

Developing 3-year Accelerated Programs: Nuts & Bolts, Lessons Learned, and Pandemic Survival Skills

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Consortium of Accelerated Medical Pathway Programs

<https://www.acceleratedmdpathways.org/>

Participants in this session should be able to:

- Describe accelerated pathway programs models that lead to the MD degree and early, direct progression entry into family medicine residency
- Identify strategies and resources for developing a new accelerated program, including regulatory organizations
- Identify strategies and resources for program management, including issues related to student progression along the pathway and transition to residency
- List challenges and creative solutions for developing and managing accelerated programs
- Collaborate with peer schools to meet new, emerging & unforeseen issues as demonstrated recently by the COVID 19 pandemic



Highlighted *Nuts & Bolts*

- Assessment and academic progression and deceleration.
- Working with stakeholders- Institutional educational leadership (Dean, Vice Dean, Chair, Program Director), LCME, NRMP.
- Recruitment and acceptance of students
- Using data to build support- data from AAMC GQ data

TTUHSC FMAT Program Goals & Rationale

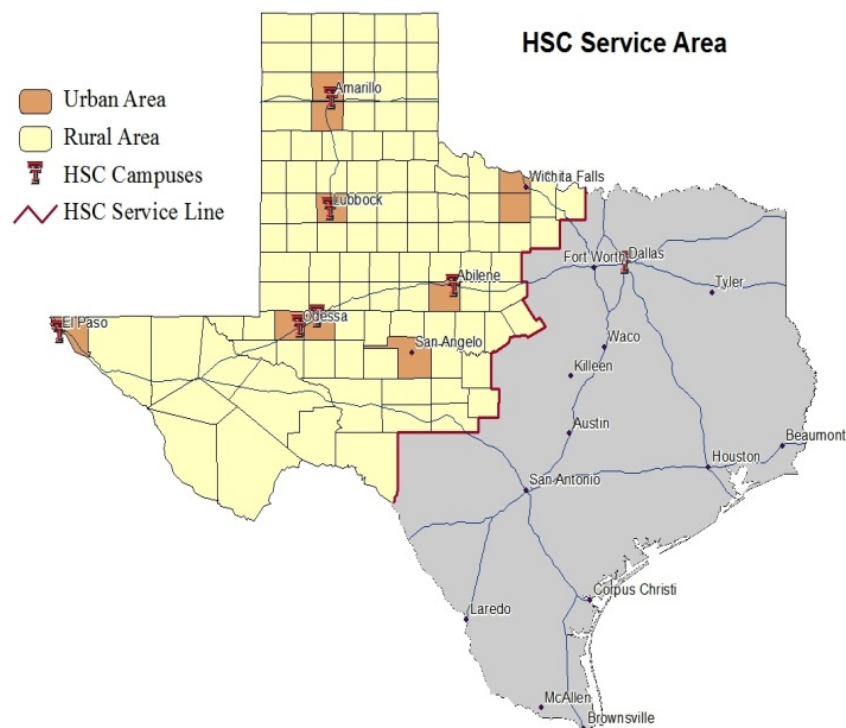


- To increase the number of students from TTUSOM choosing residencies in Family Medicine and ultimately building careers in primary care throughout Texas
- To increase the percentage of TTUHSC SOM graduates in TTUHSC-affiliated FM residency programs
- To take advantage of the implementation of an accelerated training model create an opening for educational innovation and new methodologies



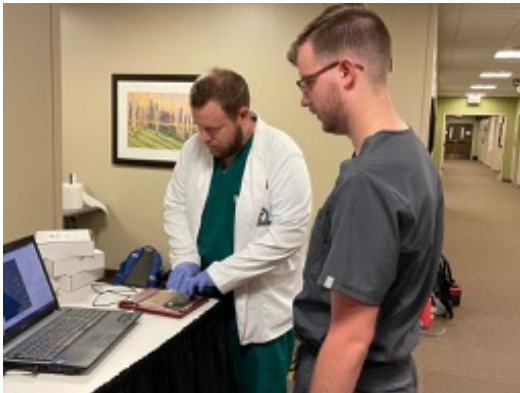
TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™
School of Medicine

