Considerations for a Career in the Health Professions

How you can support your pre-health student

Office of Health Professions Advising (HPA)
Kate Fukawa-Connelly, Director
Princeton University Family Weekend 2015

Agenda

- What is pre-health?
- Facts & myths about being pre-health
- What we do to support students
- What you can do to support them (and us)!
Pre-health @ Princeton

- Allopathic Physician
- Audiologist
- Biostatistician
- Certified Nurse-Midwife
- Chiropractor
- Dentist
- Dietitian
- Epidemiologist
- Genetic Counselor
- Health Educator
- Health Science Writer
- Health Scientist
- Medical Illustrator
- Naturopathic physician
- Nurse Practitioner
- Occupational Therapist
- Optometrist
- Osteopathic Physician
- Pharmacist
- Pharmacologist
- Physical Therapist
- Physician Assistant
- Physician Scientist
- Podiatrist
- Recreational Therapist
- Toxicologist
- Veterinarian

www.explorehealthcareers.org
Pre-health @ Princeton

About 350-450 in a given class year enter with an interest in the health professions

- 100-130 from a given class year will apply to medical, dental, and veterinary school
- The majority of students will take time off before professional school
- Nationally, the average age at med school matriculation is 24
Pre-health Facts & Myths

Academic Preparation

- **Myth:** “I plan on ‘doing premed,’ so I need to major in biology.”
- **Fact:** This is your chance to study what you love, while balancing it with strong preparation in the sciences.

“A study at Harvard Medical School has shown that students are successful in their medical studies regardless of undergraduate concentration, providing that they have had adequate science preparation. Students are urged to strive for a balanced and liberal education rather than specialized training. No preference is given to applicants who have majored in the sciences over those who have majored in the humanities.” – [Harvard Medical School Admissions website](http://www.med.harvard.edu/admissions)
Academic Pre-Health Preparation

- Go to our website: princeton.edu/hpa → Pre-Health Basics
- Download “Preparing for a Career in the Health Professions” for comprehensive course and activity planning information
## Pre-health @ Princeton

There is no pre-med concentration or certificate

A sampling of Princeton alums who entered med school in Fall 2015:

<table>
<thead>
<tr>
<th>Class of</th>
<th>Concentration</th>
<th>Medical School</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Anthropology</td>
<td>UCSF MD/PhD</td>
</tr>
<tr>
<td>2015</td>
<td>Chemistry</td>
<td>U Penn</td>
</tr>
<tr>
<td>2014</td>
<td>Chemical &amp; Biological Engineering</td>
<td>Johns Hopkins</td>
</tr>
<tr>
<td>2014</td>
<td>Economics</td>
<td>Columbia</td>
</tr>
<tr>
<td>2014</td>
<td>Ecology &amp; Environmental Bio</td>
<td>Harvard</td>
</tr>
<tr>
<td>2014</td>
<td>History</td>
<td>Chicago Pritzker MD/PhD</td>
</tr>
<tr>
<td>2013</td>
<td>Molecular Biology</td>
<td>Yale</td>
</tr>
<tr>
<td>2014</td>
<td>Psychology (Neuroscience)</td>
<td>Stanford MD/PhD</td>
</tr>
<tr>
<td>2015</td>
<td>Psychology</td>
<td>Wash U</td>
</tr>
<tr>
<td>2012</td>
<td>Religion</td>
<td>UCSF</td>
</tr>
</tbody>
</table>
MD Outcomes 2011-14 by area of study

- Science, Accepted: 53%
- Science, Not Accepted: 6%
- Social Sciences, Accepted: 19%
- Social Sciences, Not Accepted: 7%
- Engineering, Accepted: 2%
- Engineering, Not Accepted: 2%
- Humanities, Accepted: 2%
- Humanities, Not Accepted: 1%
Pre-health Facts & Myths

