

HOMEGROWN DOCTORS:
Nurturing the seed, Fulfilling the need

THE PRIMARY CARE PATHWAY PROGRAM

UNTHSC - Texas College of Osteopathic Medicine
Ann Smith, MDiv, MEd
Research, Assistant Director
Office of Rural Medical Education

Learning Objectives

At the end of this workshop, participants should be able to:

1

Articulate innovative strategies designed to help rural students achieve their DReam and to increase the number of primary care physicians in west Texas

2

Identify key challenges faced by institutions to provide resources and opportunities for rural students to become competitive medical school applicants

3

Describe the mutual benefits of all stakeholders, especially the students and the community for developing partnerships

Primary Care Pathway Program

“Our goal is to identify local students who are interested in becoming primary care physicians by nurturing them through an expedited pipeline from community college to medical school.”



Martians Have Landed...Rural Version

Martians have finally landed on Earth, specifically Valentine, Texas. The Martians do not speak any of the earthly languages.

Valentine, Texas

the only incorporated town in Jeff Davis County

2000 ~ 100% rural

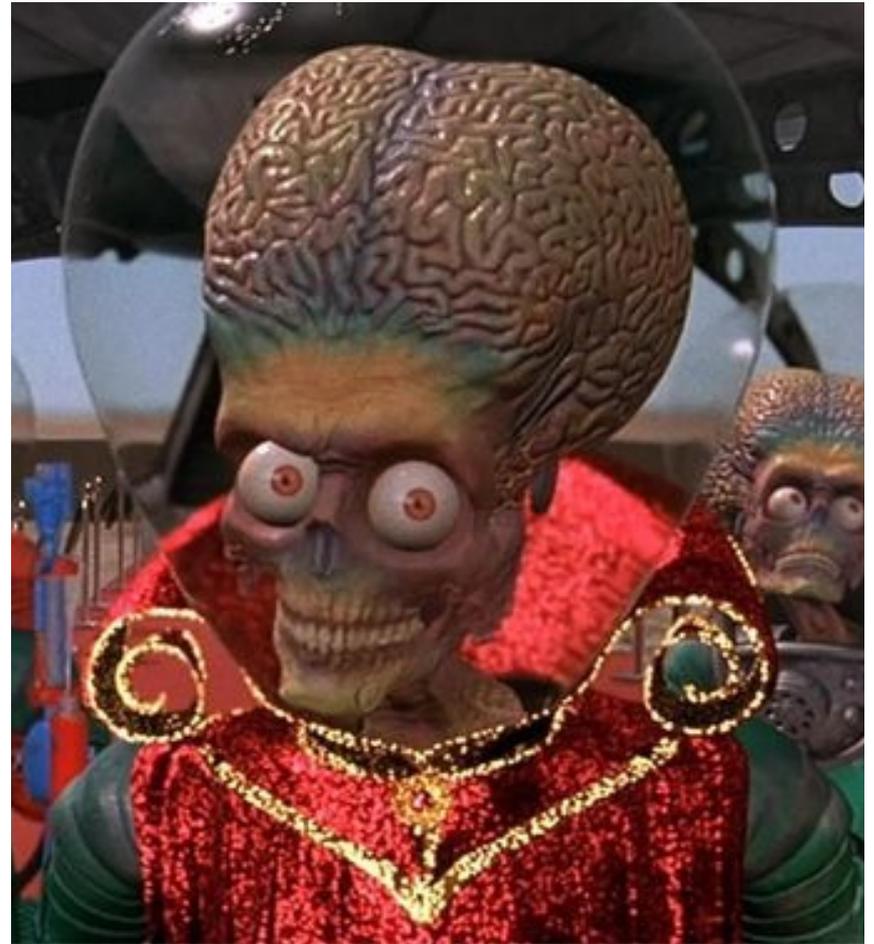
- Population 187
55% F, 45% M
- Median age 55
- Est. med income \$34,375
- Est. home value \$19,300
- Miles to Level 4 trauma 62
- Miles to Level 3 trauma 129
- Miles to Level 1 trauma 159

2019 ~ 100% rural

- Population 133
72% F, 27% M
- Median age 55
- Est. med income \$58,631
- Est. home value \$33,013
- Miles to Level 4 trauma 62
- Miles to Level 3 trauma 129
- Miles to Level 1 trauma 159

Martians Have Landed in Valentine, Texas

Pandemic protocols require all patients to be tested for COVID-19 and then given vaccinations, how will you communicate?

