



When the Goal is a Health Career: Success Strategies

Presenters:

Alan Wong, STEM Career Adviser

Douglas Anderson, Alumnus

Caiti Maskrey, Peer Adviser

Agenda

- Introduction (Alan)
- Resources for Advisers (Caiti)
- Medical School Application (Doug)
- Q&A

2010 Data of Interest

- MD Matriculated (UCSC / U.S.)
 - GPA: 3.65 / 3.67
 - Science: 3.66 / 3.61
 - MCAT: 30.3P / 29.3P
- Medical School: 92 applied to MD / 31 applied to DO
- Dental School: 35 applied
- Pharmacy School: 65 applied



Pre-health Resources for Advisers

Caiti Maskrey
Psychology / Neuroscience (Sr)
Pre-health Peer Adviser



What is Pre-Health?

It's preparing for admissions to....

Medical School

Dental School

Pharmacy School

Optometry School

Nursing School

Master in Public Health Programs

Physician's Assistant Programs

And more!

Pre-Health Advising

- Advising sessions
 - Prerequisite courses
 - Gain experience
 - Application process
 - Be competitive
- Mock interviews
- Personal Statements
- Workshops
 - How to be a successful applicant
- Student Organizations
 - Pre-Pharmacy Student Association
- Recruiters / Outreach
 - Touro University
- Pre-Health Advisory Committee



Listserv

<https://lists.ucsc.edu/mailman/listinfo/prehealth>

- CAFP 2010 Conference (Family Practice)
- 14th Annual Canine Medicine Symposium at UCD
- AMSA ARC Pre-Med and Public Health Conference at UCD
- UPenn Summer VETS Program
- AMSA's Winter Quarter Meeting Dates
- Pizza fundraiser for Bio Graduation
- Touro University Outreach Event
- Princeton Review MCAT / LSAT course discount
- Teach for America 2011 CORP



Pre-Health Website

<http://careers.ucsc.edu/health/index.html>

Explore Health Careers

www.ExploreHealthCareers.org

AAMC 4-year Plan

<https://www.aamc.org/students/download/63962/data/timeline.pdf>



AAMC 4 Year Plan

Freshmen Year

- Meet prehealth advisor and investigate prehealth advisory program.
- Successfully complete first-year required premedical coursework and other degree requirements
- Identify and complete summer paid/volunteer medically related opportunities.
- Attend summer school, if desired or necessary

Sophomore Year

- Check in with prehealth advisor and participate in prehealth activities
- Investigate and complete available volunteer/paid medically related clinical or research activities
- Successfully complete second year required premedical coursework and other degree requirements
- Identify and complete summer paid/volunteer medically related opportunities
- Participate in a summer health careers program, if available
- Attend summer school, if desired or necessary.

Junior Year



- Continue participation in paid/volunteer medically related activities
- Investigate:
 - Applying to Medical School
 - Medical schools in the U.S. and Canada
 - Medical College Admission Test (MCAT)
 - Minorities in Medicine to get information for groups underrepresented in medicine
- Begin preparation and register for desired MCAT administration; visit MCAT Web site for available test dates.
- Investigate information about medical school application services.
- Consult regularly with prehealth advisor about:
 - Advice about medical education options
 - Prepare for and take desired MCAT administration; visit MCAT Web site
 - Continue review of medical education options
 - Take spring MCAT
- Successfully complete first-semester required premedical coursework and other degree requirements
- Participate in a summer health careers program, if available
- Complete AMCAS application
- Take desired MCAT administration
- Attend summer school, if desired or necessary

Senior Year



- Complete supplementary application materials for schools to which you've applied
- Consult regularly with prehealth advisor regarding:
 - Completion of school-specific requirements for advisor/committee premedical evaluation
 - Status of application/admission process for schools to which you've applied
- Continue participation in paid/volunteer medically related activities
- Interview at medical schools
- Continue review of medical education options
- Successfully complete senior year elective science and non-science coursework and other degree requirements
- Make interim and final decisions about medical school choice
- Immediately notify medical schools that you will not be attending
- Ensure that all IRS forms are submitted as early as possible
- Graduate
- Prepare for medical school enrollment: purchase books and equipment and make appropriate living arrangements
- Relax and prepare for medical school
- Attend orientation programs and matriculate in medical school



