- What does the MCAC do?
- Do I need the MCAC?
- How do I get to medical (dental, optometry, etc.) school?
- How do I become pre-med?
- Where do I get reliable information?
- What do I need to apply?
- Am I a good candidate for medical school?
- What courses do I need?
- Do I have to be a biology major?
- Do minors help?
- Do I need to shadow more than one doctor?
- Do I need research?
- When should I get started?
- What are my chances of getting in?
- How important is the MCAT?
- Is the GPA more important than the MCAT?
- Does my major matter at all?
- Is my C in Orgo going to keep me out of medical school?
- What is the minimum GPA to apply? Is there a minimum MCAT to apply?
- MD vs DO?

- Can you talk to my parents?\*
- How long should I study for the MCAT?
- Should I take an MCAT prep course?
- When should I take the MCAT?
- I want to stay (or leave) NJ?
- Which schools? How many?
- Does it help to be in state?
- When should I apply?
- Is it better to apply early?
- How many letters of recommendation?
- Who gets a composite letter?
- What happens if I don't get a composite letter?
- What are my chances of getting in?
- Should I take the MCAT again?
- Should I apply to MD, MD and DO, or DO only?
- What happens if I apply later in the cycle?
- When should I think about a gap year(s)?
- When will I know if I get in?
- If I'm on the waitlist does it mean I'll get in?
- What happens if I don't get in?
- Are post-bac programs worth it?

#### Medical Careers Advisory Committee (MCAC)

#### **MCAC Chair**

- Sudhir Nayak, PhD
- Professor of Biology
- >15 years at TCNJ

#### **MCAC Administrative Support**

- Ms. Helen Kull
- General Advisor, Program Assistant, and Knower of Things
- Department of Biology
- >15 years at TCNJ

#### Ad Hoc MCAC Members (examples):

Biology: Dr. Jeffery Erickson, Dr. Tracy Kress

Chemistry: Dr. Benny Chan

Engineering: Dr. Christopher Wagner Public Health: Dr. Brenda Seals

Psychology: Dr. David Blake in HSS (while Dr. Leynes on sabbatical)

#### **Allied Health Advisor**

- Mitch Sitnick, PhD
- Clinical Lecturer
- >5 years Allied Health advising

# Who are you?

- What year?
  - 1st year, 2nd year, etc.?
- What is long-term goal?
  - o Physician: MD, DO
  - Podiatrist: DPM
  - o Dentist: DMD/DDS
  - Optometrist: OD
  - Other?

## MCAC

- Assist **TCNJ** students and alumni applying to medical school and other health professional schools
  - Help students from any major
- Provide validated resources
  - Web: <a href="https://mcac.tcnj.edu/">https://mcac.tcnj.edu/</a>
- Presentations (like this one)
- Data-driven advising and mentoring
  - Group and individual
- Generate the **composite letter**

## MCAC vs Allied Health at TCNJ

- MCAC aka "med careers"
  - Allopathic, osteopathic, podiatry, dental, optometry
    - MD, DO, DPM. DMD/DDS, OD
      - Typically take MCAT, DAT, OAT exams

#### • Allied Health

- Physicians assistant, physical therapist, occupational therapist, nursing / accelerated nursing, speech-language pathologist, and several others.
  - PA, PT, OT, RN/NP/DNP
    - Typically take GRE or PA-CAT exams

## Useful resources

- TCNJ MCAC website (mcac.tcnj.edu)
- PAWS group for **everyone** (next slide)
  - QR code to sign up (get your phones ready!)
- Our Canvas non-credit Advising Courses
  - MCAC 101 for freshmen + sophomores (QR code)
  - MCAC 201 for students READY to apply to prgms
    - MCAT completed (or scheduled)
    - Updated each February for new app cycle
    - By request through mcac@tcnj.edu



Form to Join Health **Professions** Student Group in PAWS



Form to Join **MCAC-Canvas** "Basics" **MCAC 101** v24-25course

# What is pre-med?

- It's not a real thing just a series classes
  - Useful for planning
  - Useful for advising
  - It does not get you anything
  - It does not guarantee you anything
- No official pre-medical track or degree at TCNJ
- Anyone can be pre-med

## Pre-med potato, turtle, rock



## Don't be a pre-med potato (or turtle or rock)

- Take time to reflect on if you are a good candidate at this time
  - Repeat at the end of every day, week, month, semester, and year
- Basic requirements are simple
  - Have you completed the required course work?
  - O How are your grades (GPA)?
  - O Do you have a record of public service? (volunteering)
  - O Do you have any experience in the medical field?
  - Have you taken the MCAT?
  - O Do you have your letters of recommendation lined up?

