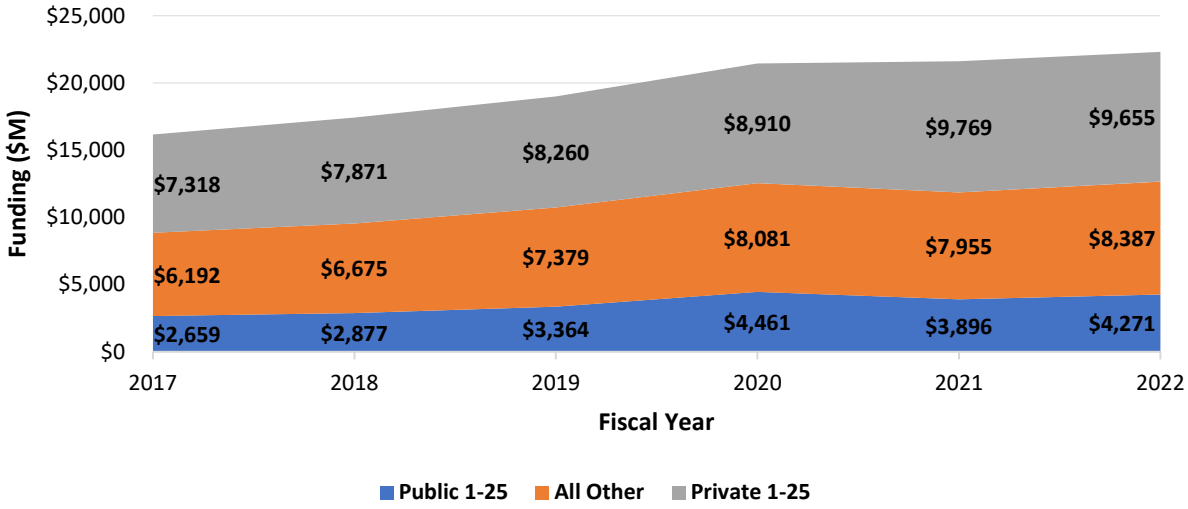
**Figure 4. NIH R01-equivalent funding to public and private USMS, FY 2017 to FY 2022.**



Research Intensity

- Research-intensive USMS ranked 1-25 via the AAMC Crosswalk by total extramural funding were awarded an average of 62% of all extramural research funding during this period. Approximately 70% of this group were private schools (Figure 5).
- Private schools ranked within 1-25 were awarded an average of 44% of total funding, more than all other schools outside the top 25.

**Figure 5. NIH extramural funding by USMS research intensity and ownership, FY 2017 to FY 2022.**




## Conclusion

Understanding the NIH funding trends identified by the AAMC Crosswalk can help U.S. medical schools drive research initiatives, further align research and organizational missions, promote collaboration, and strategically invest in areas that hold the greatest potential for advancement in biomedical research.

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## References

1. Geboy AG, Dandar VM, Dutterer J, Brandenburg K, Alexander H. U.S. medical school participation in nationally funded biomedical research: a new accounting of NIH Award dollars. *Acad Med*. Preprint posted online June 4, 2024. doi:10.1097/ACM.0000000000005778
2. National Institutes of Health (Research Portfolio Online Reporting Tools [RePORT]). NIH awards by location & organization. Updated June 17, 2024. Accessed June 20, 2024. https://report.nih.gov/award/index.cfm#tab5
3. National Institutes of Health (Grants & Funding). Types of grant programs. Updated April 11, 2023. Accessed June 20, 2024. https://grants.nih.gov/grants/glossary.htm#R01EquivalentGrant