Pre-health (Med) Application

Douglas Anderson

MCD Biology 2010

Former Pre-health Peer Adviser

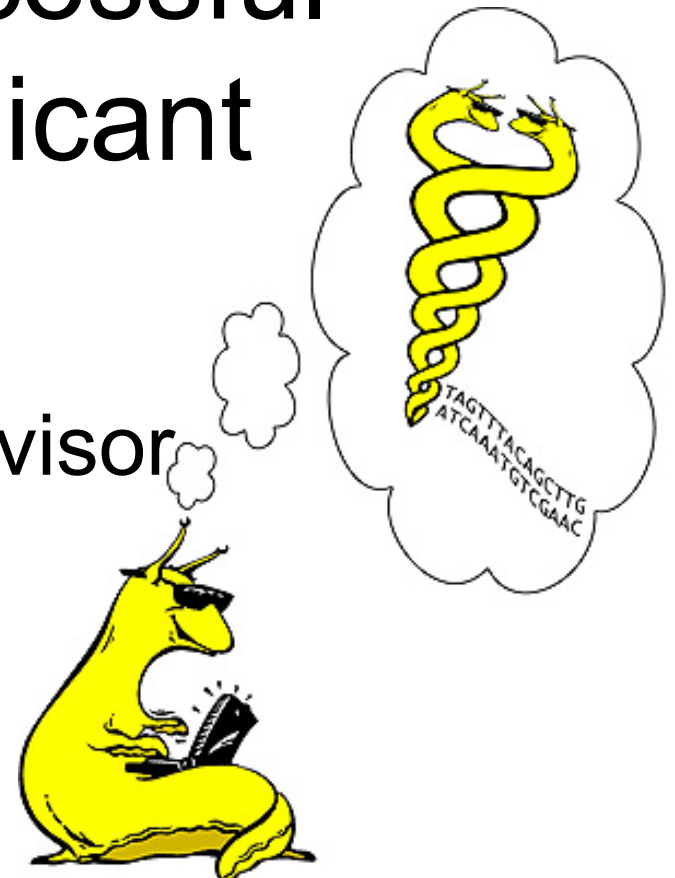
Career Center

Your Connection to Success



How to be a Successful Pre-Health Applicant

Career Center
Pre-Health Peer Advisor



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All Pre-Health Professional Schools Require:

- A good GPA
- Prerequisite course work
- Standardized Tests (MCAT, PCAT, GRE, DAT, etc)
- Specific experience in that field
- Letters of Recommendation
- Personal Statements

What do I Major in?

- Anything you want!
- Just take prerequisites as well
- Majoring in a biological science will have the most overlap between major courses and prerequisites
- Both do well in the applicant pool
- Major in what interests you the most!

Traditional Vs. Nontraditional Applicants



Traditional Students

- Start application Junior year
- Graduate undergrad in June, start medical school in Fall.
- Take MCAT their Junior year

Non-Traditional Students

- Start application after graduation from undergrad.
- Start medical school whenever, 1 year later or 10 years later.
- Usually take MCAT after graduation
- Need to use their time wisely!

Allopathic Physician (M.D)

- Examine patients, obtain medical histories, and order, perform and interpret diagnostic tests.
- Counsel patients about illness, injuries, health conditions, and preventive healthcare.
- Can conduct medical research, teach, and run medical centers.
- Thought of as “western modern medicine”.
- Work in one or more specialties.
- Go to Medical School
 - 4 years with 3-7 years of residency
 - Residency is longer for surgeons and some specialties.
 - 129 US schools, 9 in California.
- Standardized Test: MCAT
 - Biology, General Chemistry, Organic Chemistry, Physics, Verbal Reasoning and an essay.
- Prerequisite Coursework:
 - 1 year of Biology w/ Lab
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of English
 - Sometimes Statistics, Biochemistry, and Calculus.