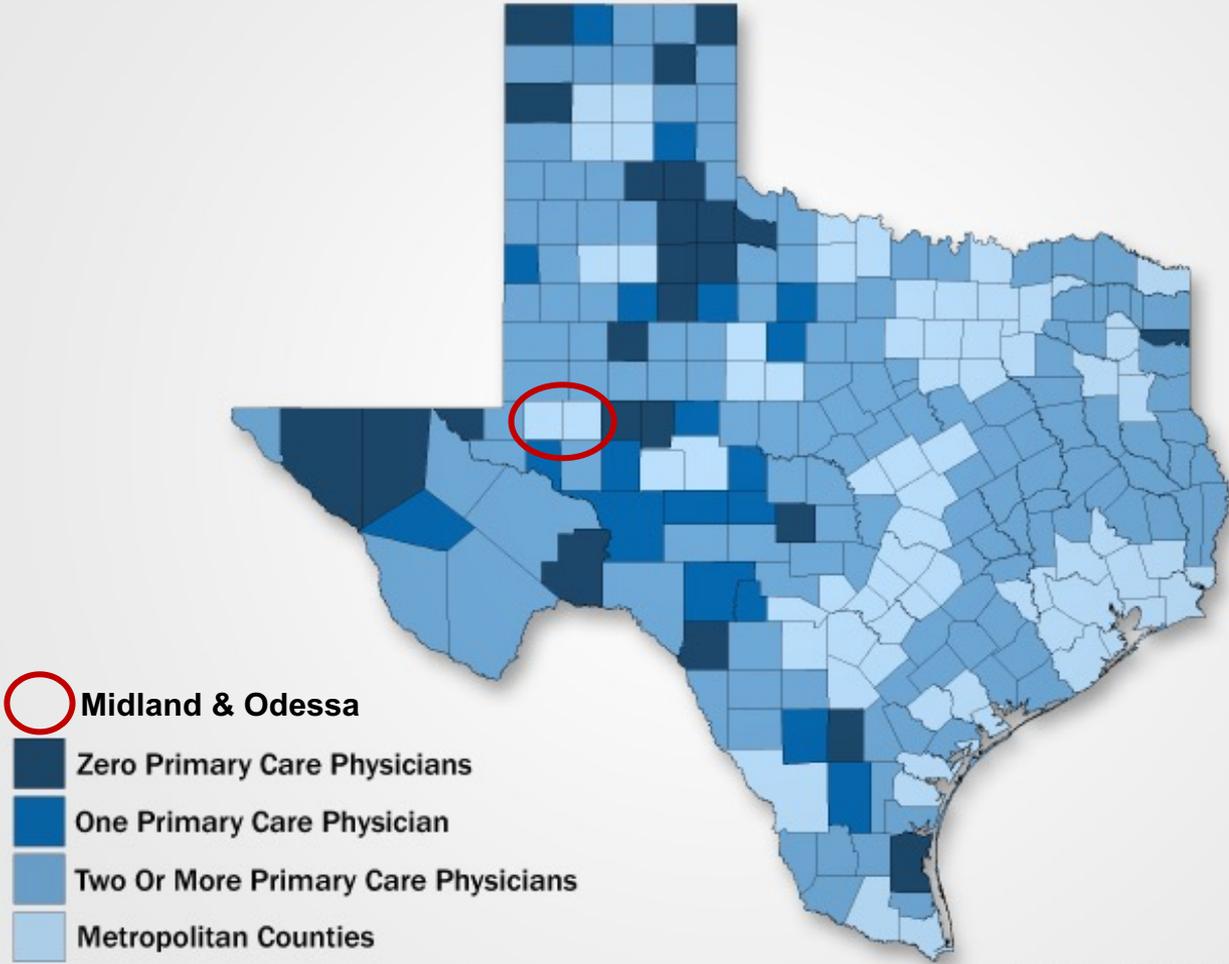




Martians Have Landed in Valentine Texas

One of the Martians appears to be injured. Because of the Martians differentiated body type, how will you transport them to healthcare providers?