Academic Preparation

- CBE 439 – Quantitative Physiology & Tissue Design
- CBE 440 – The Physical Basis of Human Disease
- CHM 440 – Drug Discovery in the Genomics Era
- EEB 314 – Comparative Physiology
- EEB 325 – Mathematical Modeling in Biology and Medicine
- EEB 327 – Immune Systems: Molecules to Populations
- MOL 345 – Biochemistry
- MOL 380 – Modern Microbiology & Disease
- MOL 459 – Viruses: Strategies & Tactics
- MOL 523 – Molecular Basis of Cancer
- PSY 336 – The Diversity of Brains
- NEU 408 – Cellular & Systems Neuroscience
Pre-health Facts & Myths

Academic Preparation

- AAS/ANT 403 – Race and Medicine
- ANT 335 – Medical Anthropology
- CHV 391 – Morals, Markets and Health
- CLA 345 – Ancient Greco-Roman Medicine
- ENV 304 – Disease Ecology, Economics and Policy
- GHP 350 – Critical Perspectives on Global Health & Health Policy
- PSY 317 – Health Psychology
- SOC 364 – Sociology of Medicine
- SOC 365 – Health, Society and Politics
- SPA 205 – Medical Spanish
- STC 398 – Health and Human Rights in the World Community
- WWS/MOL 320 – Human Genetics, Reproduction & Public Policy
Pre-health Facts & Myths

Academic Preparation

- **Myth:** "I can’t be pre-med and study abroad."
- **Fact:** It requires careful planning (with the assistance of [study abroad](#) and HPA advisers), but students should absolutely not sacrifice the opportunity to study/intern abroad!
  - [International Internship Program](#) - paid summer internships in clinical/medical settings abroad.
  - Ecology & Evolutionary Biology concentrators can spend a [semester](#) or summer term abroad in Bermuda, Kenya or Panama
  - [Global Health certificate students](#) integrate global health/policy research experience into their independent work
  - Princeton in [Asia](#), [Africa](#), and [Latin America](#) Fellowships during a glide year before medical school
Pre-health Study Abroad Experiences

- **Academic semester abroad, science/medicine focus**
  - Kenya – Tropical Biology & Panama – Tropical Biology
  - Oxford University Biochemistry exchange
  - Stockholm – Karolinska Institute Exchange Biomedicine program
  - University of Cape Town
  - Zurich – ETH

- **Summer & Glide Year Fellowships – various opportunities through these and other programs:**
  - Health Grand Challenges Internships (summer)
  - Undergraduate Research Fellowships (summer)
  - Princeton International Internship Program (summer)
  - Princeton in Asia, Africa, and Latin America Fellowships (glide year)
  - Fulbright Fellowship, Gates Cambridge Fellowship, Marshall Scholarship, Rhodes Fellowship, Rotary Scholarship, Sachs Scholarship (glide year)
Pre-health Facts & Myths

- **Academic Preparation**
  - **Myth:** “I had a bad semester, now I’ll never get into medical school. I should just give up.”
  - **Fact:** One bad semester is not the end of the world. But, you have to “diagnose and treat” -- step back, assess, and come up with a plan of action that is more likely to lead to success.

Then, it’s important to decide if the motivation to pursue medicine is strong enough to follow through on this plan and make the necessary sacrifices.
Academic Resources

- Faculty/Preceptors
- Office Hours
- Review Sessions
- McGraw Center for Teaching & Learning
  - Customized Individual Learning Consultations
  - Academic Strategies Workshops
- Study Hall for Chemistry, Math, Physics and Stats
- Review Sessions for General and Organic Chem
- Referrals to supplemental study materials
- Writing Center
- Director of Studies / Residential College Dean
Note that many students who were accepted with lower GPAs sought additional academic record enhancement after graduating.

Average GPA for accepted students in 2015:
- Princeton: 3.51 science, 3.55 cumulative
- National: 3.64 science, 3.70 cumulative

*Note that many students who were accepted with lower GPAs sought additional academic record enhancement after graduating.*
Average MCAT for accepted students in 2015:

- Princeton: VR 10.9, PS 11.9, BS 11.8
- National: VR 9.4, PS 9.9, BS 10.4
Myth: “As long as I do well in my classes, I’ll get into medical school.”

