The Mass General Research Institute

Orientation for Professional Staff

Rev. 10 February 2020
1846  First demonstration of ether as general anesthetic

1925  First tumor clinic founded

1979  First use of MRI for diagnosis

1997  First demonstration that antivirals control early HIV

2015  Alzheimer’s in a dish

Transforming Medicine

Through Innovation

Research at MGH began over 200 years ago. Today, the Mass General Research Institute is home to the largest hospital-based research program in the United States.

IN THE FUTURE... who knows where the next research breakthrough at Mass General could lead?
The Mass General Research Institute is:

- A community of 9,500 people working every day to improve healthcare
  - 2,000 principal investigators leading research teams
  - 4,000 scientists and research staff
  - 1,500 research fellows (postdocs)
  - 800 graduate students
  - 1,200 research administrative support staff

- Over 30 Departments, Centers and Institutes
- Annual research revenue/spending over $1 billion
- Over 1.3 M square feet of research space
- FY18: 1,643 patents filed, $94.6M royalty/license
- Over 2,000 active clinical trials ongoing
- Over 500 journal publications per month
- 1/3 of all 3,000 MGH clinicians are research PI’s

United by Research. Driven by Hope.
MGH Total Research Revenue Trend

MGH Research has grown 318% over 20 years to $1.013B
(Compounded annual growth rate of 7.4% between FY1999 and FY2019)
MGH Total Research Revenue by Sponsor

FY2019 Direct + Indirect Research Revenue Including Other Science =$1,013M

Note: Research Activity, Including Other Science, excluding P&L deductions for capital and reserves. Net P&L revenue is $994M.
MGH Total Research Revenue by Department

