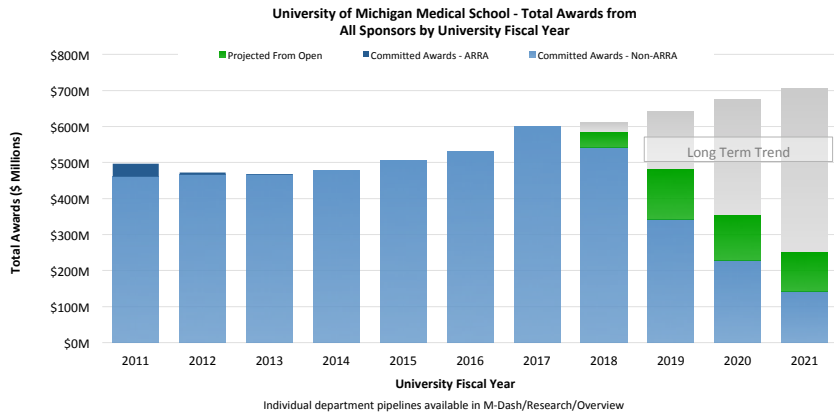


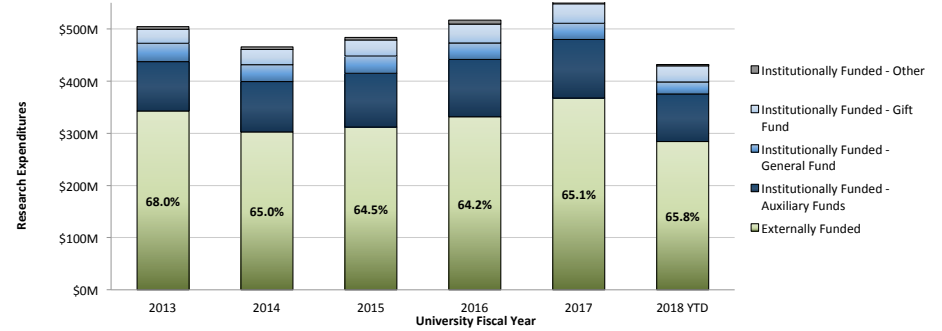
State of Research

UMMS Externally Funded Awards & Pipeline (4/16/2018)



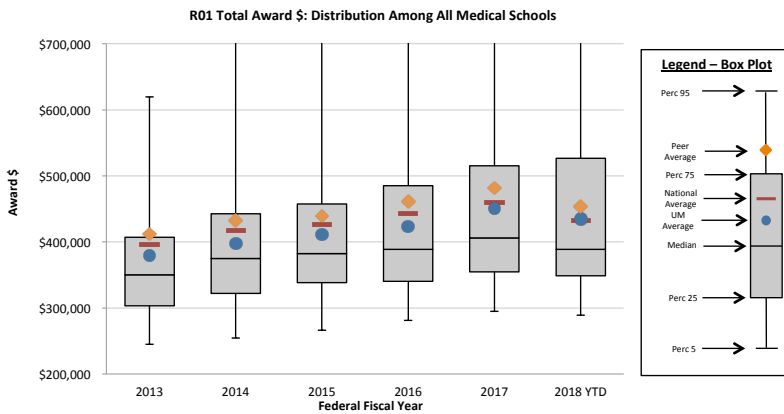
Additional metrics for the Office of Research units available at: <http://www.med.umich.edu/medschool/research/state-of-research>
 Looking for aggregate department metrics? Log on to M-Dash: <https://www.umms.med.umich.edu/mdash/login-disolay.do>
 Looking for detailed metrics by department & individual? Log on to M-Stat: <https://www.umms.med.umich.edu/mstat/stat.htm>

UMMS Direct Research Expenditures (excluding Transfers & Distributions Expenditures; 3/31/2018)



*Externally Sponsored Research Expenditures defined by all expenditures made in fund codes 20000 & 25000
 **Institutionally Funded Research Expenditures defined by expenditures made in class codes: 21000, 22000, 22100, 22200, & 31200 and all fund codes not equal to 20000 & 25000.
 ***Institutionally Funded - Other Expenditures include expenditures made in : Designated, Consolidated, Department Equipment, and Agency Funds.

External Benchmarking (4/2/2018)



*Peers institutions are determined by FFY 2016 rank bands based on total award \$ (excluding contracts).

