

2018



Tomorrow's Doctors, Tomorrow's Cures

# MD-PhD: Is it Right for Me?

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Lead

**Communications Committee of the MD-PhD  
Section of the Group of Research, Education,  
and Training (GREAT) AAMC**

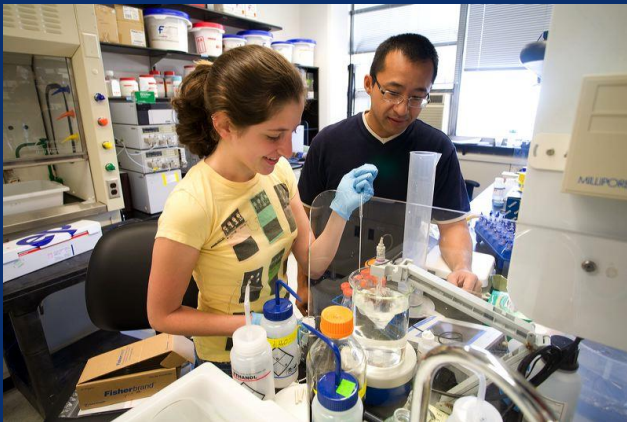
- **Careers**
- **Application Process**



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# Who are biomedical scientists?

## People who...



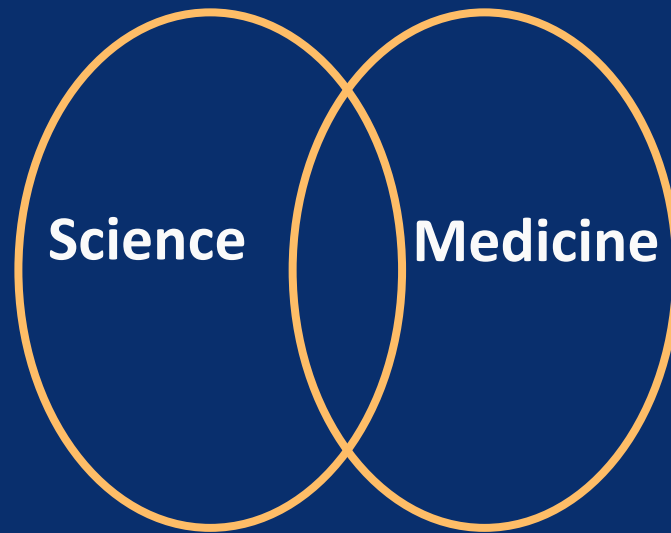
- Are *fascinated* by human biology and disease
- Have an *aptitude* for science  
are *curious* about how/why things work the way they do
- Are *creative*
- Have the *persistence* to see a project from small beginnings to great discoveries

Biomedical scientists want to use the power of research to understand and cure human disease

# Multiple Pathways to become a Biomedical Scientists

- **MD graduates** pursue research training during fellowship years
- **PhD graduates** conduct research with clinical translational training ([www.aamc.org/phd](http://www.aamc.org/phd))
- **MD-PhD graduates** combine careers of the MD and PhD
  - Mentored, integrated research and medical training
  - Conduct mechanism-based research
  - MD & PhD may be completed separately

*MD-PhD's blend  
discovery of new knowledge  
with clinical medicine  
at the intersection of science and medicine*



# Where is MD-PhD training done?

- There are ~ 90 MD-PhD programs affiliated with medical schools:
  - 45 programs are partially supported by training grants from NIGMS known as Medical Scientist Training Programs or MSTPs
- Most MD-PhD programs offer financial support: stipends, tuition waivers and health insurance

# MD-PhD Program Overview

Goal: Prepare men and woman for a career that combines research and clinical care, with an emphasis on research

Years 1-2	Years 3-6	Years 7-8
Mostly Med School	Some Med School	Mostly Med School
Some Grad School	Mostly Grad School	Some Grad School

- Curriculum integrates MD and PhD training
  - **complete both in 7 or 8 years**
- Many PhD fields are possible, but not all
  - **Non-traditional PhD training opportunities**
- Training can be free. Most programs offer extensive financial support

# Program Opportunities

- Student Council
- MD-PHD specific courses and workshops
- Visiting scholar seminars
- Retreats
- National conferences and organizations
- Mentoring for Graduate and Residency Training