FY2019 Direct + Indirect Research Revenue by Department =$1,013M

Note: in $Millions, Shows all revenue on research funds prior to P&L deductions for capital and reserves. Net P&L total revenue is $994M.
<table>
<thead>
<tr>
<th>Rank</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>INSTITUTION</th>
<th>Total Funding FY2015</th>
<th>Total Funding FY2016</th>
<th>Total Funding FY2017</th>
<th>Total Funding FY2018</th>
<th>Total Funding FY2019</th>
<th>Percent Change 15-16</th>
<th>Percent Change 16-17</th>
<th>Percent Change 17-18</th>
<th>Percent Change 18-19</th>
<th>CAGR 15-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>JOHNS HOPKINS UNIVERSITY</td>
<td>$567,666,828</td>
<td>$634,940,987</td>
<td>$651,844,903</td>
<td>$674,583,550</td>
<td>$738,902,030</td>
<td>11.9%</td>
<td>2.7%</td>
<td>3.5%</td>
<td>9.5%</td>
<td>6.8%</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>UNIVERSITY OF CALIFORNIA SAN FRANCISCO</td>
<td>$557,140,709</td>
<td>$575,219,351</td>
<td>$593,909,890</td>
<td>$647,880,065</td>
<td>$676,848,522</td>
<td>3.2%</td>
<td>3.2%</td>
<td>9.1%</td>
<td>4.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>UNIVERSITY OF MICHIGAN AT ANN ARBOR</td>
<td>$449,440,199</td>
<td>$483,326,335</td>
<td>$521,788,658</td>
<td>$552,433,992</td>
<td>$587,714,441</td>
<td>7.5%</td>
<td>8.0%</td>
<td>5.9%</td>
<td>6.4%</td>
<td>6.9%</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>UNIVERSITY OF PENNSYLVANIA</td>
<td>$448,051,440</td>
<td>$473,635,717</td>
<td>$493,869,695</td>
<td>$511,419,097</td>
<td>$575,753,947</td>
<td>5.7%</td>
<td>4.3%</td>
<td>3.6%</td>
<td>12.6%</td>
<td>6.6%</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>UNIVERSITY OF PITTSBURGH AT PITTSBURGH</td>
<td>$425,603,684</td>
<td>$472,566,210</td>
<td>$485,268,079</td>
<td>$536,502,831</td>
<td>$543,936,673</td>
<td>11.0%</td>
<td>2.7%</td>
<td>10.6%</td>
<td>1.4%</td>
<td>6.5%</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>STANFORD UNIVERSITY</td>
<td>$421,175,041</td>
<td>$425,062,412</td>
<td>$465,856,075</td>
<td>$504,743,358</td>
<td>$524,339,123</td>
<td>0.9%</td>
<td>9.6%</td>
<td>8.5%</td>
<td>3.7%</td>
<td>5.6%</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>WASHINGTON UNIVERSITY</td>
<td>$377,643,762</td>
<td>$396,519,867</td>
<td>$435,637,200</td>
<td>$486,295,442</td>
<td>$522,136,420</td>
<td>5.0%</td>
<td>9.9%</td>
<td>11.6%</td>
<td>7.4%</td>
<td>8.4%</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>7</td>
<td>12</td>
<td>8</td>
<td>8</td>
<td>UNIVERSITY OF WASHINGTON</td>
<td>$422,917,954</td>
<td>$402,088,254</td>
<td>$443,367,966</td>
<td>$455,841,035</td>
<td>$513,046,902</td>
<td>19.1%</td>
<td>10.7%</td>
<td>8.0%</td>
<td>7.5%</td>
<td>11.2%</td>
</tr>
<tr>
<td>9</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>DUKE UNIVERSITY</td>
<td>$333,942,671</td>
<td>$397,768,992</td>
<td>$440,306,575</td>
<td>$475,338,515</td>
<td>$510,839,760</td>
<td>15.4%</td>
<td>10.7%</td>
<td>8.0%</td>
<td>7.5%</td>
<td>11.2%</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>12</td>
<td>14</td>
<td>11</td>
<td>11</td>
<td>UNIVERSITY OF NORTH CAROLINA CHAPEL HILL</td>
<td>$375,543,736</td>
<td>$408,423,743</td>
<td>$419,977,336</td>
<td>$446,660,231</td>
<td>$499,359,845</td>
<td>8.8%</td>
<td>2.8%</td>
<td>6.4%</td>
<td>11.8%</td>
<td>7.4%</td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>12</td>
<td>12</td>
<td>YALE UNIVERSITY</td>
<td>$352,274,351</td>
<td>$406,376,306</td>
<td>$424,257,606</td>
<td>$454,012,666</td>
<td>$486,802,548</td>
<td>15.4%</td>
<td>4.6%</td>
<td>6.8%</td>
<td>7.2%</td>
<td>8.4%</td>
</tr>
<tr>
<td>12</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>11</td>
<td>11</td>
<td>UNIVERSITY OF CALIFORNIA SAN DIEGO</td>
<td>$387,576,202</td>
<td>$400,413,190</td>
<td>$424,405,801</td>
<td>$459,093,333</td>
<td>$485,863,550</td>
<td>3.3%</td>
<td>6.0%</td>
<td>8.2%</td>
<td>5.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>13</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>COLUMBIA UNIVERSITY HEALTH SCIENCES</td>
<td>$330,752,289</td>
<td>$379,738,538</td>
<td>$402,667,654</td>
<td>$464,799,343</td>
<td>$476,000,433</td>
<td>14.8%</td>
<td>6.0%</td>
<td>15.4%</td>
<td>2.4%</td>
<td>9.5%</td>
</tr>
<tr>
<td>14</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>UNIVERSITY OF CALIFORNIA LOS ANGELES</td>
<td>$370,466,843</td>
<td>$380,418,703</td>
<td>$401,246,794</td>
<td>$409,733,609</td>
<td>$451,766,336</td>
<td>2.7%</td>
<td>5.5%</td>
<td>21.1%</td>
<td>10.1%</td>
<td>5.1%</td>
</tr>
<tr>
<td>15</td>
<td>19</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI</td>
<td>$257,359,170</td>
<td>$275,560,503</td>
<td>$317,816,778</td>
<td>$345,221,510</td>
<td>$368,178,622</td>
<td>7.1%</td>
<td>15.3%</td>
<td>8.6%</td>
<td>6.6%</td>
<td>9.4%</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>EMMANUEL COLLEGE</td>
<td>$287,920,427</td>
<td>$294,496,913</td>
<td>$324,991,446</td>
<td>$350,444,625</td>
<td>$365,542,683</td>
<td>2.3%</td>
<td>10.4%</td>
<td>7.8%</td>
<td>4.3%</td>
<td>6.1%</td>
</tr>
<tr>
<td>17</td>
<td>16</td>
<td>16</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>BRIGHAM AND WOMEN’S HOSPITAL</td>
<td>$333,619,020</td>
<td>$349,521,979</td>
<td>$390,450,002</td>
<td>$388,928,321</td>
<td>$336,901,804</td>
<td>4.8%</td>
<td>11.7%</td>
<td>0.4%</td>
<td>-13.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>18</td>
<td>20</td>
<td>22</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>NORTHWESTERN UNIVERSITY AT CHICAGO</td>
<td>$220,533,145</td>
<td>$257,242,821</td>
<td>$259,084,419</td>
<td>$304,846,861</td>
<td>$325,785,391</td>
<td>16.6%</td>
<td>0.7%</td>
<td>17.7%</td>
<td>6.9%</td>
<td>10.2%</td>
</tr>
<tr>
<td>19</td>
<td>32</td>
<td>29</td>
<td>26</td>
<td>20</td>
<td>20</td>
<td>NEW YORK UNIVERSITY SCHOOL OF MEDICINE</td>
<td>$178,216,104</td>
<td>$188,813,098</td>
<td>$233,532,156</td>
<td>$260,582,932</td>
<td>$313,852,265</td>
<td>5.9%</td>
<td>23.7%</td>
<td>11.6%</td>
<td>20.4%</td>
<td>15.2%</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>PARTNERS HEALTHCARE</td>
<td>$745,587,120</td>
<td>$774,263,510</td>
<td>$845,300,651</td>
<td>$926,079,856</td>
<td>$927,293,422</td>
<td>3.8%</td>
<td>9.2%</td>
<td>9.6%</td>
<td>0.1%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>
Leadership Structure