Success Rates and Submissions (4/16/18)

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 YTD |
|----------------------------------|-------|-------|-------|-------|-------|----------|
| Submissions to Start in Univ. FY | 2,465 | 2,570 | 2,663 | 2,690 | 2,809 | 2,835 |
| Submissions (All Sponsors) | 2,465 | 2,570 | 2,663 | 2,690 | 2,809 | 2,835 |
| Success Rate (All Sponsors) | 39% | 39% | 41% | 42% | 42% | 31% |
| NIH Submissions (All Activity) | 826 | 810 | 870 | 855 | 900 | 956 |
| NIH Success Rate (All Activity) | 21% | 23% | 23% | 26% | 25% | 20% |
| R01 Submissions | 417 | 363 | 432 | 406 | 444 | 461 |
| R01 Success Rate | 19% | 20% | 19% | 24% | 22% | 18% |

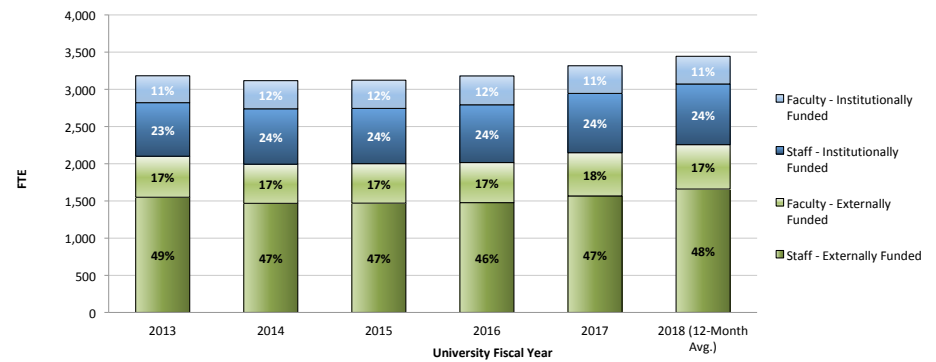
*Submissions are sorted into University Fiscal Year by actual budget award date or proposed anticipated start date.

Output, Influence, and Recognition

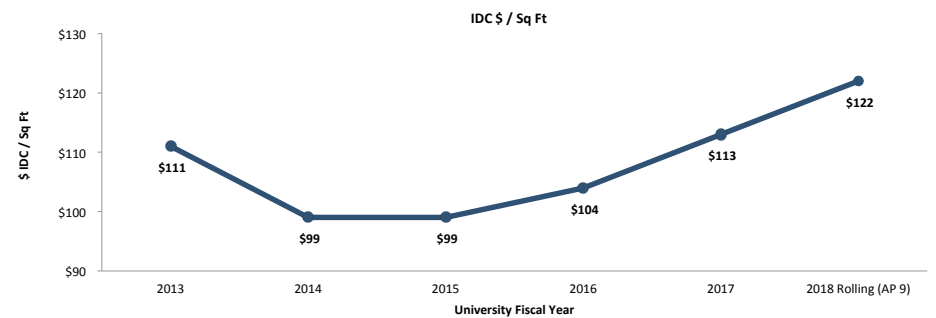
Publications (Scopus; Latest Data Download 3/20/2018)

| Calendar Year | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 YTD |
|---------------|-------|-------|-------|-------|-------|----------|
| Publications | 6,926 | 7,233 | 6,842 | 6,136 | 5,894 | 984 |

UMMS Research Mission FTEs (3/31/2018)



UMMS Space Productivity (3/31/2018)



| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 Rolling (AP 9) |
|--------------------------------------|--------------|--------------|--------------|--------------|---------------|---------------------|
| IDC Expenditure \$ in Research Space | \$98,485,160 | \$89,966,644 | \$92,856,108 | \$98,027,014 | \$105,984,412 | \$112,927,886 |
| 12-Month Avg Sq Ft (Research Space) | 884,311 | 912,681 | 939,863 | 938,103 | 934,468 | 925,794 |

State of Research - View by Department

Output, Influence, and Recognition

Basic Science Departments

| | Publications (Scopus Count) | | | | Awards (\$ Millions) | | | |
|--------------------------------|-----------------------------|------|-----------|-----------|----------------------|------|----------|-----------|
| | 2015 | 2016 | 2017 CYTD | 2012-2016 | 2016 | 2017 | 2018 YTD | 2013-2017 |
| Biological Chemistry | 77 | 70 | 11 | | 5.8 | 4.1 | 4.9 | |
| Biomedical Engineering | 51 | 52 | 7 | | 1.4 | 2.6 | 2.4 | |
| Cell and Developmental Biology | 101 | 92 | 14 | | 7.4 | 9.9 | 7.6 | |
| DCMB | 167 | 147 | 20 | | 5.3 | 6.8 | 5.1 | |
| Human Genetics | 87 | 60 | 9 | | 7.0 | 4.8 | 6.7 | |
| Microbiology and Immunology | 126 | 90 | 12 | | 15.7 | 15.4 | 15.9 | |
| Molec & Integrative Physiology | 208 | 165 | 29 | | 18.7 | 22.1 | 22.0 | |
| Pharmacology | 96 | 101 | 17 | | 9.9 | 10.8 | 9.5 | |

