Preparing for a Career in the Health Professions

Fall 2015

Allison Smith
Health Professions Advising
Outline of Session

- Working with HPA Advisers & Office
- Becoming a strong health professions school applicant
  - Academics
    - Coursework and MCAT
  - Activities
    - Clinical and others
  - Application process
    - Letters of rec, interviews
HPA AND YOU

HPA Vitals: September 27

Question of the Week:

Question: Hi HPA, What's involved in getting a joint degree like MD/PhD? I'm thinking it might be for me.

The Office of Health Professions Advising serves students and alumni of Princeton University who are considering careers in the health professions. We are available at every step along the “pre-health” path, from choosing the courses, to securing clinical and research opportunities, to making decisions about whether or not to pursue medicine, and finally throughout the application process. We are your home base for academic and non-academic preparation for health professional school.

We are located at 36 University Place, Suite 230. For an interactive campus map, click here. To learn how to meet with an adviser, click here.
# HPA AND YOU

## Our responsibilities
- Provide information
- Be available
- Advise (≠ require/prescribe)
- Refer as needed

## Your responsibilities
- Contact us!
- Gather opinions
- Take action
- Ultimately be responsible for the decisions that are best for you and your future
Preparing for a Career in Medicine

Move away from…

- Will medical schools think it’s bad if I do x?
- How much of activity y do I need to do?
- What do I need to do to get into medical school?

Consider…

- What is my rationale for doing x?
- What do I hope to gain from activity y, and do I feel that I have achieved it? Will others have evidence that I have achieved it?
- What qualities do I want to possess as a future physician, and how do I develop and demonstrate those qualities?
Preparing for a Career in Medicine

Diana Shi ‘13

Psychology concentrator with a Neuroscience Certificate. M3 at Harvard Medical School.

Key Princeton activities: joint research project with Profs. Sam Wang & Martin Semmelhack; EMT at West Windsor; McGraw Center fellow; UAID (Wellbody) cofounder; organic chemistry tutor; Princeton University Orchestra; Orange Key tour guide.

“I tried to always question why I was doing an activity. I think this helped me make sure that I was doing something because I really enjoyed it and felt sincerely about it, and not because I thought I needed to do it for med school. I think that was a really important guideline that I followed throughout my four years at Princeton.”
Holistic Admissions in Medicine: The Competencies

- **Thinking and Reasoning:** Critical Thinking, Quantitative Reasoning, Scientific Inquiry, Written Communication
- **Science Competencies:** Understanding of Living Systems and Human Behavior
- **Interpersonal Competencies:** Service Orientation, Social Skills, Cultural Competence, Teamwork, Oral Communication
- **Intrapersonal Competencies:** Ethical Responsibility to Self & Others, Reliability & Dependability, Resilience & Adaptability, Capacity for Improvement

https://www.aamc.org/initiatives/admissionsinitiative/competencies/
### Importance of Applicant Data in medical school admissions

**Table 1. Mean Importance Ratings of Academic, Experiential, and Demographic Application Data Used by Admissions Committees for making Decisions about which Applicants to Receive an Interview Invitation and Offer Acceptance (N=127)**

<table>
<thead>
<tr>
<th>Mean Importance Ratings</th>
<th>Academic Metrics</th>
<th>Experiences</th>
<th>Demographics</th>
<th>Sources of Applicant Information</th>
</tr>
</thead>
</table>
| Highest Importance Ratings ($\geq 3.0$) | • UGPA: Cumulative science/math  
  • MCAT total score  
  • Upward or downward grade trend  
  • UGPA: Cumulative total  
  • Performance in a post-baccalaureate program  
  • Selectivity of undergraduate institution (Private) | • Healthcare experience  
  • Community service/volunteer experience  
  • Experience with underserved populations  
  • Navigated through cultural barriers or challenges  
  • Leadership experience | • U.S. citizenship/permanent residency (Public)  
  • State residency (Public) | • Interview assessments  
  • Letters of evaluation or recommendation  
  • Personal statements |