PRIMARY CARE PHYSICIANS IN RURAL COUNTIES



SOURCE: TEXAS OFFICE OF RURAL COMMUNITY AFFAIRS



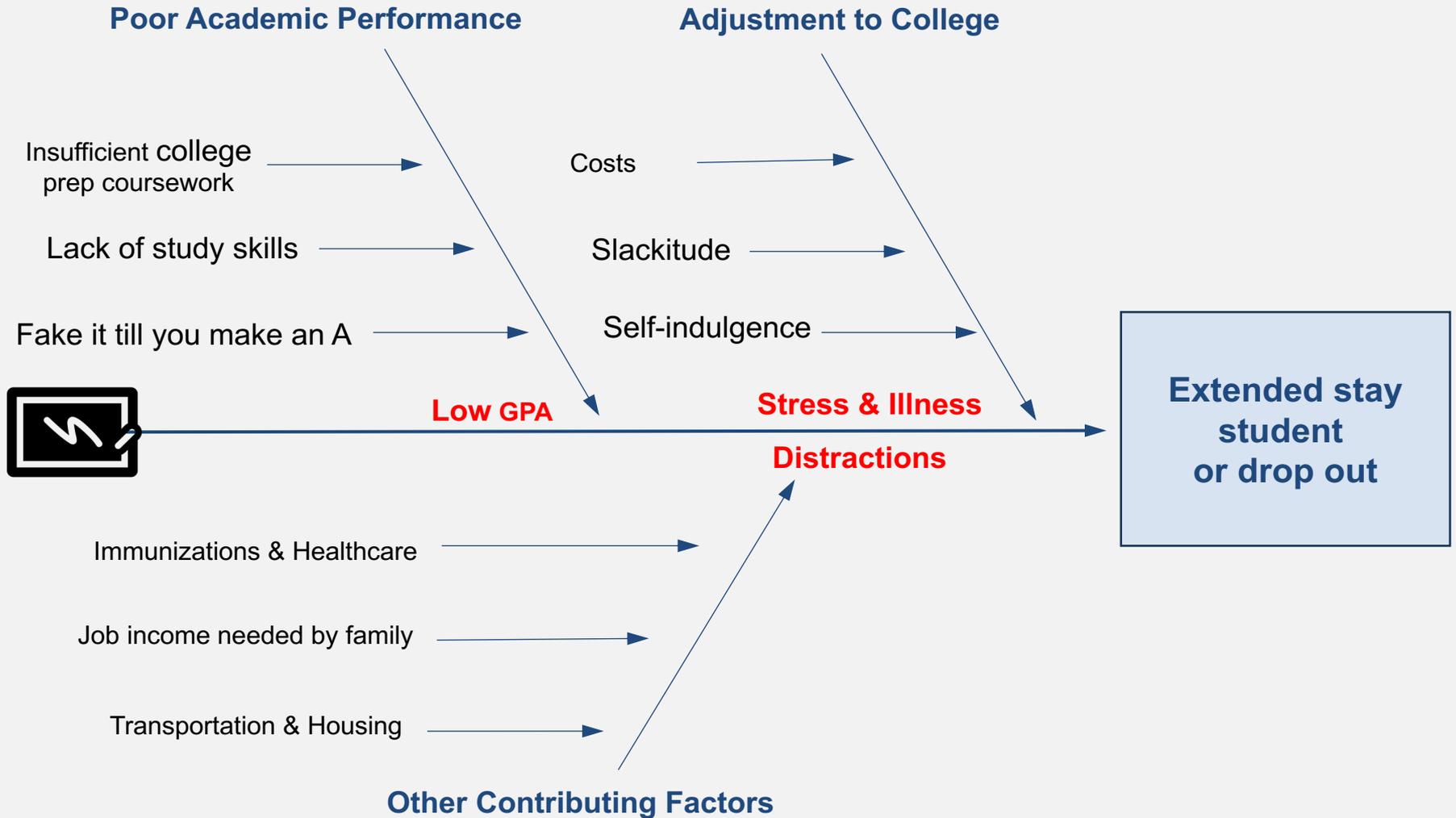
Martians Have Landed in Valentine Texas

Because the Martians do not have earth-regulated insurance coverage, how will you be paid for your services?