## Don't be a pre-med potato (or turtle or rock)

- Have you completed the required course work?
  - All the courses required for the MCAT?
- How are your grades (GPA)?
  - What courses have you taken?
- Do you have a record of public service?
  - Oid you just start or is this a long-term commitment?
- Do you have any experience in the medical field?
  - Oirect patient contact or shadowing?
    - MD, DO, PA, NP, DPM, DMD/DDS, etc.
- Have you taken the MCAT?
  - O Do you have a plan for MCAT prep?
  - Oid you get a competitive score?
- Do you have your letters of recommendation lined up?

### MD (Allopathic) -vs- DO (Osteopathic) Medicine

- Both programs = physician
- Similarities
  - 4 year course of study
  - Residencies programs vary Most programs are accepting either exam (USMLE or COMLEX)
- Differences
  - Philosophy
    - >60% of DO graduates are in primary care
    - <30% of MD graduates are in primary care
  - Criteria for acceptance

#### Timeline

- 1st year and 2nd year
  - DO NOT need the MCAC but MCAC 101 course is good guide!
  - Presentations, general information, MCAC website, PAWS
- What should you do?
  - Develop skills (testing, study, time management)
  - Grades should be strong (>3.5 overall, >3.5 STEM)
  - o Engagement (AMSA, Tri-beta, etc.) and activities
- Make sure you are getting a return on investment of time
  - Volunteer toward the greater good (summer/semester)
  - Shadowing for medical experience (summer/semester)
  - Plan for possible summer certifications (EMT, CNA)

### Timeline - 18 months, 18 months, 18 months

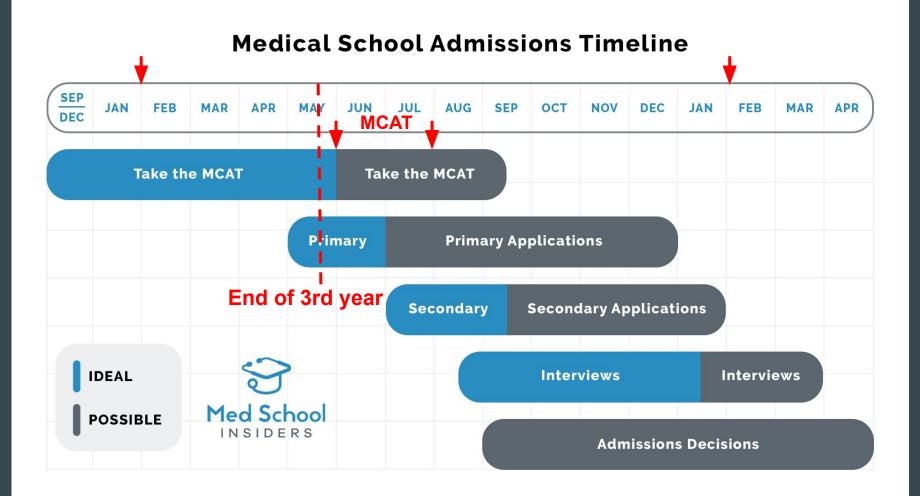
- Think 18 months ahead
  - The application cycle is 18 months
- What are you trying to achieve?
  - o MD, DO, DPM, DDS/DMD, OD, PA, OT, PT?
- Are you a good test taker?
  - MCAT prep is where things go terribly wrong
- Will you need summer courses at TCNJ?
  - BIO 201, BIO 231, CHE 331/332, MAT 127, PHY 201/202
- Are you a GAP year candidate?

## Timeline 3rd year = get serious

- Join the MCAC 201 Canvas course and follow procedures and recommendations
- Application development and reflection
  - o MCAT, DAT, OAT, PA-CAT
  - Completing courses, MCAT prep plan
    - AMCAS, AACOMAS, ADEA AADSAS, OptomCAS application
  - Check: grades, volunteering, medical experience
- Letters of recommendation
  - DO school applicants should have a letter form a DO
- Personal statement
- Target schools?