FMAT Program at TTUHSC Key Details



- Approved by LCME in Feb. 2010; 1st class selected & began training in June 2011, graduated June 2013, about to begin 11th class
- Class size: 6-20 students (out of 180-student class size)
- Year-round training for 3 years
 - MS1 & MS2 years are unchanged
 - Longitudinal FM clerkship in MS2 year
 - M3 Year includes five 8-week clerkships + capstone course
 - No MS4 year
- Linked to **Family Medicine** residency programs in Lubbock, Amarillo and the Permian Basin; uses NRMP FM Waiver
- Sources of support: HRSA Pre-doctoral grant, Dean's office scholarship funds, high-profile institutional priority

FMAT Selection Process



- 2 windows for admission:
 - Students applying to medical school-- Medical School Application Cycle
 - First-Year medical students-- Fall of the MS1 year
- Key Criteria:
 - Demonstrable interest in Family Medicine
 - Preparation & readiness for an accelerated program
 - Measures of performance in college and medical school
- Interview with FMAT Selection Committee Faculty



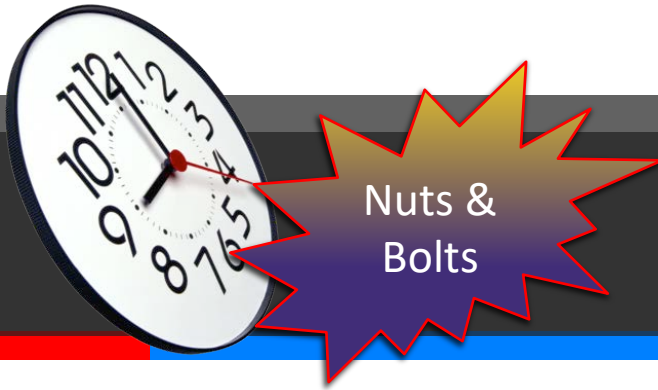
FMAT Curriculum

FMAT Curriculum	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Phase 1		P3 Anatomy, Histology & Embryology 10 Weeks		P3 General Principles 8 Weeks			Organ Systems 1: Immune & Hematopoietic, Cardio 10 Weeks		P3 Organ Systems 2: Renal, Respiratory 8 Weeks	CBSE		FMAT 1
		Development of Clinical Skills 1 (DOCS 1)										
Phase 1	Phase 2	FMAT 1	Organ Systems 3: Gastro, Musk, Conn, Skin 7 Weeks	P3	Organ Systems 4: Neuro, Behav, Repro 12 Weeks	CBSE	Organ Systems 5: Endocrine, Multiorgan 7 Weeks	CBSE	Step Enhancement/Step 1		Clerkships 8 Weeks	
			FMAT 2 Family Medicine Clerkship				FMAT 2		Non-clinical electives		Integration Seminar	
			Basic Medical Spanish & DOCS2							SRW	*Step 1	
Phase 2	Phase 3	Clerkships 24 Weeks					Clerkships 8 Weeks		FMAT 3 / Transition to Residency			
		Integration Seminar					Integration Seminar		Advanced Clinical Training			
Note: Clerkships can be taken in any order. 8-Week Clerkships: Internal Medicine, OB\GYN, Pediatrics, Psychiatry and Surgery										*Step 2CK		
9/1/21												

Program Accomplishments As of February 2022



- 116 students began FMAT training in 11 classes (c2013-2023)
- 67 FMAT graduates (c2013-2021), 28 currently in FM residency; 79% completion rate
- 44 residency graduates, all in primary care and most in Texas (c2013-2018); 68% rural/HPSAs
- 27 students in MS2/MS3 training during 2021-2022
- ~15 MS1 have accepted FMAT seats through SOM Admissions process (c2024)
- 12 students have opted to return to the 4-year program (reasons: couples match, residency elsewhere, residency other than FM); 1 resident moved to OB-Gyn
- 9 students have been counseled to return