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Osteopathic Physician (D.O)

- Like M.D.s, they are licensed to diagnose, treat, prescribe medications, and perform surgery.
- D.O.s have a strongly holistic philosophy and practice osteopathic manipulative medicine.
- All D.O.s receive a strong educational grounding in primary care.
- Believe structure influences function, and that the body has an innate capacity for self-healing.
- Go to Medical School
 - 4 years with 3-7 years of residency
 - 26 schools in US, 2 in California.
- Standardized Test: MCAT
 - Biology, General Chemistry, Organic Chemistry, Physics, Verbal Reasoning and an essay.
- Prerequisite Coursework:
 - 1 year of Biology w/ Lab
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of English
 - Sometimes Statistics, Biochemistry, and Calculus.

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M.D v.s D.O

Differences

- D.O emphasis preventative medicine, a holistic approach to the patient, and the primacy of the musculoskeletal system in human health.
- Only curricula difference is D.O teaches Osteopathic Manipulative Medicine.
- Different medical school application services – AMCAS vs AACOM
- Significantly more M.Ds than D.Os.
- 2009 average MCAT was 30.8 for M.D, and 26.19 for D.O
- 2009 average GPA was 3.66 for M.D and 3.48 for D.O
- D.O's want a letter of recommendation from a D.O doctor.

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Similarities

- Prerequisites for both schools are identical
- Both have same specialties – emergency medicine, psychiatry, pediatrics, surgery, etc.
- Curricula of both schools are nearly identical.
- Most hospitals and residency programs recognize degrees as equivalent.

Dentistry (D.M.D or D.D.S)

- Dentists maintain the health of the teeth, gums, and other hard and soft tissues of the oral cavity and adjacent structures.
- Can provide direct patient care, teach, conduct research, and work in public and international health.
- Specialties: Dental Public Health, Orthodontics, Pediatric Dentistry, Prosthodontics, Oral and Maxillofacial Pathology & Radiology & Surgery.
 - Message: Can do more than just general dentist work!
- Go to Dental School:
 - 4 years of school
 - 61 schools in US, 6 in CA
- Standardized Test: DAT
 - Natural Sciences, Reading Comprehension, Perceptual Ability, and Quantitative Reasoning.
- Prerequisite Coursework:
 - 1 year of Biology w/ Lab
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of English
 - Usually: Biochemistry, Physiology, Anatomy, Microbiology, Psychology etc.

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Pharmacist (Pharm.D)

- Pharmacists are the medication experts.
- Dispense prescribed medications
- Monitor patient health
- Protect public by ensuring drug purity and strength. Advise on the selection, dosage, interactions and side-effects of drugs.
- Links the health sciences with the chemical sciences.
- Work in clinics, hospitals, retail drug stores, etc.
- Go to Pharmacy School:
 - 4 years of school, residency is optional.
 - 117 schools in US, 8 in CA
- Standardized Test: PCAT
 - Not all schools require!
 - 240 MC of Verbal Ability, Biology, Chemistry, Reading Comprehension, Quantitative Ability, and two essays.
- Prerequisite Coursework:
 - 1 year of Biology w/ Lab
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of English
 - Usually: Biochemistry, Physiology, Anatomy, Microbiology, Public Speaking, Economics

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Optometrists (O.D)

- Optometrists are the primary healthcare professionals for the eye.
- Optometrists examine, diagnose, treat, and manage diseases, injuries, and disorders of the visual system, the eye, and associated structures.
- ODs diagnose and treat, prescribe medications, perform certain surgical procedures, provide vision therapy and low vision rehabilitation, and assist patients with spectacle and contact lenses.
- Don't confuse with Opticians and Ophthalmologists.
- Go to Optometry School:
 - 4 years of school
 - 20 schools in US, 3 in CA
- Standardized Test: OAT
 - Survey of the Natural Sciences, Reading Comprehension, Physics and Quantitative Reasoning.
- Prerequisite Coursework:
 - 1 year of Biology w/ Lab
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of English
 - Microbiology w/ lab
 - Usually: Biochemistry, Physiology, Anatomy, Statistics, Psychology