## Timeline - In cycle (no gap year)

- MCAT
  - Ideal: Taken by the end of May junior year
  - Latest: Taken by the end of July
- Open a file with the MCAC
  - Spring of junior year
  - ≅18 months prior to intended start of med school
- Application cycle services open about 16 months prior to intended start date at med school
- Application cycle naming convention uses the intended start year at med school



## When should I start MCAT prep?

- No easy answer entirely depends on on student
- Considerations
  - How is your will power?
  - Ohrow How much time do YOU need to get the score you want?
    - Is it MD only or MD or DO?
  - Are you going to take a course? (\$\$\$\$)
  - Are you going to start studying as you finish that series of courses?
    Or after you finish them all?
    - CHE 201/202, CHE 331/331, PHY 201/202
  - Ohron How many practice tests do you think you will need?
- General range: 250-500 hours of intense study and 6 full length practice tests

# MCAT preparation

- Biological and Biochemical Foundations of Living Systems
  - Biology, organic chemistry, inorganic chemistry, and biochemistry
- Chemical and Physical Foundations of Biological Systems
  - Biochemistry, biology, general chemistry, organic chemistry, and physics
- Psychological, Social, and Biological Foundations of Behavior
  - Psychology, sociology, and biology
- Critical Analysis and Reasoning Skills (CARS)
  - Reading comprehension humanities and social sciences

#### About 250-500 hours

- Princeton Review, Kaplan, Barrons, Examkrackers, Blueprint, etc.
  have different recommended footprints
  - The MCAC does not recommend one over the other
- General recommendation
  - 10-15 hours/week x 24 weeks = 240-360
  - $\circ$  20-30 hours/week x 12 weeks = 240-360
- **IMPORTANT:** You need to prepare until you are consistently scoring ABOVE the score you want/need
  - Recommended: 10-20% less time than allowed
  - Average the last 3 full-length practice tested with reduced time

#### Option #1

- Take a full-length diagnostic BEFORE you start prep
  - Full-length MCAT every 4 weeks or 50-100 hours
- Positive
  - Efficient, focus study the things you don't know
  - Context review is focused on improving score
  - You can see your score go up and find plateaus
  - Identified major issues
  - Allows for realistic timeline
- Negative
  - Volume of things you forgot or never learned is intimidating
    - Identified MANY issues
  - Early full-length MCATs can be ego crushing
  - Frustration waiting for scores to improve

#### Option #2

- Take a full-length diagnostic AFTER content review
  - Full-length MCAT every week until test
- Positive
  - Initial MCAT score can be uplifting
  - Works OK for most students
  - Can reveal major content and testing issues
- Negative
  - Inefficient
    - End up studying things you already knew well enough
  - Do not get to see score increase
  - Sometimes the first score can be soul crushing
  - Can reveal major content and testing issues requiring gap year(s)
    - Issues identified too late to fix

#### Options #3

- Take an **MCAT prep course**
- Positive
  - Excellent for students that need structure / discipline
  - Less intimidating information pre-processed
  - The expensive ones provide some individual attention
  - Better than not studying
- Negative
  - Little/no improvement over studying on your own
  - Extremely inefficient you follow their curriculum instead of focusing on things you need to review
  - Expensive for highly structured versions
    - \$1,500-2,500 for self-paced programs
    - \$5,000-15,000 for multi-week bootcamp style courses

- Diagnostic test (full length): 496 (  $\approx$ 39%)
  - This is actually high for a no-study diagnostic
- Month 1: 503 (≅65 hours)
- Month 2: 507 (≅50 hours)
- Month 3: 510 (≅38 hours)
- Month 4: 512 (≅40 hours)
- Month 5: 518 (≅60 hours)
- Month 6: 516 (≅60 hours, with reduced time)
- Official MCAT score: 515 ( ≅91%) taken in month 6
  - 506 hours logged <u>not including some basic content review</u>
    - Approximately ≅50-100 hours

- Diagnostic test (full length): 480 (  $\approx$ 3%)
  - No previous prep
- End summer: 512 practice (≅400 hours)
  - No job, volunteering 5 hrs / week, shadowing 10 hrs / week DO (peds)
  - Did not take practice test with reduced time (under stress)
  - Limited number of practice tests (2)
- Official MCAT score:  $505 ( \cong 62\%)$