What We've Learned

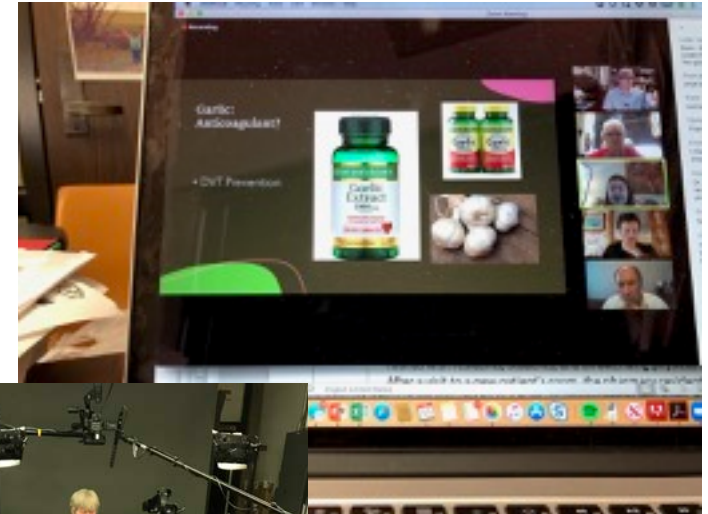
Biggest Challenges

- Connecting with GME programs early & often
- Anything that affects time for medical students, such as the need for a delay before Step 1 or personal challenges (eg. pregnancy)
- Campus distribution for MS3/residency
- Identifying students at risk of not passing Step 2
- Protecting 3-year pathway to support primary care

Happiest Outcomes

- Enthusiastic support from basic sciences & FM faculty
- Ability to recruit students into primary care who might have chosen other specialties
- Student interest in TTUHSC because of FMAT option
- Strong PGY1 readiness after 3 years of medical school
- Resident success & placement plans
- National visibility & involvement with other schools with 3-year programs

Covid Impacts: FMAT₁ Summer 2020



Assessment and academic progression and deceleration



Nuts &
Bolts

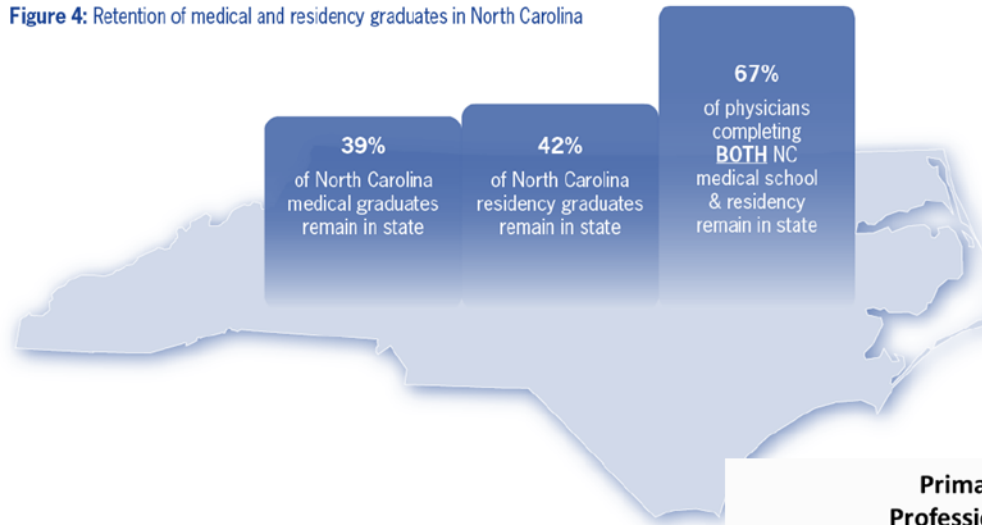
- Assessment for accelerated programs should generally align with assessment for traditional tracks.
- Typical assessment measures: NBME & USMLE exams, Performance in courses and clerkships, enrollment/retention data, Residency milestones, post-residency practice
- Deceleration
 - Program recommendation: Academic challenges, Step failure, Readiness for residency, Professionalism issues
 - Student choice: Concerns about curricular progress, Personal circumstances, Changes to specialty preferences, Changes to residency site choices

