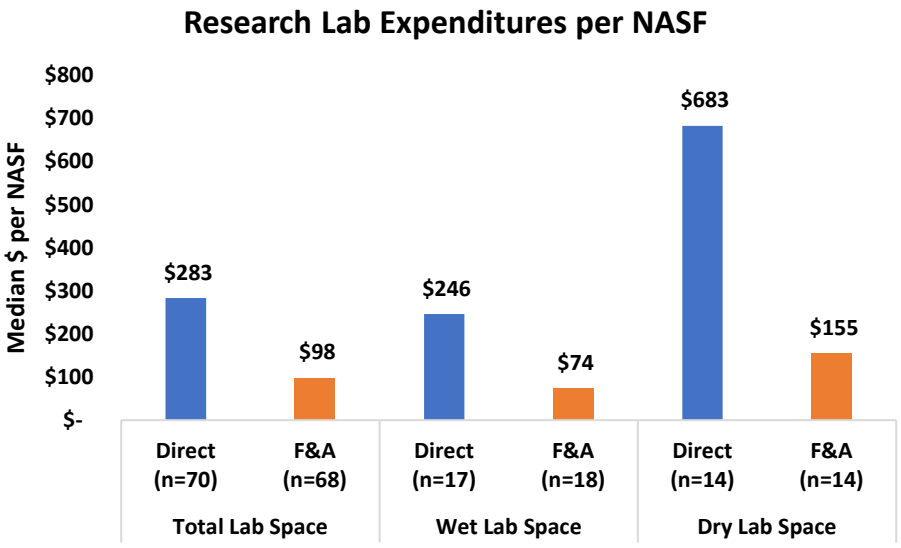
AAMC Data Snapshot

August 2020

Research Lab Space Productivity at U.S. Medical Schools: A Review of the 2018 Operations Management Survey

This Data Snapshot investigates trends in research laboratory space productivity as reported in the AAMC fiscal year (FY) 2018 Operations Management Survey (OMS). "Space productivity" is here defined as the direct and indirect grant dollars generated in research laboratories per the net assignable square foot (NASF) of laboratory space. New to the FY 2018 survey, respondents were asked to separate, if possible, laboratory NASF and expenditures data by wet and dry laboratory space (refer to the glossary for space type definitions). Data presented in this snapshot provide benchmarks schools may consider when determining the optimal allocation of their research space.



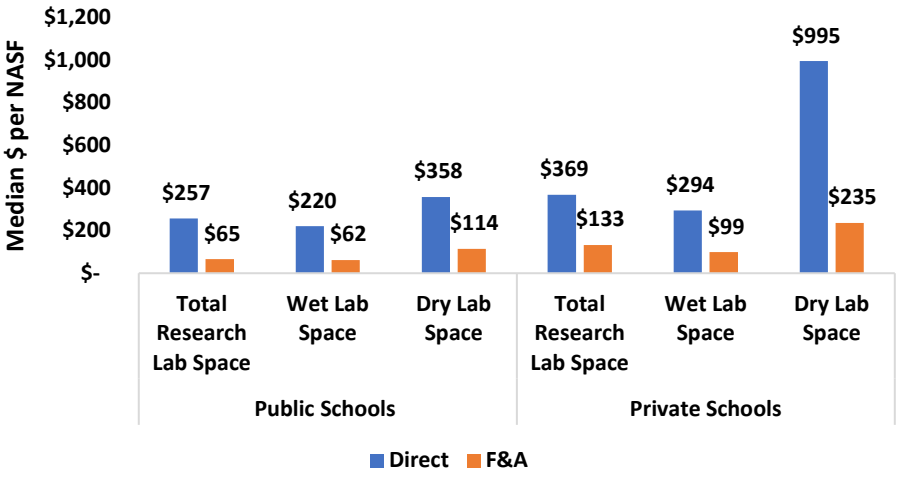
Key Findings

- Overall, 65% (n=99/152) of U.S. medical schools responded to the FY 2018 OMS. Of those schools, 71% (n=70/99) reported direct expenditures, and 69% (n=68/99) reported facilities and administrative (F&A) cost expenditures associated with research activities taking place in a nonclass research laboratory space.
- Approximately 18% (n=18/99) of responding schools were able to separate wet lab space expenditures, and 14% (n=14/99) were able to separate dry lab space expenditures.*
- Median dry lab space generated $683* per NASF, 178% more in direct sponsored dollars than wet space.