- End Summer 2: 509 (≅200 additional hours)
  - All 4 practice tests reduced time
  - Job 20 hrs / week, volunteering 5 hrs / week,
    shadowing 5 hrs / week MD (peds)
  - o Gap year RWJMS medical scribe
- Official MCAT score: 510 (  $\approx$ 78%)

- Diagnostic test (full length): 490 (  $\approx$ 17%)
  - End 2nd year no prep
  - Student athlete
- 2nd year summer: 10-20 hours / week
  - O Job, shadowing, and volunteering
- 3rd year Fall / Spring: ≅5-10 hours / week (sometimes none)
  - Much more over breaks
    - "An insane amount. It made me a little crazy."
- Official MCAT score: 516 ( ≅92%)
  - Final 3 practice average 517
  - > 500 hrs total

#### Paths to Medical School

- Complete 4-yr undergraduate degree (apply in your 3rd year!)
  - Traditional or standard route
- Nationally: >60% take gap year(s)
  - Med school start age: 24-26
  - Overwhelming majority go this route
- Others
  - RWJMS early assurance
    - First-generation college and low-income students
  - Jefferson early assurance\*
    - First-generation college and low-income students
  - Rowan SOM early assurance (pending)

## What do I need to apply?

- Undergraduate degree\*
  - Accredited college or university
- Appropriate standardized test examples
  - $\circ$  MD, DO, DPM = MCAT
  - $\circ$  OD = OAT
  - o DMD/DDS = DAT
  - $\circ$  PA = GRE, PA-CAT
- Experience with patients
  - Direct patient contact > shadowing
- Demonstrated service to others
- Letters of recommendation
- Required coursework\*

## Required Coursework MD/DO

- Standard
  - 2 semesters of Biology with laboratory
    - BIO 201 and BIO 211
  - o 2 semesters of Inorganic Chemistry with laboratory
    - CHE 201 and CHE 202
  - o 2 semesters of Organic Chemistry with laboratory
    - CHE 331 and CHE 332
  - 2 semesters of Physics with laboratory
    - PHY 201 and PHY 202
      - Most do not require calculus based physics
- Your grades in these courses are important
  - The MCAT is more important

## Required Coursework MD/DO

- Most medical schools also require:
  - 2 semesters of English or writing intensive courses
    - Any TCNJ major covers this
  - 1-2 semesters of Math
    - MAT 127 and STA 215 (or MAT 128)\*
    - Non-STEM majors need to address this
- Other considerations
  - Courses have prerequisites
    - Examples: MAT 127, CHE 201
  - Recommended: Biochemistry\*, genetics, psych/Soc, public health, microbiology\*, advanced courses, etc.
  - Will vary for MD, DO, dental, optometry, etc.

## Exceptions you should look out for

- Biochemistry
  - Some medical schools require a second course in biochemistry
    - BIO 211 counts as the first
  - With organic chemistry as a prerequisite
    - Examples: Arizona, Arkansas, Florida State, etc.
- Specific course requirements
  - Microbiology (e.g. Duke)
- Calculus B
  - A couple of medical school require/recommend calculus B
- Odd English course requirements
  - o 2-3 English courses taught by the English department
    - FYW, FYS, mid-level writing, and senior seminar do not count
- Minimum grade requirements

## Composite Letter: Do you need one?

- Some schools recommend or require a composite or committee letter
  - Medical school (allopathic/MD, osteopathic/DO)
  - Podiatry (DPM)
  - Dental (DMD/DDS)
  - Optometry (OD)
- It is basically a letter of letters
  - Summary and commentary on student accomplishments
  - Provides context
  - Can increase your chances of admission
    - Includes all individual letters
- Other schools recommend "individual" letters
  - Veterinary school, PA Programs, accelerated nursing, etc.