Fully Integrated Readiness for Service Training

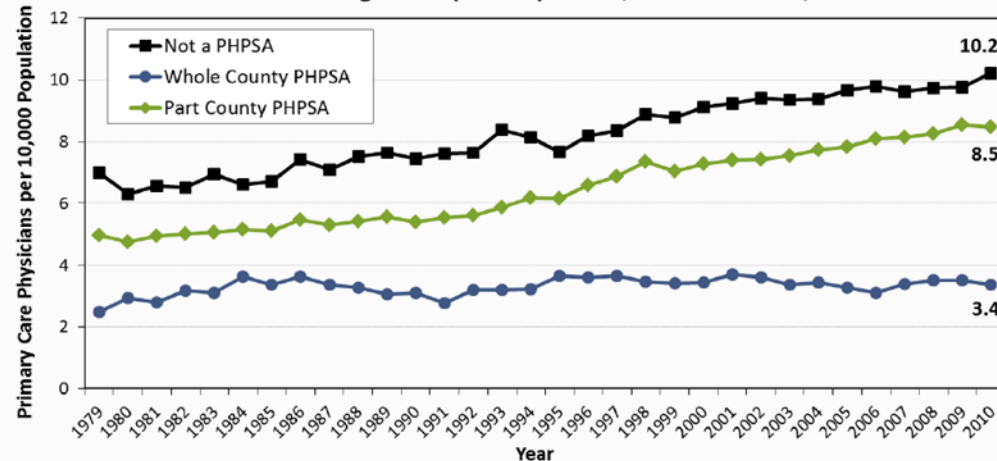
Catherine L. Coe, MD

Background

Figure 4: Retention of medical and residency graduates in North Carolina



Primary Care Physicians per 10,000 Population by Persistent Health Professional Shortage Area (PHPSA) Status, North Carolina, 1979 to 2010