MGH Research Institute Steering Committee (RISC)

Ex Officio
President
Chief of Medicine
Chief of Surgery

Research Institute
Steering Committee

GUIDE
ECOR
Legislative Leadership
Policy

Scientific Director
Across Entire Research Enterprise

Director, Division of Clinical Res.
Clinical – Research Interface

SUPPORT
Senior VP Research
Executive Operations

PROMOTE
Executive Committee on Research

Membership

ECOR Chairs (Past, Current, Vice)
RISC Steering Committee
Elected Reps
  2 Asst. Professors
  2 Assoc. Professors
  2 Professors
Chief’s Council Reps (3)
Thematic Center Directors
Chair-Appointed Reps (6)
Subcommittee Chairs
Partners CAO
MGH and MGPO Presidents

In FY18, we awarded $10.6M to 114 investigators

<table>
<thead>
<tr>
<th>Grant</th>
<th>$</th>
<th>PIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interim Support Funds (ISF)</td>
<td>$4.5M</td>
<td>56</td>
</tr>
<tr>
<td>(Formulaic/Deliberative)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FMD &amp; Tosteson Fellowships</td>
<td>$1.6M</td>
<td>22</td>
</tr>
<tr>
<td>(Postdoctoral Awards)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECOR Awards &amp; Prizes</td>
<td>$2.0M</td>
<td>31</td>
</tr>
<tr>
<td>MGH Research Scholars</td>
<td>$2.5M</td>
<td>5</td>
</tr>
</tbody>
</table>

GUIDE
Three Target Audiences

The Public
Marketing and Communications

- Newsletters
  - Snapshot of Science
  - From the Lab Bench
  - Research Roundup

Research Institute Blog
- 300 published posts
- 12,000 page views
- 8,600 visitors

Prospective Donors
Philanthropic Outreach

- Research Scholars Program
  - (60th scholar in 2019)
- RI Endowed Chairs
  - (four secured as of 2018)
- Fund Raising Meetings
  - 40+ lunches, tours annually
- Res. Inst. Advisory Council
  - Donor identification, strategies
- 1st Quarter FY18
  - $24.3M raised for research

Industry
Collaborations and Partnerships

- Strategic Alliances Committee
- 7 Thematic Programs (189 PIs Total)
- Epigenetics
- Cancer Immunotherapy
- Neuroinflammation in Neurodegeneration
- Microbiome
- Cardiometabolics
- Rare Diseases
- Antimicrobial Resistance

Industry
Collaborations and Partnerships

- Strategic Alliances Committee
- 7 Thematic Programs (189 PIs Total)
- Epigenetics
- Cancer Immunotherapy
- Neuroinflammation in Neurodegeneration
- Microbiome
- Cardiometabolics
- Rare Diseases
- Antimicrobial Resistance