#### Who gets a composite letter?

- Each student is a unique case
  - o GPA
    - Higher is better, coursework (minimal vs preparatory)
  - MCAT/DAT/OAT
    - Higher is better
  - Experience
    - Shadowing, direct patient contact, volunteering, CNA, EMT, medical scribe, etc.
  - Service
    - Long term commitments, working toward the greater good, priorities
  - Letters
    - Aptitude, attitude, reliability, dependability, social skills, teamwork, communication, skill building, ethics
  - Other
    - First generation, ESL, NCAA athletics, significant work / service / performance, etc.
- Disciplinary action, student code of conduct, academic integrity

### **AAMC Core Competencies**

- Interpersonal Competencies (experience and letters)
  - Service Orientation
  - Empathy and Compassion
  - Interpersonal Skills
  - Cultural Awareness and Cultural Humility
  - Teamwork and Collaboration
  - Oral Communication
- Intrapersonal Competencies (experience, letters, essay)
  - Ethical Responsibility to Self and Others
  - Reliability and Dependability
  - Resilience and Adaptability
  - Commitment to Learning and Growth
- Thinking and Reasoning Competencies (MCAT, GPA, coursework)
  - Critical Thinking
  - Quantitative Reasoning
  - Scientific Inquiry
  - Written Communication
- Science Competencies (MCAT, GPA, coursework)
  - Living Systems
  - Human Behavior

## Rank these in order of importance

- Composite letter / letters of recommendation
- Medical College Admissions Test (MCAT)
- Extracurricular Activities (volunteer, patient contact)
- Interview evaluation
- Transcript (GPA, STEM coursework)

### Rank these in order of importance

- 1. Medical College Admissions Test (MCAT)
- 2. Transcript (GPA, STEM coursework)
- 3. Extracurricular Activities (volunteer, patient contact)
- 4. Composite letter / letters of recommendation
- 5. Interview evaluation

#### Important:

- Any one of them can be a red flag
- Admission committees favor well rounded applicants
  - Congruency: high GPA = high MCAT
  - Lots of activities do not make up for a low MCAT

### Is research important?

- No.
  - There is no difference between the admission rates
  - Can doing research help? (Positive)
    - Strong letter **if you do a good job**
    - Problem solving skills
  - Can doing research hurt? (Negative)
    - What if you do not do a good job because it is a secondary activity?
    - Takes time away from medically relevant opportunities
      - EMT, volunteering, shadowing, MCAT prep
- Exceptions
  - MSTP (medical scientist training programs) aka combined degree
  - o MD / PhD, DO / PhD, OD / PhD, DMD / PhD

#### Do I need research?

- American Medical Association (AMA) Position
  - Research isn't required to secure a residency position (or for admission to medical school)
  - Research is not required for admission to medical school
  - Survey of program directors conducted by the National Resident Matching Program
    - 12 other factors were seen as more important over "involvement and interest in research"
- Really, the answer is **NO**
- You should do research if you like it

### Are you a good candidate?

- Do you exceed the averages of the school?
  - In state -vs- out of state bias\*
  - Public -vs- private
- Strong GPA\*
  - 3.6 is OK, >3.7 is better
- Strong test score\*
  - MCAT 510 is OK but 512 (>80%) for MD is better
  - DAT 20 or better (>75%)
  - OAT 330 or better (>75%)

### Reflect: Are you a good candidate?

- Service and/or clinical experience
  - Shadowing vs direct patient contact
- Strong letters of recommendation
  - Please, please, select your writers carefully
- Strong communication and people skills
  - The interview is important
- Long term commitments: "Ask them if they are just checking boxes or actually committing to things."
  - George Heinrich, MD NJMS

#### Things to consider - Major

- Your major does not matter\*
  - Student interest is more important
  - More interest = more work = better grades = better skills
- How will your major choice will allow you to meet the criteria used in selection?
  - AAMC Core Competencies
  - Required courses

#### Things to consider - Major

- How much overlap is there?
  - What you have to take vs what you need?
    - Major coursework
    - Medical school prerequisites
- Is there sufficient room in your schedule?
  - Complete required courses
    - Can you get the course?
    - Do you meet the prerequisites?
  - O Do you need summer class (or several)?
  - O Do you need an extra semester or year?
- Will you have adequate time to pursue other interests minor, concentration, study abroad?

#### What are my chances?

- MD vs DO
  - What is the difference?
- Nationally -vs- NJ -vs- TCNJ
  - How do we do?
- In state -vs- out of state
  - O How bad is the bias?
- MCAT score
  - What score do you need?
- GPA
  - Does it matter?