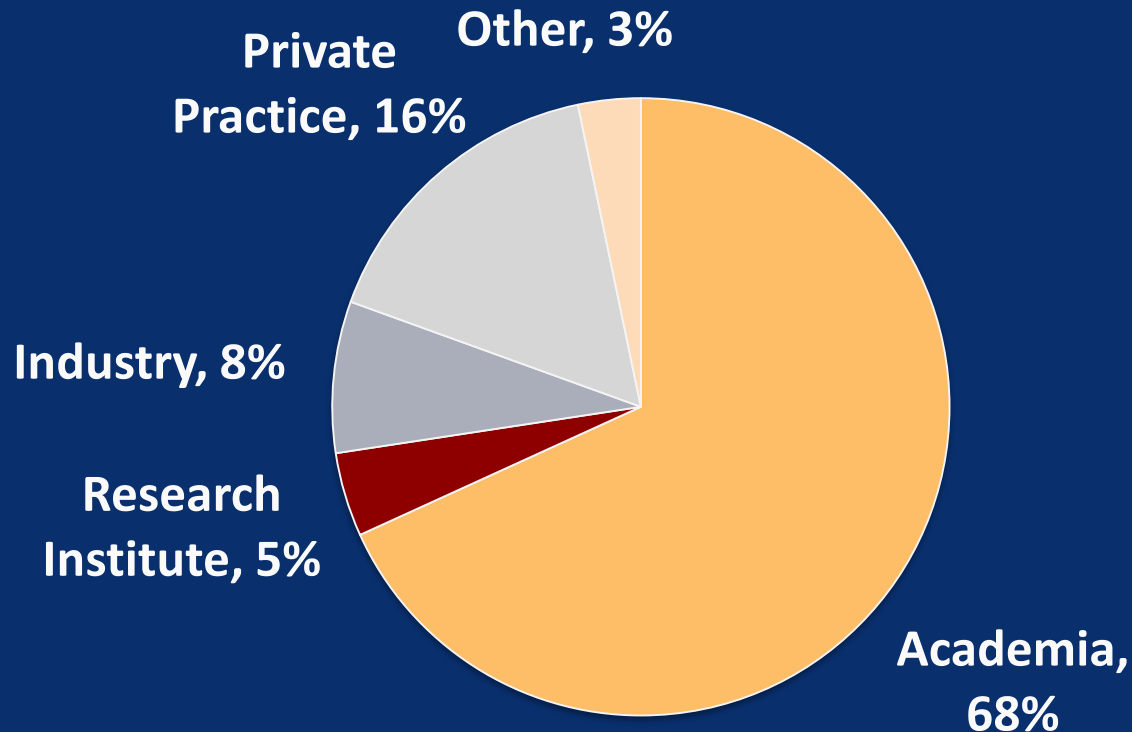
A community, not just a “program”

# Post-Training Pathways

- ~ 95% of graduates pursue residencies/fellowship training:
  - *3 to 7+ years of training, varies with specialty*
  - *fellowship offers opportunity to return to research*
- ~75% of graduates become medical school faculty
- ~65% of graduates continue to do significant (> 50%) research
- ~40% of NIH grants to MDs are received by MD-PhD
- Many graduates fill academic leadership roles
- Alternate pathways include working in industry and at research institutions (NIH, HHMI, etc.).



# MD-PhD Careers: long term outcomes



*Brass et al., Acad. Med 85: 692 (2010)*





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# Applying to MD-PhD Programs

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# Key Elements in a successful MD-PhD application

- Applicants with integrity and maturity who show:
  - Creativity
  - Leadership potential and congeniality
  - Address big questions in biomedical research
- Productive research experience(s)
- Personal statement – why MD-PhD?
- Letter of recommendation from research mentors
- Outstanding academic record, including MCAT scores
- Experience in caring for others
- Extracurricular activities and life experiences