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www.aoa.org

Veterinarian (D.V.M)

- Physician for animals.
- Diagnose animal health problems, vaccinate against diseases, medicate animals suffering from infections or illnesses, treat and dress wounds, set fractures, perform surgery, and advise owners about animal feeding, behavior, and breeding.
- Specifically, they care for the health of pets, livestock, and animals in zoos, racetracks, and laboratories.
- Can conduct research on animal and human health.
- Go to Veterinarian School:
 - 4 years of school
 - 28 schools in US, 2 in CA
- Standardized Test: GRE
 - Usually GRE, some schools may accept other exams (i.e MCAT)
- Min. # of experience hours required
 - Varies, 3000+ hours are normal
- Prerequisite Coursework:
 - 1 year of Biology w/ Lab
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of English
 - Usually: Biochemistry, Animal Physiology, Psychology, Microbiology, etc

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Physical Therapy (D.PT)

- Concerned with restoration and maintenance of a patient's ability to function following disease or injury.
- Goal of therapy is to improve circulation, strengthen muscles, restore gross motor skills, correct deformities, relieve pain and expedite recovery.
- Keep people well and safe from injury by teaching them the importance of fitness and designing individual conditioning programs
- Stroke victims, injured athletes, children with muscular dystrophy, amputees, etc.
- Go to Physical Therapy School
 - 2-3 years of school
 - 203 schools in US, 14 in CA
- Standardized Test: GRE
- PT Observation Hours:
 - Varies, 8-200 hours.
- Prerequisite Coursework:
 - 1 year of General Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - 1 year of Anatomy and Physiology
 - 1 year of Psychology
 - Also: Statistics, Upper Division Biology, Developmental Psych, Abnormal Psych, Organic Chemistry, etc

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www.apta.org



Physician Assistant (MA-PA)

- Physician assistants (PAs) provide health care with the supervision of a physician.
- Trained to take medical histories, perform physical exams, order lab tests, diagnose illnesses, treat illnesses, prescribe medications, counsel patients, promote wellness, and assist in surgeries.
- Can practice in almost any specialties
- Go to Physical Therapy Program
 - 24-32 months of school
 - 140 schools in US, 9 in CA
- Standardized Test: GRE
 - Can substitute for MCAT, etc
- PT Observation Hours:
 - 1000 - 3000 hours of direct patient care
- Prerequisite Coursework:
 - 1 year of General Chemistry w/ Lab
 - 1 year of Physics w/ lab
 - Anatomy and Physiology w/ lab
 - Microbiology w/ lab
 - English, Statistics & Psych

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Nurse Practitioner (N.P)

- Categories: Anesthetists, Midwife, & Clinical Nurse Specialist .
- Conduct physical exams, diagnose and treat common acute illnesses and injuries, administer immunizations, manage chronic problems, etc.
- Specialty areas, such as oncology, pediatrics, and cardiac, neonatal, obstetric/ gynecological, neurological, and psychiatric nursing.
- Acc. BSN – 11 to 18 months, very fast past. Designed for people with non-nursing BA/BS.
- BSN to MSN – 13 months for BSN, 18-30 months for MSN.
- 230 programs, 10 CA
- Standardized Test: GRE
- Prerequisite Coursework: Varies!
 - 1 year of General Chemistry w/ Lab
 - 1 year of Organic Chemistry w/ Lab
 - 1 year of English
 - Biochemistry, Microbiology w/ Lab, Statistics, Psych, Lifespan Develop. Psych, Public Speaking, etc

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Public Health (MPH)

- Assess and monitor the health of communities and populations at risk and to identify health problems and priorities.
- Collaborate with community and government leaders, to formulate public policy to solve local and national health problems and priorities.
- Assure that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services, and to evaluate the effectiveness of that care.
- Focus on entire populations rather than on individual patients, and prevention and health promotion rather than diagnosis and treatment.
- Apply to a Master's in Public Health Program (or something related)
 - 2 years of school (varies)
 - 45 schools in US, 4 in CA
- Standardized Test: GRE
 - Usually GRE, some schools may accept other exams (i.e MCAT)

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Letters of Recommendation

Who & How

- Professors (science preferred)
- Employers from work
- Supervisors from clinical or research experience
- Professional in field (Dentist, etc)
- Make sure they know you well!!
- If anyone is hesitant, don't ask them!
- Go to office hours, work in a research lab, do well in their class and get them to think highly of you!