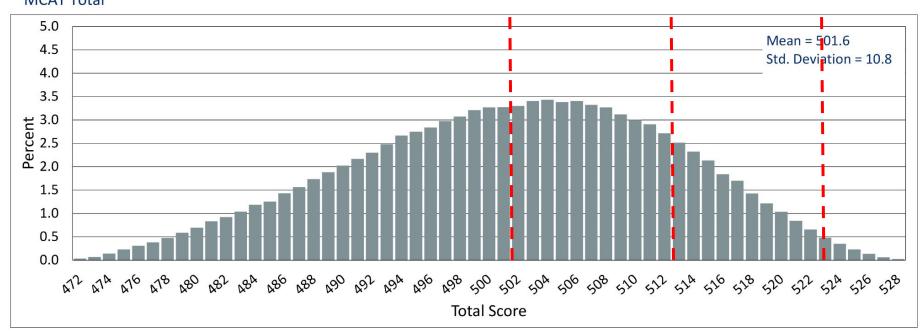
#### By the numbers - Nationally

- MD 157 schools
  - o GPA: 3.7
  - MCAT: 512 (≅85%)
- DO 41 schools\*
  - o GPA: 3.6
  - MCAT: 505 (≅65%)
- NOTE
  - The numbers are not minimums!
  - Some schools have STRONG in-state preference
  - Some schools have application minimums listed which are misleading
    - Around 490-500
    - Actual minimum 505
  - Other schools have minimums based on the applicant pool

#### Summary of MCAT Total and Section Scores

Percentile Ranks in Effect May 1, 2022 – April 30, 2023 N = 276,779

#### MCAT Total



#### By the numbers - NJ Edition

- MD 4 schools
  - o GPA: 3.7
  - o MCAT: 513
- DO 1 school
  - o GPA: 3.6
  - o MCAT: 506
- NOTE
  - The numbers are not minimums!
  - Same caveats as on the previous slides
  - You can actually use these numbers

### By the numbers - Rutgers

- MD NJMS (Rutgers)
  - GPA: 3.7
  - o MCAT: 514
    - Higher for out-of-state students
- NOTE
  - The numbers are not minimums!
  - Some school have in-state preference
  - Some schools have application minimums
    - Rutgers does not have an MCAT minimum for application
    - Robert Wood has a 498 MCAT minimum for application
    - Low chance of admission below 508 to either school

#### By the numbers - Rutgers

- GPA: ≅3.7
- MCAT: ≅514 (≅90-92%)
- Interview Rate
  - o 33% in-state
  - 5% out-state
- Acceptance Rate
  - ≃75% (of interviews)
  - $\circ \cong 5.5\%$  of total
- 60% of admitted students were out at least 1 year

#### By the numbers - TCNJ

Step in MCAC Process*	# of	Matric'd			
	Students	MD	DO	Other	% Success
Initiated process w MCAC	63				
Delay process (moved to '25)	17				
Did Not Apply or Applied on Own	9	(late acc to med sch; acc to grad prgm; or applied on own)			
Completed process w MCAC	37				
Applied MD Programs ONLY	9	9			100
Applied DO Programs ONLY	6		4		66
Applied BOTH MD & DO	19	10	6		84
Applied DDS or DMD	2			2 DDS/DMD	100
Applied MD/PhD	1			1 MD/PhD	100
Applied OD (optometry)	0			0 OD	-
TOTALS (32 of 37 matric'd)	37	19	10	3	86

 $<sup>\</sup>star$  Please note that these numbers do NOT include students from the BS/MD program, or any other articulations with other med schools.

#### By the numbers - TCNJ

- Applicants MD / DO
  - ≅60-80/year
  - o GPA: ≅3.8
  - MCAT: ≃511
- Admitted history (first pass + reapplicant)
  - ≅86% from TCNJ
  - ≅41% nationally
  - We regularly double the national average because TCNJ is just that awesome

#### What do you think you need?

- 50% chance of being admitted to medical school
  - $\circ \cong GPA$
  - ≅MCAT

#### • Important

- Chances of being admitted to a medical school if you apply to ≅20 schools
- NOT admitted to 50% of medical schools that you apply to