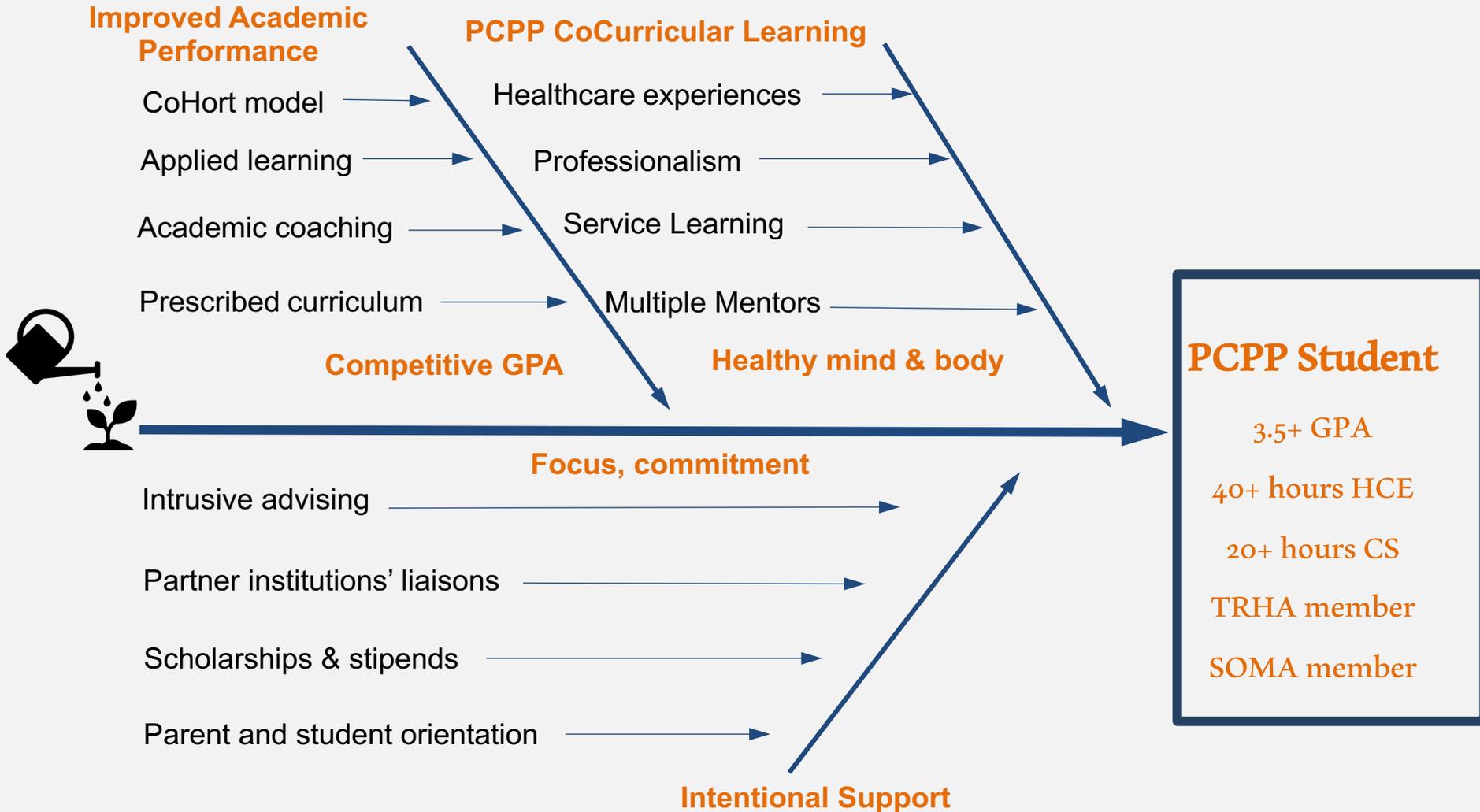


How might rural students feel like
Martians when they land on a four-year
college campus in an urban area?

Common Traits Among First Year College Students



First Year PCPP Students



Competitive Medical School Applicant

Cognitive

- 3.6+ GPA overall
- 3.5+ GPA BCPM
- Advanced lab sciences
- Research experience
- 507+ MCAT score

Non-cognitive

- HPAC letter-of-reference
- Healthcare experiences
- Community service
- Leadership roles
- Professionalism

What are rural and underserved students to do?