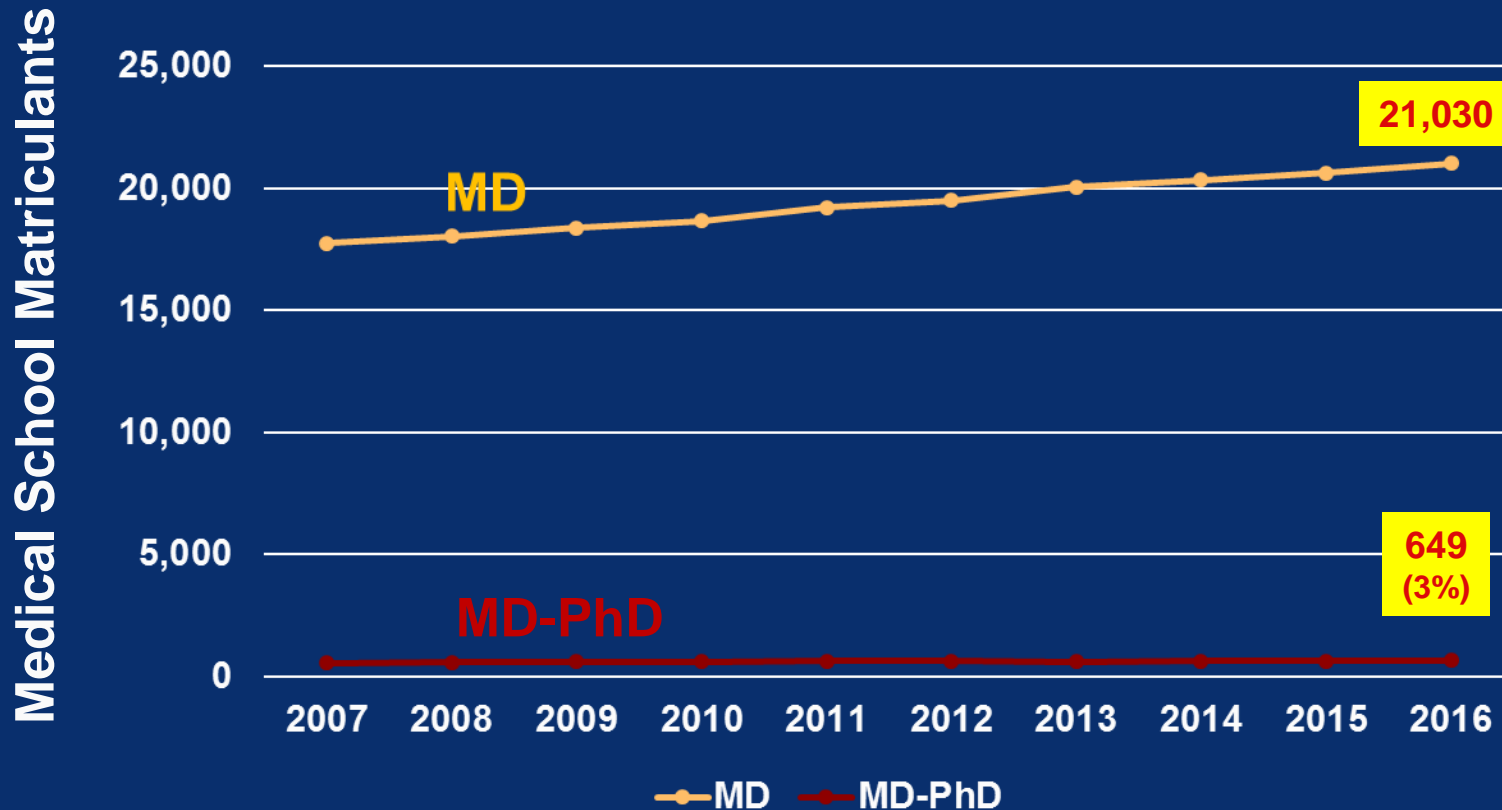
# What constitutes a substantive research experience?

- Sufficient research experience to understand what you are getting into:
  - Multiple summer projects
  - Senior thesis research
  - One or more years pursuing research activities after undergraduate degree
- Familiar with the idea of testing a hypothesis



# MD-PhD Admissions

## National Data



Data source: AAMC matriculation reports



# MD-PhD Statistics -2017-18\*

- Nationally, there are 5,458 MD-PhD trainees
- In the 2017-18 entering MD-PhD class
  - 44% of MD-PhD are women (44% of MD-PhD applicant pool are women)
  - 16% are students of diversity
- ~1/3 of MD-PhD applicants entered an MD-PhD Program
- 13 applications submitted /applicant (avg.)