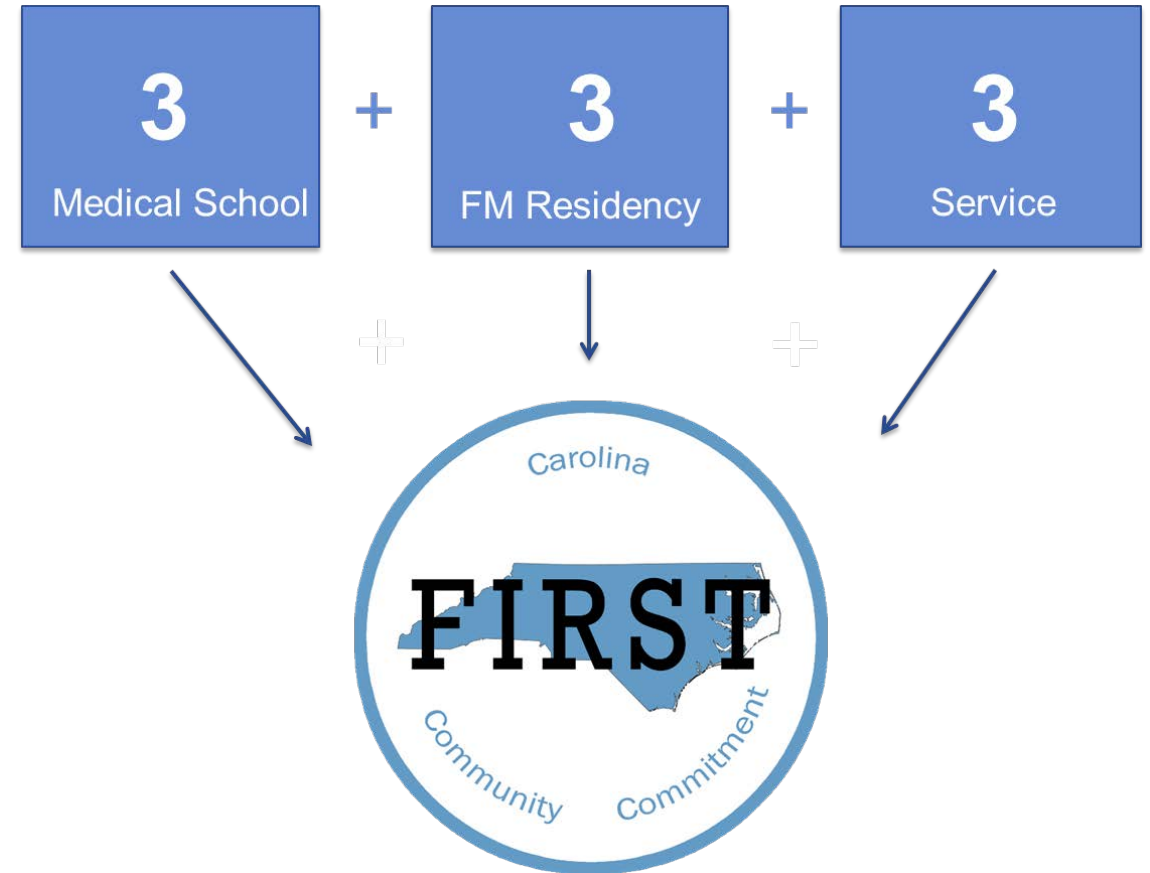


Sources: *Physician data:* North Carolina Health Professions Data System, 1979 to 2010; North Carolina Office of State Planning. Figures include all active, instate, nonfederal, non-resident-in-training physicians licensed as of October 31st of the respective year. Primary care physicians include those indicating a primary area of practice of family practice, general practice, internal medicine, Ob/Gyn or pediatrics. North Carolina population data are smoothed figures based on 1980, 1990, 2000 and 2010 Censuses. As of 2011, PC PHPSA calculations will be updated with data from most recent ARF release. *Health Professional Shortage Areas:* Area Resource File, HRSA, Department of Health and Human Services. Persistent HPSAs are those designated as HPSAs by HRSA from 1999 through 2005. PHPSA calculations from 2011 onward completed using most recent 7 HPSA designations.

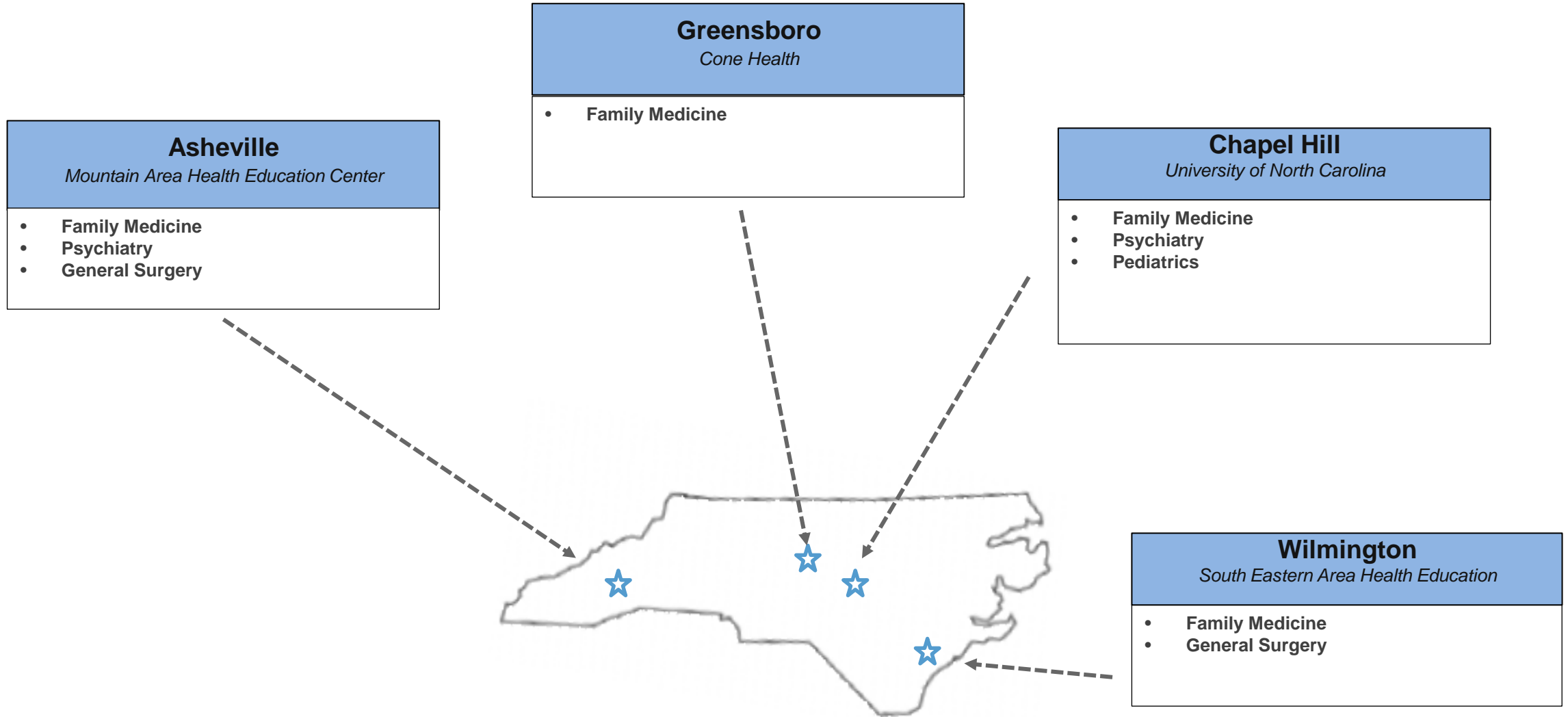
FIRST Program

Established in 2015 as an
LCME-approved parallel
curriculum

Accelerated and enhanced
three-year medical school
curriculum to serve the people
of North Carolina