Fact: Schools are interested in students’ holistic preparation, including a number of “core competencies” endorsed by the Committee on Admissions of the American Association of Medical Colleges:

- Integrity & ethics
- Reliability & dependability
- Service orientation
- Social & interpersonal skills
- Teamwork
- Capacity for improvement
- Resilience & adaptability
- Cultural competence
- Oral communication
Importance of Application Data to offer interviews / acceptances

Invite to Interview
- GPA: Science
- GPA: Cumulative
- MCAT Total scores
- Letters of recommendation
- Community Service: Medical
- Personal statement
- Medical/Clinical work experience
- Community Service: non-medical

Offer Acceptances
- Interview recommendation
- Letters of recommendation
- GPA: Science
- Community Service: Medical
- GPA: Cumulative
- MCAT Total scores
- Personal statement
- Medical/Clinical work experience
- Community Service: non-medical

Source: AAMC Brief
Pre-health Facts & Myths

Activities

- **Myth:** “I did a lot of volunteering in high school so I don’t have to do any now.”
- **Fact:** Medicine is a service profession. Students who want to be doctors to “help people” will have trouble convincing admissions committees of this desire if they have shown no evidence of service for four years.

  - [Student Volunteer Corps](#)
  - [Breakout trips](#)
  - [Service-oriented internships](#)
Pre-health Facts & Myths

Activities

- **Myth:** “Princeton has no medical school, so I have no access to medically relevant activities.”
  - **Student groups**
  - **Student Volunteer Corps projects**
  - Alumni/Professional connections
    - [Doctor is In](#) Speaker Series
    - Health Professions School visits
    - [Princeternships](#)
    - PICS internships
    - [Alumni Career Network](#) (how to network)
    - HPA Shadowing List
  - **Hospital volunteering**
  - Hospital Grand Rounds
  - **EMT volunteering**
Pre-health Facts & Myths

Application Prep

- **Myth:** “I should hurry to get through the pre-med courses, so I can apply as soon as possible.”

- **Fact:** The majority of applicants from Princeton and nationwide take time off between undergrad and medical school for a variety of reasons. Best to do well, not quickly.

![Pie chart showing % of applicants by class year]

- 26% of applicants by class year 2016
- 30% of applicants by class year 2015
- 24% of applicants by class year 2014
- 20% of applicants by class year 2013 or earlier
Pre-health Facts & Myths
Application Prep

Sample Gap Year/Glide Year Endeavors

- National Fellowships: Fulbright, Gates Cambridge, Rhodes
- Playing professional ice hockey and shadowing team doctors
- Princeton AlumniCorps P55 Fellowships in community health and education positions
- Princeton Labouisse Fellowship – health education in South Africa
- Executive Director, Wellbody Alliance NGO in Sierra Leone
- Americorps volunteer working in community health centers
- Clinical assistant positions in private practices and community clinics
- Research assistant positions at teaching hospitals, research centers
- **Postbac record enhancer** course work
Pre-health Student Resources

- HPA Office is at 36 University Place, Floor 2M (above the U Store)
- Two advisers
  - Drop in hours and appointments available daily
- General email: hpa@princeton.edu
- Regular programming
- Application assistance
- Weekly newsletter
- HPA Lending Library
- www.princeton.edu/hpa
- facebook.com/princetonhpa
## HPA AND YOUR STUDENTS

<table>
<thead>
<tr>
<th>HPA’s responsibilities</th>
<th>Student’s responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide information</td>
<td>Contact us!</td>
</tr>
<tr>
<td>Be available</td>
<td>Gather opinions</td>
</tr>
<tr>
<td>Advise (≠ require/prescribe)</td>
<td>Take action</td>
</tr>
<tr>
<td>Refer as needed</td>
<td>Ultimately be responsible for the decisions that are best for you and your future</td>
</tr>
</tbody>
</table>
Final Words

• Help your student find the balance between academics and co-curricular activities.
• Encourage them to explore something new.
• Help them find some meaningful clinical experience early.
• Be sure they stop by our offices at least once a semester to check in!
• Be supportive as they find their own paths to health professions school (or to another career).

Questions? Email hpa@princeton.edu