Physical isolation
on geographic
location

Less experienced,
novice instructors

High turnover in
faculty

Limited funding
from state and
federal agencies

Small enrollment
impacts resources
and assessments

Access to
healthcare mentors
and experiences
are non-existent

PCPP Curriculum @ Midland College

Years 1 & 2

Non-BCPM

Freshman Composition I

Technical Writing

Health & Wellness

Social/Behavioral Science

3 - Core Courses – Choice

BCPM

General Biology I /Lab

General Biology II /Lab

Anatomy & Physiology I /Lab

Anatomy & Physiology II /Lab

Microbiology for Majors /Lab

General Inorganic Chem I /Lab

General Inorganic Chem II /Lab

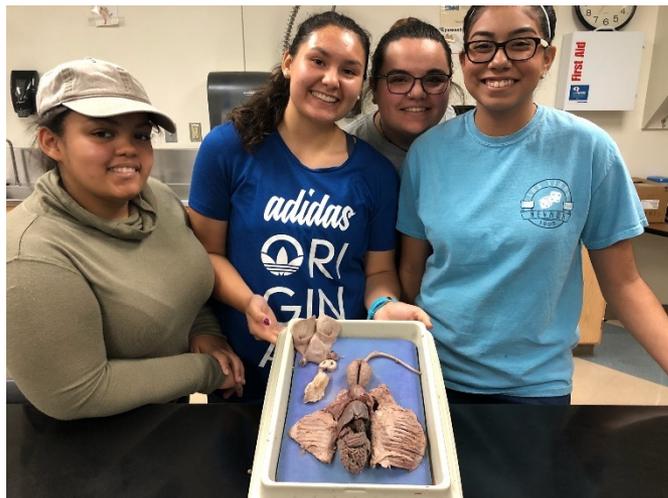
Organic Chemistry I /Lab

Organic Chemistry II /Lab

College Algebra

Pre-Calculus Statistics

College Physics I College Physics II



PCPP Curriculum @ UNT

Year 3

REQUIRED:

BIOL 3451 Genetics

BIOL 3621 Biochemistry

BIOL 3800 Animal Physiology OR

BIOL 4505 Comparative Animal Physiology

BIOL 3510 Cell Biology

BIOL 3381 Medical Bacteriology - must take lab

CHOOSE THREE:

BIOL 4300 Histology must take lab

BIOL 4250 Pharmacology

BIOL 4201 Immunology

BIOL 4091 Parasitology



SELECT 6-9 HOURS OF ELECTIVES:

HLTH 3300 Health Emergencies and First Aid

HLTH 3100 Epidemiology & Diseases

RHAB 4075 Drugs & Alcohol

RHAB 4275 Alcohol, Drugs, & Disability

AGER 4560 Minority Aging

PCPP

CoCurricular

Activities



Weekly 2-hour sessions* non-graded but required

New Student Orientation including parents and faculty

HIPAApotamus for Christmas

Boot Camp for Med School Applications

Midland Health and TCOM Internships

Research Appreciation Day @ UNTHSC

Mentoring with retired physicians and faculty

PCPP CoCurricular

Weekly Sessions

Financial
Literacy

Emotional
Intelligence

Implicit Bias

Culturally and
Linguistically
Appropriate
Services

Rural Health
Care

Professional
Communication
and Email
Etiquette

Define, Identify
and Embrace
Diversity

MMH Internship

Mentor Luncheon

Pickle Pledge

Problem Solving

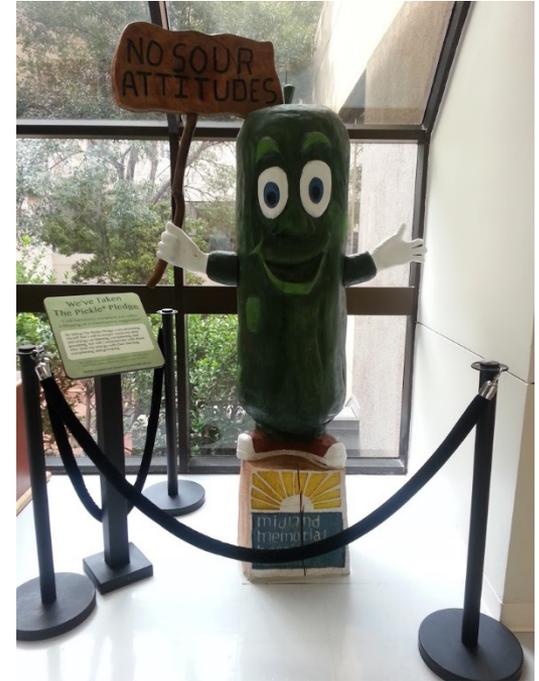
Heart Cath Lab

Ob-Gyn Rounds

Pathology

Radiology

ER & Trauma



UNTHSC Internship



Brain Dissection

Epidemiology Panic Room

Research: Do Sperm Sleep at Night?