**Note: Limitations of this study include the small number of institutions reporting data on wet and dry lab space. This limitation should be considered when interpreting these data.*

AAMC Data Snapshot

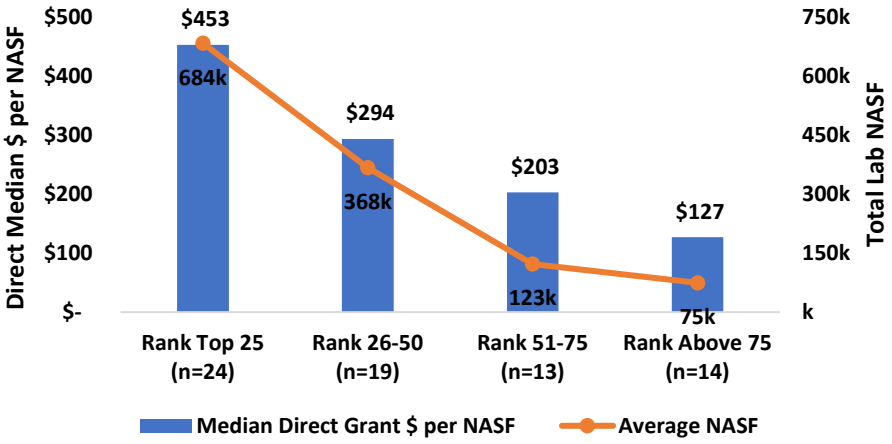
Research Lab Expenditures per NASF by Ownership



Key Findings

- Private school total research lab space generated 43% more median direct dollars per NASF and 103% more median F&A dollars per NASF than public school total research lab space.
- Private school dry labs generated 178% and 106% more median direct and median F&A dollars per NASF, respectively, than public schools.

Direct Expenditures per NASF by Research Ranking



Key Findings

- Schools ranked in the top 25 for research intensity reported an average of 227% more total lab space than all other schools.
- The top 25 research schools also reported generating 108% more in median direct grant dollars than all other schools, and 54% more than schools ranked 26-50.

Conclusion

Improving research laboratory space productivity is critical for U.S. medical schools to ensure financial sustainability and achieve their missions.[1,2] This study contributes new knowledge to our understanding of current trends in space productivity, yet this is just one of several different methods medical schools may consider for benchmarking.[1-4] While differences between laboratory type and within public and private schools are worthy of further investigation, due to the small sample size of wet and dry lab data, the AAMC will conduct a directed study to better assess research laboratory space productivity by type and provide recommendations for efficient use and optimization.

For more information contact: Alex Geboy (ageboy@aamc.org) or Valerie Dandar (vdandar@aamc.org).

Glossary: Definitions Used in the Operations Management Tool

Wet laboratory space: Wet lab, or wet laboratory space, is laboratory space where chemicals, drugs, or other biological matter are tested and analyzed using liquids.

Dry laboratory space: Dry lab, or dry laboratory space, is where computational or applied mathematical analyses are done with the assistance of computer-generated models.

Research intensity: Federal research expenditures used to determine research intensity are based on direct federal grants and contracts expenditures for organized research, as reported on the FY 2018 LCME Part I-A Annual Financial Questionnaire, and include expenditures recorded and not recorded on the books of medical schools. These ranking groups are based only on those medical schools that participated in the FY 2018 OMS.

References

1. University of Kentucky College of Medicine. Research space policy. https://research.med.uky.edu/research-space-management. Accessed June 3, 2020.
2. Sugrue S, Pastos K, Vandenborne K, et al. *UFHSC White Paper: Research Space*. Gainesville, FL: University of Florida Health Science Center; 2014. https://webservices.ufhealth.org/files/2014/11/Space-White-Paper.pdf.
3. Libecap A, Wormsley S, Cress A, et al. A comprehensive space management model for facilitating programmatic research. *Acad Med*. 2008;83(3):207-216. doi:10.1097/ACM.0b013e3181636f54.
4. Durkin J, Kircher A. *Optimizing Research Space Allocation at Academic Medical Centers.* Washington, DC: The Advisory Board Company; 2011. www.uky.edu/ie/sites/www.uky.edu.ie/files/uploads/EAB_RM_Optimizing-Research-Space-Allocation-at-Academic-Medical-Centers.pdf.