The Ins and Outs of Medical/ Health professional schools

South Dakota Undergraduate Research Symposium
August 2, 2017

Survey of the room

Health professions?

MD/DO?

Grad School (Master's/Doctorate)?

How can I do research as a physician?

First- Get into Medical School

Acceptance based on:

1. Coursework
2. MCAT score- Admissions exam for medical schools
3. Experiences that have made you interested in medicine

Pre-medical coursework

Requirements vary among med schools!

Know where you are planning to apply to be prepared

In general:

- 2 semesters of general biology
- 2 semesters of general chemistry
- 1-2 semesters of organic chemistry
- 2 semesters of physics
- biochemistry
- college math
- statistics
- college English

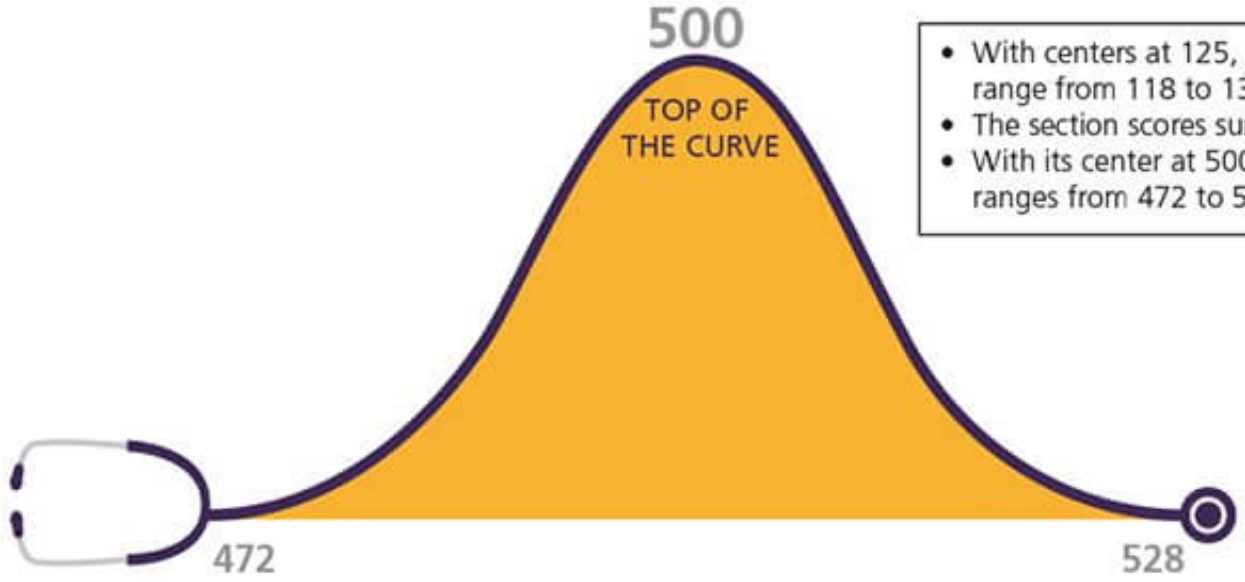
MCAT Exam-

The mechanism to compare academic ability across undergraduate institutions

Viewed as a predictor of ability to do well on standardized medical school board exams.

MCAT2015 has four test sections:

MCAT2015 Total Score



- With centers at 125, section scores range from 118 to 132.
- The section scores sum to the total score.
- With its center at 500, the total score ranges from 472 to 528.

Table 1. MCAT scores from schools of interest, as reported by the AAMC	
Medical School	Average Composite MCAT of Accepted Applicants*
Creighton	507
U. of Iowa	511
U. of Minnesota (Twin Cities)	508.6
U. of Minnesota (Duluth)	503
Mayo Clinic	513.5
U. Nebraska	509
U. of South Dakota	509
Wash U.	Range=507-527
Medical College of Wisconsin	508
National median of applicants	505
National median of accepted students	510.5
National median of matriculated students	508

*Institutionally-reported data from 2016 entering class

Experiences that have impacted your decision to be a physician

How do you KNOW that you want to be a physician??

Patient care experiences, volunteer work, service experience, academic interests

AMCAS –American Medical College Application Service

Consists of :

1. Coursework- all courses you have taken and grades from every institution
2. MCAT score- includes all attempts
3. Personal statement- a few **very well written** paragraphs addressing your interest in medicine (5300 characters)
4. Experiences that have made you interested in medicine
5. Names of letter writers
6. List of medicals schools to which you will apply

Individual medical schools will:

- receive AMCAS materials
- invite you to complete secondary applications
- receive letters of reference
- invite you to interview

What made you want to be a physician?

Research in the clinical context:
“You don’t need a Ph.D. to do research!”

Perceptions:

Being a health professional will be costly, but with a fairly defined endpoint and path.

Being a researcher is not costly in terms of money, but the end point is nebulous (what will I do?)

Things to know: Graduate School – Ph.D. (Speaking with a bit of a biomedical bias)

- Biomedical research doesn't generally do Masters, though it can be done.
- Usually paid
- Training to have you make meaningful contributions of new knowledge (student to colleague)
- Depending on career track, followed up by a post-doc: training where research is the only real goal. None of the logistics of being in school working to a degree. Meant to train you to be a career scientist.
- Integration of career moves within PhD and postdocs

Things to know: Medical School

- Medicine (or other professional)
- 4 years of school (some places starting to tinker with less). You pay $$$, though some have scholarships. This varies widely.
- Residency (4-7 years). Some (surgery) have research built in. (you get paid, but not a ton)
- Fellowship (further specialization) (better pay still)
- Job (“doctor” salary)

Things to know: MD/Ph.D.

- MD/PhD will sandwich the school part around 3-4 years of research training.
- Most places will try and integrate class work from MD years 1-2 with the PhD training. (generally fully funded.
- The biggest programs are NIH-funded (Medical Scientist Training Programs, MSTPs)
- Goal: Create physicians who do translational research

The goal of programs like BRIN and EPSCoR are to make more scientists. But, we/they shouldn't assume if you become a health professional that you can't still be a scientist.

Advantages as a clinical research with a professional degree

- Access to people and patients
- Access to records
- Working in an environment dedicated to people's health and safety
- Knowledge of the standard of care and its deficiencies.
- A better knowledge of the human health landscape and its needs

How can I do research as a clinician?

- MD Programs that integrate (Duke, Cleveland Clinic, others)
- Summer programs (too many to mention – abundant)
- Masters of Clinical Research
- Fellowship (probably a key for convincing a clinic/NIH that you really can do research as a part of you career)
- MD/PhD
- Hospital/Clinical funds
- NIH grants – the NIH loves it some transitional work!
- Loan repayment from NIH for clinical studies.

Questions?