DO Cache

Fort Worth Photo Scavenger Hunt

Days-in-the-life of OMSI



PCPP Matriculant

Cognitive

- 3.5+ GPA BCPM
- 3.5+ GPA Overall
- 60+ hours of sciences
- Research competencies
- Clinical skills
- Established study habits

Non-cognitive

- Leadership experience
- Culturally considerate
- Socially sensitive
- 160+ internship hours
- 50+ shadowing hours
- Research presentation

Prerequisites Comparison

	TMDSAS	TCOM	PCPP	Comments
Biology	12	12	33	Genetics, Anatomy & Physiology, Cell Biology, Microbiology,
Biology Lab	2	2	7	
Chemistry	6	6	6	
Chemistry Lab	2	2	2	
O-Chemistry	6	6	6	
O-Chem Lab	2	2	2	
BioChemistry	3		3	
Bio-Chem Lab			1	
Physics	6	6	6	
Physics Lab	2	2	2	
English	6	6	6	includes Technical Writing
Statistics	3	3	3	
Pre-Calculus			4	
College Algebra			3	
Semester Credit Hours	50	47	84	

<https://www.tmdsas.com/PLAN/medical/before-you-apply/education-requirements.html>

<https://www.unthsc.edu/texas-college-of-osteopathic-medicine/admissions-and-outreach/admissions-requirements-and-selection/>

Primary Care Pathway Program Participants

*anticipated status as of May 2021

CoHort	College Entry	Recruits	Enrolled	Current	TCOM Status
Alpha	2015	5	5	0	
Beta	2016	18	14	1	OMS 2
Gamma	2017	39	23	6	OMS 1
Delta	2018	61	24	8	TCOM EY 2021
Epsilon	2019	45	22	3	TCOM EY 2022
Zeta	2020	16	12	7	TMDAS Application 2021
Eta	2021	18	WIP		
Theta	2022	12			

Lessons learned: Intrinsic motivation, maturity, and self-reliance are integral to medical school success but can be elusive even in the most academically rigorous program.

PCPP Matriculants



THE PRIMARY CARE PATHWAY PROGRAM
PCPP PARTNERSHIPS

UNTHSC - Texas College of Osteopathic Medicine
Ann Smith, MDiv, MEd
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“Our goal is to identify local students who are interested in becoming primary care physicians by nurturing them through an expedited pipeline from community college to medical school.”

Primary Care Pathway Program Partners

University of North Texas Health Science Center (HSC)

Texas College of Osteopathic Medicine (TCOM)

Midland Community College (MCC)

Midland Memorial Hospital (MMH)

University of North Texas @ Denton (UNT)

Learning Objectives

At the end of this workshop, participants should be able to:

01

Articulate innovative strategies designed to help institutions develop partnerships to increase the number of primary care physicians in west Texas

02

Identify key challenges faced by the partnering institutions to develop the pathway and learn how to address obstacles

03

Describe the mutual benefits of all stakeholders, especially the students and the community

Overlapping Spheres of Influence

Ethnicity, income and
geography contribute to
the opening and
sustaining academic
pipelines



Community Partnerships



Enhancing opportunities across ethnic, racial, economic, and geographic barriers rests on customizing programs for local regions while remaining focused on the goals

Cooper, Chavira, & Mata, 2005

Community Partnerships

PCPP Solutions

Project based learning in connection with community partners

COVID Tracking Project

vaccine scheduling with the Midland County Health Department

elder check-in through the Council on Aging

alternative meal delivery with Meals-On-Wheels

health literacy projects for the Boys & Girls Clubs

developing traditions (graduation cords, achievement celebrations, etc.)