Source: AAMC Report
Five Factors for Admission to Health Professions School

1. **Academic Orientation**
   - Classes, grades
   - Standardized test scores

2. **Activities**
   - Clinical
   - Community service, research, leadership, cultural competence
   - Any that make you unique and help you to develop as a person

3. **Letters of Recommendation**
4. **Application and Timing**
5. **Interview/Personal Contact**
## Five Factors for Admission: Academics

### Pre-med Pre-requisites

<table>
<thead>
<tr>
<th></th>
<th>Gen Chem</th>
<th>Organic Chem</th>
<th>Biochem</th>
<th>Biology</th>
<th>Physics</th>
<th>Math</th>
<th>English/Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harvard</strong></td>
<td>2 years of Chemistry to include General, Organic and Biochemistry</td>
<td>1 yr</td>
<td>1 yr</td>
<td>calc + stats</td>
<td>1 yr</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Johns Hopkins</strong></td>
<td>1 yr</td>
<td>1 sem</td>
<td>1 sem</td>
<td>1 yr</td>
<td>1 yr</td>
<td>calc + stats</td>
<td>1 yr</td>
</tr>
<tr>
<td><strong>Columbia</strong></td>
<td>2 years of Chemistry to include General, Organic (one year) and Biochemistry</td>
<td>1 yr</td>
<td>1 yr</td>
<td>1 yr</td>
<td>1 yr</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cornell</strong></td>
<td>1 yr</td>
<td>1 yr (2 sem orgo or one orgo/one other)</td>
<td>1 yr</td>
<td>1 yr</td>
<td>calc + stats</td>
<td>1 yr</td>
<td></td>
</tr>
<tr>
<td><strong>U Chicago</strong></td>
<td>Focus on competencies rather than specific courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Penn</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Five Factors for Admission: Academics
HPA Recommendations for Pre-Meds

- **General Chemistry with Lab:**
  - CHM 201 (207) (fall) & CHM 202 (spring)

- **Organic Chemistry with Lab:**
  - CHM 303 (fall) & CHM 304 (spring)

- **Biology with Lab:**
  - EEB 211 (fall) & MOL 214 (fall/spring) – can be taken in either order

- **Physics with Lab:**
  - PHY 101 (fall) & 102 or 108 (spring) or PHY 103 (fall) & 104 (spring)

- **Biochemistry:**
  - MOL 345 (fall/spring)
Five Factors for Admission: Academics

HPA Recommendations for Pre-Meds

- 1 semester Calc (or AP), 1 semester Stats
- 1 year English (reading, analyzing, writing about literature)
- Additional MOL or EEB courses of interest
- AP supplemented by at least one semester of advanced work in the same discipline
- Thoughtful selection of Gen Ed courses
  - SA: Abnormal Psyc; Intro Sociology; Race & Ethnicity; Health Psyc
  - EC: Developmental Psyc; Diversity of Brains
  - EM: Ethics & Public Health; Race & Medicine
- Double check your state schools for other specific courses: email schools for clarification if desired
  - About 60% of accepted MD students return to their state of residence
Five Factors for Admission: Academics
Pre-med Pre-requisites

Pre-Health Prerequisite Timeline Suggestions

■ Don’t
  □ Split a course sequence (for example, try to avoid taking Gen Chem I at one school, and Gen Chem II at another).
  □ Take more than one sequence during a summer (and take summer courses at a school that’s similar to Princeton in terms of prestige).

■ Do:
  □ Focus on doing well, not on finishing quickly.
  □ Take all of your pre-med prerequisites for a grade (not PDF!)
  □ Work with an adviser in your potential concentration, and with HPA, as you plan your classes.
  □ Use your resources: visit office hours and McGraw often!
Mapping the Semester for Balance & Success: Sep. 25

Learning Consultations: Meet 1 on 1 for academic advice and strategies Sep. 14

Review Sessions: Chemistry 201 & 303 problem-solving sessions TBA

McGraw Tutoring: CHM, ECO, MAT, PHY, STATS: Starts September 27, 7:30pm
  - Study Hall Group Tutoring
  - Individual Tutoring