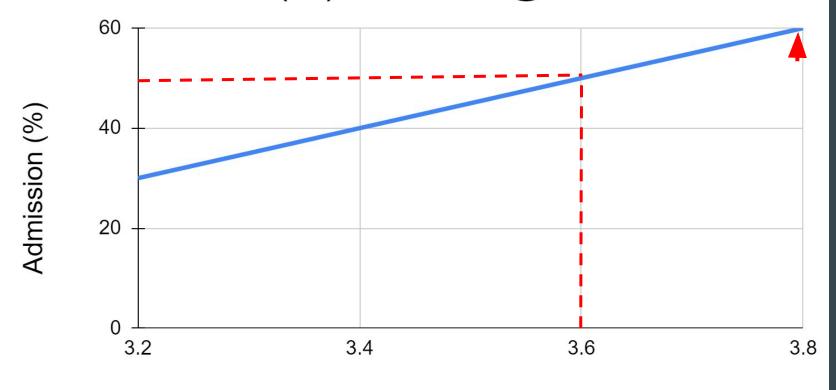
#### What are my chances?

- Assumptions
  - MD schools
  - Solid application
    - Letters, experience, essay, course selection, no red flags, etc.
  - Applying to reasonable schools
    - =  $\approx$  20 schools
  - Application is early in the cycle

#### How much does the GPA matter?

- Examples (assumes a solid application):
  - GPA: 3.2 + MCAT: 510 ≅30%
  - $\circ$  GPA: 3.3 + MCAT: 510  $\cong$  35%
  - GPA: 3.4 + MCAT: 510 ≅40%
  - GPA: 3.5 + MCAT: 510 ≈45%
  - GPA: 3.6 + MCAT: 510 ≅50%
  - GPA: 3.7 + MCAT: 510 ≅55%
  - GPA: 3.8 + MCAT: 510 ≅60%

#### Admission (%) vs. GPA @ MCAT 510

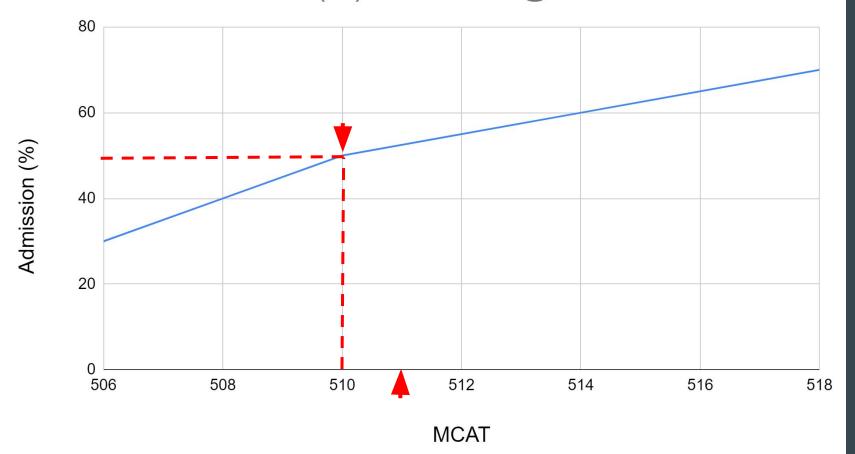


**GPA** 

#### How much does the MCAT matter?

- Examples (assumes a solid application):
  - GPA: 3.6 + MCAT: 506 ≅ 30%
  - GPA: 3.6 + MCAT: 508 ≅40%
  - GPA: 3.6 + MCAT: 510 ≅50%
  - $\circ$  GPA: 3.6 + MCAT: 512  $\approx$ 55%
  - $\circ$  GPA: 3.6 + MCAT: 514  $\approx$ 60%
  - GPA: 3.6 + MCAT: 516 ≅65%
  - GPA: 3.6 + MCAT: 518 ≅ 70%

#### Admission (%) vs. MCAT @ GPA 3.6



#### Take home messages

- Everyone has their own path
  - Apply when you are ready
  - There is no guarantee of admission
- The **MCAC** is here for advice and support
  - O Have a schedule and a plan, but be flexible
- Our advice
  - Focus on your undergraduate studies
    - Build measurable skills
  - You cannot repeat your college career
    - Academic damage is difficult to undo
  - Be self reflective and realistic
    - Know when to consider other medical careers

# General MCAC information mcac@tcnj.edu

Website <a href="https://mcac.tcnj.edu/">https://mcac.tcnj.edu/</a>



# Sudhir Nayak, Ph.D nayak@tcnj.edu

Ms. Helen Kull mcac@tcnj.edu

https://mcac.tcnj.edu/