\*AAMC Table B-8/B-9/B-11: MD-PhD Matriculant Tables

# MD-PhD Applicant Outcomes (2017-18)\*

## Total Applicant Pool

(n= 1,858)

	<u>Mean</u>	<u>Range</u>
• MCAT	510	472 – 528
• GPA	3.6	2.2 - 4.0

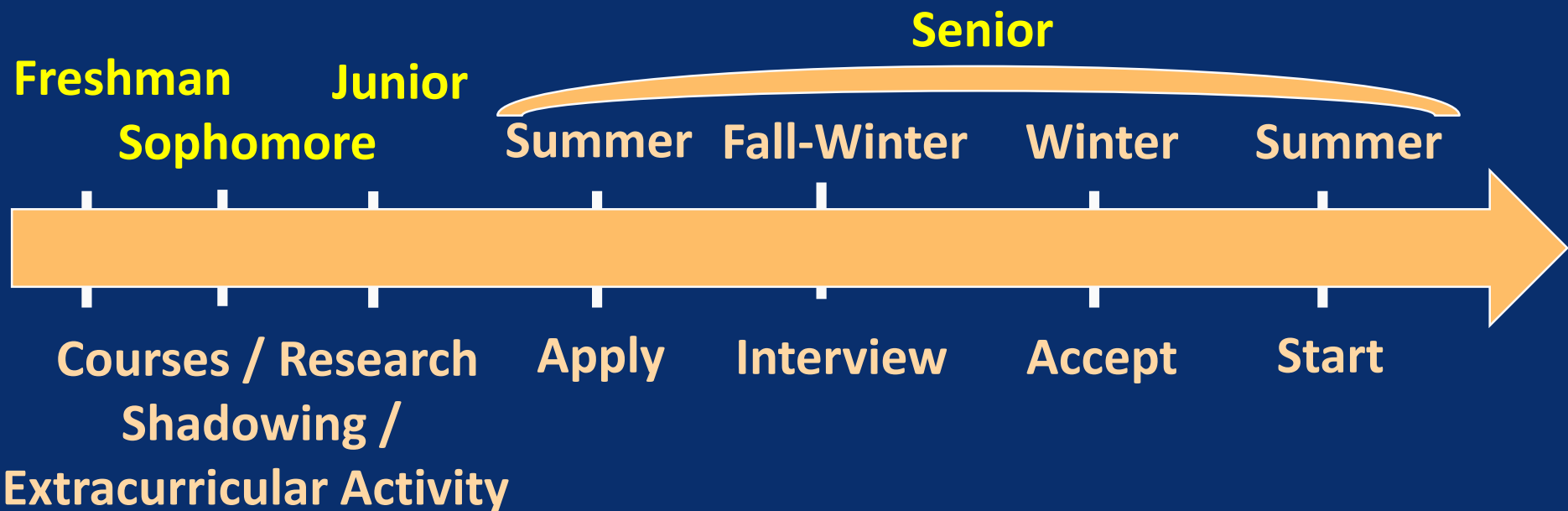
## Matriculants

(n= 646) 35%

	<u>Mean</u>	<u>Range</u>
• MCAT	515	495-528
• GPA	3.8	2.8 - 4.0



# Application Timeline to matriculate into an MD-PhD Program: a 4-year effort!



# Interviewing at MD-PhD Programs

## How you are evaluated:

- Show your positive personality and creativity
- Have strong communication skills
- Show interest in the program
- Describe the details of your research experiences
- Define your motivation for pursuing a dual degree
- Be able to address all the items in your application
- Define career goals
- Have specific questions about the program

# What should students look for in an MD-PhD program?

- **Research environment**
  - program activities, faculty, students and research opportunities
- **Academic environment**
  - science and clinical curricula, program integration
- **Alumni achievement and community involvement**
- **Location**
- **A sense of belonging or “good fit”**

# For more information:



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- <https://www.aamc.org/mdphd>

- [NIH.gov/training](https://www.nih.gov/training)

- Role models

- Knowledgeable people who care about you:

- Directors and Mentors (Summer Program and Post-Bac)
- Professors, Lab Heads and Department Chairs
- MD-PhD Students, Graduate Students and Post-Docs
- Career Advising Offices
- PhD and MD-PhD Program Directors



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