Principedia: Insiders’ Guide to Princeton Academics

http://www.princeton.edu/mcgraw
Upcoming McGraw Workshops

To sign up, look for email fliers or just show up at the following:

Workshop #1: Mapping Out Your Semester: Time Management for Balance and Success
- 9/25, 2:00-3:00PM, Frist 330

Workshop #2: Make the Most out of Your Textbook and Course Resources: Physical Sciences and Mathematics
- 9/28, 6:00-7:00 PM, Butler College PDR
Five Factors for Admission: Academics

Choice of Concentration

- Transience and the Lives Therein: An Ethnography of Global Health and Care in Sierra Leone (ANT)
- Nanoparticles for Drug Delivery: Characterization of Particle Surface Density and Macrophage Uptake Mechanisms (CBE)
- Hospital vs Hospice: An Empirical Analysis of the Determinants of Care in End-of-Life Patients (ECO)
- Of Mice and Men: Industry Challenges to Animal Studies in Twentieth Century Carcinogen Regulation (HIS)
- Unforgettable in Every Way: Weaving Together Voices of Alzheimer’s Disease (MOL)
- Justice and Equality in Healthcare Resource Allocation: the Bi-Directional QALY Method (PHI)
- Midwives and Medicalization: Reading Childbirth in Russian Literature (SLA)
- Hypertension: A Consequence of Racial Discrimination? (SOC)
- Societal Implications of Vaccine Recommendations: Case Study of Pneumococcal Conjugate Vaccine (WWS)
Five Factors for Admission: Academics

Standardized Test

- **MCAT**
  - 6.25 hours content, plus 1.25 hours breaks
  - Computer-based
  - Scores valid for 3 years
Five Factors for Admission: Academics

Standardized Test

Section IV: Critical Analysis & Reasoning

All three sections require **Scientific Inquiry and Reasoning Skills**, including reasoning about the design of research and interpreting statistical data.

Section IV: Critical Analysis & Reasoning: reading passages
Five Factors for Admission: Academics
Standardized Test

- **GRE**: verbal, analytical, quantitative
- **DAT**: Natural Sciences (Biology, General and Organic Chemistry), Perceptual Ability, Reading Comprehension, and Quantitative Reasoning
- **OAT**: Natural Sciences (Biology, General and Organic Chemistry), Reading Comprehension, Physics and Quantitative Reasoning
<table>
<thead>
<tr>
<th>Glide Year I</th>
<th>Glide Year II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2015-2018:</strong></td>
<td><strong>2015-2018:</strong></td>
</tr>
<tr>
<td>prereqs, activities</td>
<td>prereqs, activities</td>
</tr>
<tr>
<td><strong>Summer 2018:</strong></td>
<td><strong>2018-19:</strong></td>
</tr>
<tr>
<td>study &amp; take MCAT</td>
<td>finish prereqs, classes, thesis</td>
</tr>
<tr>
<td>thesis research</td>
<td>prep application</td>
</tr>
<tr>
<td><strong>2018-19:</strong></td>
<td><strong>Spring 2019:</strong></td>
</tr>
<tr>
<td>classes, thesis</td>
<td>study &amp; take MCAT</td>
</tr>
<tr>
<td>prep application</td>
<td></td>
</tr>
<tr>
<td><strong>June 2019:</strong></td>
<td><strong>June 2019:</strong></td>
</tr>
<tr>
<td>graduate, apply</td>
<td>graduate, apply</td>
</tr>
<tr>
<td><strong>2019-20:</strong></td>
<td><strong>2019-20:</strong></td>
</tr>
<tr>
<td>work/fellowship, interviews</td>
<td>work/fellowship, interviews</td>
</tr>
<tr>
<td><strong>Fall 2020:</strong></td>
<td><strong>Fall 2020:</strong></td>
</tr>
<tr>
<td>medical school</td>
<td>medical school</td>
</tr>
</tbody>
</table>

In 2014, about 58% of students nationally and over 70% of Princeton applicants had taken time off between undergrad and allopathic medical school.
Five Factors for Admission: Academics
Putting it all together