Behavioral Qualities

- High ethical qualities and integrity
- Professional demeanor
- Effective interpersonal relationships with peers & instructors/supervisors.
- Empathy and concern for others welfare.
- Effective functioning under varying degrees of stress & workload.
- Positive acceptance of suggestions and constructive criticism.
- Adaptability to changing environments and uncertainties.



Clinical Experience

Methods

- **Definition:** Experience in medical setting, and direct contact with patients or people that are ill.
- Experience that reflects knowledge of physicians lifestyle, patient contact, and clinical knowledge.
- Emergency Room
- Clinic
- Nursing Home
- Crisis Center
- Hotline
- Certifications in Phlebotomy, EMT, Pharmacy Technician, CNAetc
- Shadow a doctor/dentist/etc
- Summer Internships

Santa Cruz Opportunities

- Hospice – SC Chapter
- Global Brigades – Medical & dental
- American Red Cross – SC chapter
- SHOP: HIV Peer Test Counselors
- Santa Cruz County Medical Reserve Corps
- Scotts Valley Senior Center
- Suicide Prevention Services
- The Painted Turtle
- Volunteers for Intercultural & Definitive Adventures (VIDA)
- Women's Crisis Support ~ Defensa de Mujeres

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Volunteer Experience

Student Volunteer Center - www2.ucsc.edu/svc/

- Ag Against Hunger
- Alum Rock Counseling Center
- Animals Friends Rescue Project
- Big Brother Big Sister of SC County
- CALPRIG
- Camphill Communities CA
- Elderday Santa Cruz
- Exhale
- Jacob's Heart Children's Cancer Support Services
- SC Women's Health Services
- Walnut Ave Women's Center
- CALPRIG
- Camphill Communities CA – disabilities
- Diabetes Society
- Habitat for Humanity
- Mental Health Client Action Network
- Teach for America
- UCSC Special Olympics
- Campeer Santa Cruz
- Planned Parenthood Westside
- YMCA



Research Experience

At UCSC

- Work/Volunteer in a faculty's research lab
- NSF SURF - *Summer Undergraduate Research Fellowship*
- MARC – *Minority Access to Research Careers*
- MRBS – *Minority Biomedical Research Support*
- UC LEADS – *UC Leadership Excellence through Advanced Degrees*

Not at UCSC

- Summer Biomedical Research:
 - <http://careers.ucsc.edu/health/biomedicalinternship.html>
- Summer Undergraduate Medical Research (SUMR)
- Summer Program for Undergraduate Research (SPUR)
- Global Health Internship Program
- Amgen Scholars
- Summer Research Trainee Program

Leadership Experience

- **Dedication, determination, ability to make decisions and a willingness to contribute to the welfare of others.**
- Employment
- Campus organizations
- Off-campus organizations
- Church
- Coaching
- Tutoring
- Mentoring
- Counselor
- Coordinate a project/event
- MSI – Modified supplemental instruction
- LSS – learning support services
- TA – teachers assistant
- RA – residential assistant
- Supervisor or manager at work
- Training others
- College Governments
- Sororities or Fraternities
- Clubs
- Athletics captain
- CalTeach



Pre-Health Organizations at UCSC

- Kappa Gamma Delta – A pre-health sorority
- **Sigma Mu Delta – A pre-medical fraternity
- American Medical School Association (AMSA)
- Pre-Dental Society (PDS)
- Public Health Student Alliance (PHSA)
- **Pre-Pharmacy Club
- iSee Pre-Optometry Club

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Disclaimer: Not yet official

Alan Wong