Research Portfolio
- Portfolio Café’ sessions

Training Program
- Bridging Academia with Industry
  - 20-week course, problem-driven

PROMOTE
Division of Clinical Research

Mission: Increase the quality, quantity, and efficiency of translating basic science advances into improved care for our patients

Centers
- Bioinformatics Consortium
- Biostatistics
- Clinical Research Education
- Quantitative Health
- Clinical Research Center
- Community Access (CARE)
- Pediatric Translational Research Center
- Trial Innovation Unit
- Munn Center for Nursing Research

Units
- Comparative Effectiveness Research Unit
- Drug Discovery Rounds
- Global Health Research
- Imaging Biomarkers
- Information Technology
- Omics
- Patient-Centered Outcomes
- Philanthropy Education
- Qualitative
- Survey Research

Cornerstone Initiatives

Partners BioBank at MGH
- Fully-consented blood and DNA samples
- Patients consented for re-contact
- 100,000 samples collected April 2019
- 25,000+ genotyped thus far

Translational Research Center
- Fully-staffed 18-bed inpatient unit
- Pre-clinical -> First in Humans -> Phase 2B
- IND and FDA in-house expertise
- Many studies since opening in Nov. 2016
Top “10” Things Every MGH Researcher Should Know!

0. **YOU are a member and important part of the Research Institute!**
   The Research Institute was started to support, guide and promote research at Mass General, and it encompasses all researchers and support staff.

1. **The MGH Research Intranet makes a great homepage!** ([https://mghresearch.partners.org/](https://mghresearch.partners.org/))
   The Intranet quickly connects you to important research resources, including:
   a. One-click access to Google, Partners Research Navigator, Insight, PeopleSoft, [Ellucian](https://mghresearch.partners.org/), the Partners Phone Directory, and MGH Cafeteria Menus
   b. A help and how-to page with over 60 topics
   c. A comprehensive research resource guide
   d. The on-call number to speak with a senior research administrator at any time:
      617-726-HOW2 (4692)

2. **The Executive Committee on Research (ECOR) web site is a resource for internal grants and awards.** ([http://ecor.mgh.harvard.edu](http://ecor.mgh.harvard.edu))
   a. See internal funding opportunities (faculty awards, interim support grants, postdoctoral awards and external award nominations
Prime Directive for Research Support

- Focus on the researcher and support the research mission and bring value to it
- Maximize the researcher's time at the bench by eliminating or simplifying ancillary obligations

For immediate assistance, contact the Research Administrator on call at 617-726-HOW2 (4692)
Prime Directive for Research Support

- Focus on the researcher
- Further the research mission and bring value to it
- Maximize the researcher's time at the bench by eliminating or maximizing the efficiency of their ancillary obligations

For immediate assistance, contact the Research Administrator on call at 617-726-HOW2 (4692)
Prime Directive for Research Support

- Focus on the researcher
- Further the research mission and bring value to it
- Maximize the researcher's time at the bench by eliminating or maximizing the efficiency of their ancillary obligations

For immediate assistance, contact the Research Administrator on call at 617-726-HOW2 (4692)
Prime Directive for Research Support

- Focus on the researcher
- Further the research mission and bring value to it
- Maximize the researcher's time at the bench by eliminating or maximizing the efficiency of their ancillary obligations

For immediate assistance, contact the Research Administrator on call at 617-726-HOW2 (4692)
MGH Research Training and Education Survey

- The survey assists in creating a training program tailored to your job role
- Research training survey is required by all employees in research or research support roles and must be completed leaving orientation today
  - Courses span a variety of topics and may include chemical safety, clinical research conduct, and human subjects training
- The survey can be completed on your smart phone or on a computer

Survey Link
https://hub.partners.org/research/surveys/training/

Need help accessing the survey? Contact team@hub.partners.org
Involvement in Research

In your job are you engaged in research? (required)

- Yes
- No

(1) Engaged refers to those who are involved in the conduct of research. For example a research fellow, principal investigator, clinical research coordinator or research assistant would be engaged in the conduct research.

In your job do you provide support to people who are actively engaged in research? (required)

- Yes
- No

(1) Supporting research refers to those in an analytical, financial or administrative role. For example a grant administrator supports research by managing finances.
https://learn.partners.org
WELCOME to The Mass General Research Institute!