Clinical Departments

| | | | | | | | | |
|-----------------------------|------|------|-----|--|-------|-------|-------|--|
| Anesthesiology | 306 | 258 | 51 | | 6.1 | 11.2 | 7.5 | |
| Cardiac Surgery | 168 | 116 | 45 | | 4.9 | 4.5 | 3.4 | |
| Dermatology | 114 | 144 | 26 | | 4.6 | 5.6 | 5.1 | |
| Emergency Medicine | 210 | 252 | 43 | | 7.2 | 18.1 | 15.7 | |
| Family Medicine | 164 | 171 | 23 | | 3.5 | 3.7 | 3.1 | |
| Internal Medicine | 2750 | 2990 | 447 | | 176.8 | 195.8 | 178.1 | |
| Neurology | 279 | 273 | 46 | | 22.6 | 25.6 | 24.9 | |
| Neurosurgery | 247 | 171 | 40 | | 4.6 | 3.5 | 2.5 | |
| Obstetrics/Gynecology | 266 | 245 | 36 | | 11.2 | 15.6 | 10.2 | |
| Ophthalmology | 284 | 255 | 46 | | 10.3 | 9.8 | 10.0 | |
| Orthopaedics | 223 | 206 | 37 | | 3.0 | 3.9 | 3.6 | |
| Otolaryngology | 292 | 243 | 57 | | 7.7 | 7.4 | 6.2 | |
| Pathology | 654 | 608 | 114 | | 31.4 | 29.6 | 29.2 | |
| Pediatrics | 605 | 588 | 106 | | 24.2 | 26.0 | 26.6 | |
| Physical Medicine and Rehab | 125 | 119 | 15 | | 5.3 | 3.9 | 5.9 | |
| Psychiatry | 580 | 548 | 140 | | 28.3 | 31.2 | 30.5 | |
| Radiation Oncology | 346 | 347 | 124 | | 9.4 | 10.2 | 7.7 | |
| Radiology | 623 | 739 | 157 | | 13.1 | 14.7 | 12.6 | |
| Surgery | 901 | 959 | 186 | | 28.7 | 34.0 | 34.3 | |
| Urology | 396 | 397 | 101 | | 7.4 | 8.5 | 7.0 | |

Other Med School Departments

| | | | | | | | | |
|--------------------------------|-----|----|----|--|------|------|------|--|
| Cancer Center* | 0 | 0 | 0 | | 16.7 | 3.2 | 3.1 | |
| Division of Anatomical Science | 0 | 1 | 0 | | 0.3 | 0.3 | 0.9 | |
| IHPI | 0 | 0 | 0 | | 0.1 | 0.3 | 0.3 | |
| Department of Learning Health | 103 | 84 | 13 | | 2.2 | 2.5 | 1.5 | |
| MBNI* | 11 | 4 | 1 | | 10.4 | 11.3 | 10.8 | |