Direct Entry

- **2015-2018**: prereqs, activities
- **Spring 2018**: study MCAT, prep application
- **Apr-June 2018**: MCAT
- **June 2018**: apply
- **2018-19**: classes, thesis, **interviews**
- **June 2019**: graduate
- **Fall 2019**: medical school
Five Factors for Admission: Activities
Familiarity with Medicine/Clinical Setting

Why?
- To be sure that you are comfortable interacting with sick people
- To remind you of the end goal
- To gain an appreciation of the rewards and challenges of being a health professional

How much?
- Enough to be as sure as you can be that you want to make the sacrifices necessary to go to and get through medical school
- Enough that you can convince professionals in the field that you are making an informed decision in your career aspirations
Five Factors for Admission: Activities
Familiarity with Medicine/Clinical Setting

- **Student Volunteer Council projects**
- HPA Physician Shadowing List
- Doctor is In & other Programming
- **UMCP Volunteering & Translation**
- EMT: **PFARS**
- Alumni Careers Network *(how to network)*
- **Princeternships** *(Nov. 3 deadline for reading period/intercession)*
- **International Internships Program** *(Dec. deadline)*
- **Princeton Internships in Civic Service** *(Dec. deadline)*
- **Health Grand Challenges Internships** *(Jan. deadline)*
Five Factors for Admission: Activities

Other Activities

- Research: Contact faculty with interesting work to introduce yourself and learn about their research
- Service: Pace Center provides many opportunities – http://pace.princeton.edu/get-involved
- Leadership, Cultural Competence, Career Exploration, Hobbies, interests, etc.

In your application, you will choose and describe up to 15 meaningful activities

The meat of what you’ll discuss at interviews
- Why did you choose what you did?
- What did you learn from it?
- How will it make you a better professional?
Five Factors for Admission: Letters & Application

- 4-6 letters of recommendation
  - From your college years
  - At least two from the sciences
  - A well-rounded picture of you as an applicant overall

- Application components
  - Primary (common) application
  - Supplementary applications (essays)
  - Applying requires attention to detail, time management, written communication ability, self awareness
Five Factors for Admission

Interviews and Personal Contact

- The strength of the interview makes a big difference!
  - Practice communicating with diverse others
  - Do interesting things, take notes so you’ll be able to recall them later
  - Do some “soul searching”

- Personal contact doesn’t hurt
  - Get to know your older peers who will be at these schools by the time you apply
  - Consider internships at teaching hospitals
  - Network with alums
**Five Factors for Admission: Application**

Apply when you are the strongest possible applicant

**Princeton Applicant Stats 2011-14**

<table>
<thead>
<tr>
<th></th>
<th>Princeton Not Accepted (n=76)</th>
<th>Princeton Accepted (n=410)</th>
<th>US MD 2014 Matriculated (n = 20,343)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean BCPM GPA</td>
<td>3.22</td>
<td>3.49*</td>
<td>3.63</td>
</tr>
<tr>
<td>Mean Overall GPA</td>
<td>3.31</td>
<td>3.52*</td>
<td>3.69</td>
</tr>
<tr>
<td>Mean MCAT VR</td>
<td>9.8</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Mean MCAT PS</td>
<td>10.8</td>
<td>11.9</td>
<td>10.6</td>
</tr>
<tr>
<td>Mean MCAT BS</td>
<td>10.6</td>
<td>11.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Mean MCAT Total</td>
<td>83rd percentile</td>
<td>93rd percentile</td>
<td>83rd percentile</td>
</tr>
</tbody>
</table>

*not including students with post-bac course work*
Final Words

- Find the balance between academics and co-curricular activities.
- Explore something new.
- Get some meaningful clinical experience early.
- Check in when you have questions, and/or at least once a semester (and come to events)!
- Find your own path to health professions school.
For More Information

- HPA Website
  - Coursework & Preparing Guide
  - Gaining Experience
  - Questions of the Week Archives
  - Pre-Health Peer Advisers

- Vitals Newsletter

- hpa@princeton.edu or come visit us!

- AAMC Website
  - Aspiring Docs – preparation tips, inspiring stories
  - FACTS – Data about applicants to medical school