Overlapping Spheres of Influence



Families are key to students' developing and sustaining educational and career aspirations and school achievement

Familial Partnerships

family-school partnerships provide positive skill-related resources that underpin achievement

- parents gain knowledge about school subjects that can assist their instruction to the child
- parents receive accurate information about the child that enables them to provide better support for achievement
- teachers providing students with greater achievement-related attention when they know the parents are also involved in the process

Familial Partnerships

family-school partnerships provide positive motivation-related resources

- school and parents jointly highlighting the value of school to the child and the child internalizing this valuing
- parents modeling active engagement and agency with the school that the child then emulates



- Pomerantz & Moorman, 2010

Familial Partnerships

genuine partnerships between school and family

requires being mindful

- not to assert inappropriate authority when true collaboration is needed
- differentiation between parent attendance (a low form of engagement) and parent participation (a rich form of engagement)

Familial Partnerships

PCPP Solutions:

Parent meetings held after work hours

childcare/tutoring services for siblings

celebrations for milestones – recognize parent role in achievements

Parent-to-Parent Mentoring

intentional introductions year 2 parents to year 1 parents

Drawing on parents' strengths to enhance the program

validate parents' presence while modeling role of support

seek parent participation

attaching patches to scrubs and lab coats

cooking lessons for living on their own

auto –care to sustain

resource management (time, money, budget)

Overlapping Spheres of Influence



Importance of recognizing how early children's pathways in math and language divide as they move through school

Educational Partnerships



Critical to understand how various cognitive skills fit together to support learning

- Higher level critical thinking skills are not domain specific
- Learning hurdles may be skills not typically associated with domain learning
- Use of language can impact the learning of mathematical concepts

Educational Partnerships

PCPP Solutions:

Vertical teaming with high school educators and community college instructors

Sharing of resources and personnel on the college campus

Lateral working relationships i.e., administrators>administrators,

College students provide tutoring and mentoring to high school students

College students share their journey via social media

Hospital provides career exposure and basic healthcare training

for high school and college students

Medical school serves as consultant and resource for high school and college

speakers, library access, campus visits

Strong relationship building as teachers actively recruit for the PCPP

first name basis, occasional check-in beyond program planning

wearing school colors when visiting campuses

Overlapping Spheres of Influence

Sustained educational partnerships
draw on long-term data to connect
measurable goals from childhood to
college and careers



Sustained Educational Partnerships

PCPP Solutions

- Quarterly in-person partners meetings
- Monthly virtual meetings for partners
- Communication flow among all partners
- Mindful of each partner's generosity
- Saying thank you often

Overlapping Spheres of Influence

Across age, ethnic, and income groups, the most successful students build links across their families, schools, peers, and communities who in turn support students' pathways

Successful Students



PCPP Solutions

Midland Medical Society

Permian Basin Strategic Planners

County Commissioners Court

Midland Reporter Times

Texas Rural Health Association

Partnership is Key



Families – encouragement, support, understanding



Secondary education – college prep courses, learning skills



Midland College – academic rigor, research, lab skills,



CoCurricular – professionalism, application boot camp, study skills



Midland Memorial Hospital – summer internship, clinical skills,



Midland community – financial support, preceptors, marketing



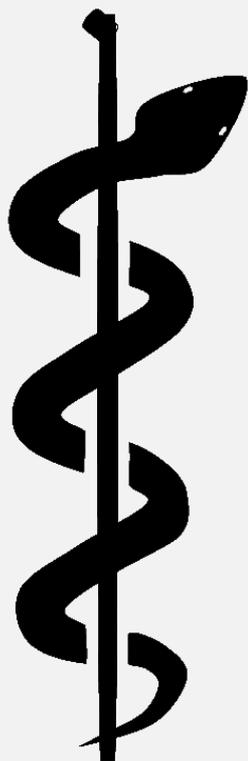
UNT @ Denton – academic rigor, lab skills, trends in medicine,



UNTHSC – summer internship, oversight, resources for partners

Lessons Learned

ΒΥΔΕΖ



Intrinsic motivation, maturity, and self-reliance are integral to medical school success.

Intrinsic motivation, maturity, and self-reliance are not part of the common core.

Pandemics do not play well with others.

Pandemics are the honey badger of diseases.

Biology and Chemistry (and labs!) can be taught online.

Economic downturns interfere with retention rates.

Economic downturns can make a college education much more attractive

Acknowledgements

- Valentine Texas Demographics accessed 04/01/2021
<http://www.city-data.com/city/Valentine-Texas.html>
- Mars Attacks images used with permission accessed 04/01/2021
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<https://www.unthsc.edu/texas-college-of-osteopathic-medicine/admissions-and-outreach/admissions-requirements-and-selection/>
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