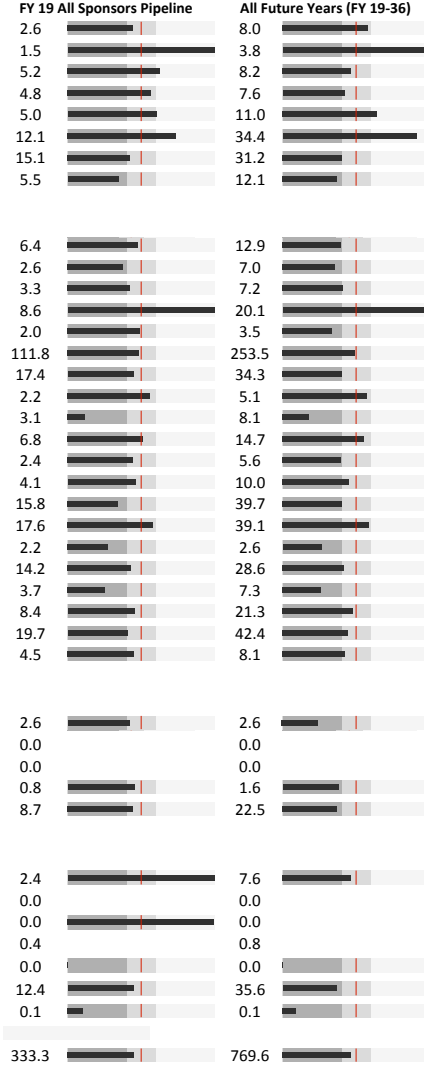
Research Oversight Units

| | | | | | | | | |
|---|-------------|-------------|------------|--|--------------|--------------|--------------|--|
| BRCF Roll-Up | 0 | 0 | 0 | | 1.5 | 2.2 | 1.4 | |
| Ctr for History of Medicine | 0 | 0 | 0 | | 0.0 | 0.0 | 0.0 | |
| Ctr for Organogenesis | 0 | 0 | 0 | | 0.4 | 0.0 | 0.0 | |
| Food Allergy Center | 0 | 0 | 0 | | 0.4 | 0.1 | 0.4 | |
| MI Nanotechnology Institute | 1 | 3 | 0 | | 0.9 | 1.5 | 0.1 | |
| MICHR Roll-up | 0 | 0 | 2 | | 10.5 | 11.6 | 12.2 | |
| ULAM | 31 | 31 | 3 | | 1.2 | 0.7 | 0.6 | |
| Med. Sch. Total (Incl. MSA, Other) | 6136 | 5894 | 984 | | 530.6 | 599.5 | 542.1 | |

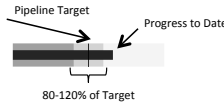
Department award pipelines available in M-Dash/Research/Overview

Leading Indicators of Financial Performance

Awards Pipeline (\$ M), Progress toward:



*Non-Fed Pipeline has been removed. It will be replaced with a new management metric in Q1.



The Awards Pipeline is a forward-looking measure of all awards committed to the Department in future FY. The pipeline metrics reflect the Department's ability to maintain promised funding levels for one or all fiscal years. Targets are defined:

- FY columns:** the Department's committed budget awards that are assigned to be available to support research in the next FY
- All Future Years column:** the Department's committed budget awards that are assigned for all future FYs to support research
- Pipeline Target:** the Department's set goal based on the previous FY's pipeline commitments + a 5% increase

Lagging Indicators of Financial Performance

Space Productivity (IDC\$/Sq Ft)

| | 2016 | 2017 | 2018 R | 2013-2018 R |
|--------------------------------|----------------------|------------|------------|-------------|
| | Biological Chemistry | 51 | 48 | 55 |
| Biomedical Engineering | 53 | 37 | 72 | |
| Cell and Developmental Biology | 85 | 106 | 119 | |
| DCMB | 123 | 153 | 153 | |
| Human Genetics | 75 | 54 | 55 | |
| Microbiology and Immunology | 116 | 112 | 102 | |
| Molec & Integrative Physiology | 111 | 131 | 142 | |
| Pharmacology | 66 | 83 | 96 | |
| Anesthesiology | 115 | 144 | 167 | |
| Cardiac Surgery | 82 | 63 | 53 | |
| Dermatology | 112 | 118 | 131 | |
| Emergency Medicine | 174 | 148 | 216 | |
| Family Medicine | 115 | 157 | 131 | |
| Internal Medicine | 152 | 154 | 163 | |
| Neurology | 115 | 147 | 162 | |
| Neurosurgery | 118 | 133 | 121 | |
| Obstetrics/Gynecology | 129 | 87 | 103 | |
| Ophthalmology | 88 | 73 | 72 | |
| Orthopaedics | 78 | 116 | 109 | |
| Otolaryngology | 89 | 89 | 89 | |
| Pathology | 113 | 125 | 129 | |
| Pediatrics | 129 | 133 | 171 | |
| Physical Medicine and Rehab | 331 | 416 | 550 | |
| Psychiatry | 305 | 324 | 349 | |
| Radiation Oncology | 110 | 146 | 163 | |
| Radiology | 93 | 111 | 109 | |
| Surgery | 120 | 153 | 173 | |
| Urology | 177 | 205 | 182 | |
| Total | 104 | 113 | 122 | |

Department space productivity available in M-Dash/Space/Productivity

Notes:

*Count of unique publications are attributed only to a faculty member's current administrative appointment as defined in M-Pathways HR Records; Department publication totals do not reflect publications by faculty with secondary appointments; Department totals do not add up to the School total due to co-authorships counting in multiple departments; Source: Scopus; Effective 3/20/18.