FIRST Program



Curriculum Highlights

Early responsibility & Patient relationships

Mentoring

Enhanced feedback

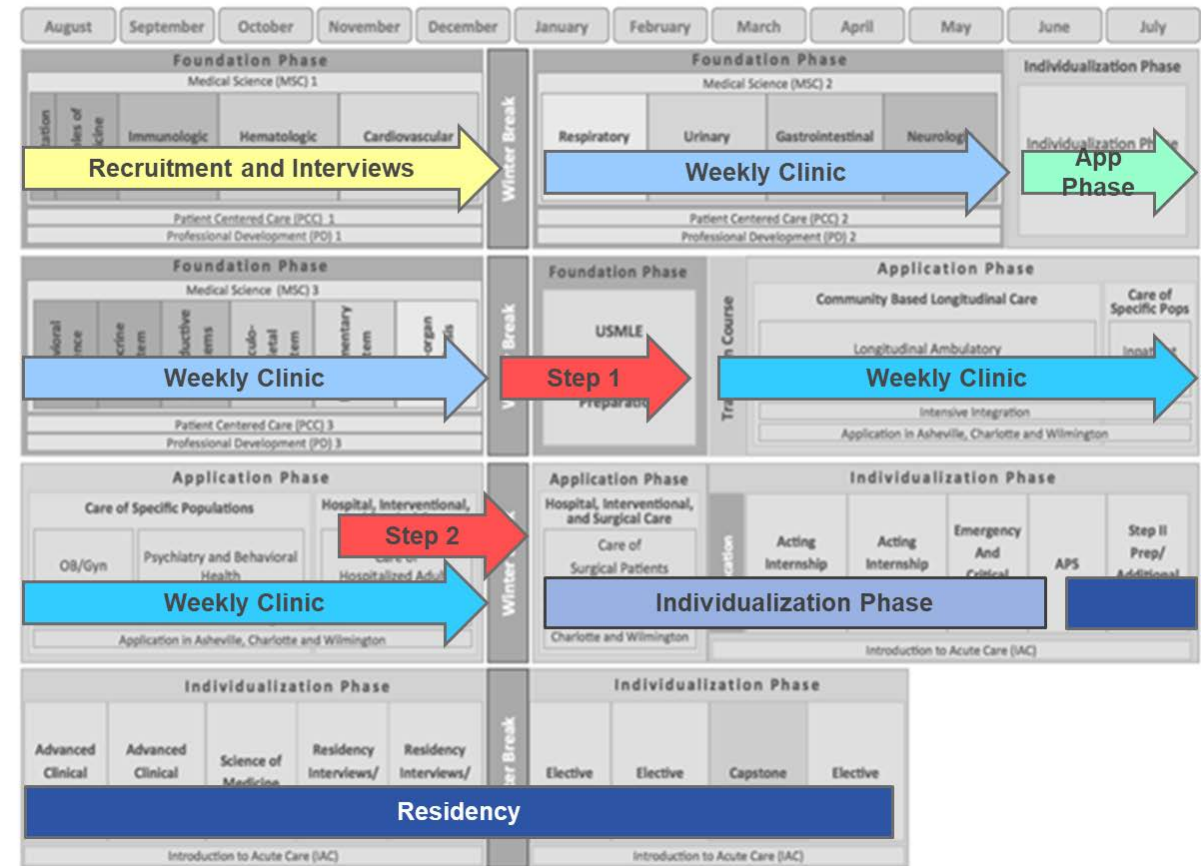
- Continuity with preceptors and faculty

Health Systems Science in Practice

- Continuity with patients over 3-6 years

Service

- Partnership with the Office of Rural Health



Outcomes

Class	2018	2019	2020	2021	2022	2023
Accepted Students	3	2	3	4	6	8
Pass Step 1	100%	100%	100%	100%	100%	-
Pass Step 2	100%	100%	100%	100%	-	-
Graduated Students	2	2	2	2	-	-
Notes	One decided to pursue Psychiatry	Both matched to UNC Family Medicine	Expansion to branch One decided to decelerate	Expansion to branch, then hospital sale One decided to pursue critical care	Expansion to Psychiatry and branch campus	Family Medicine General Surgery Pediatrics Psychiatry



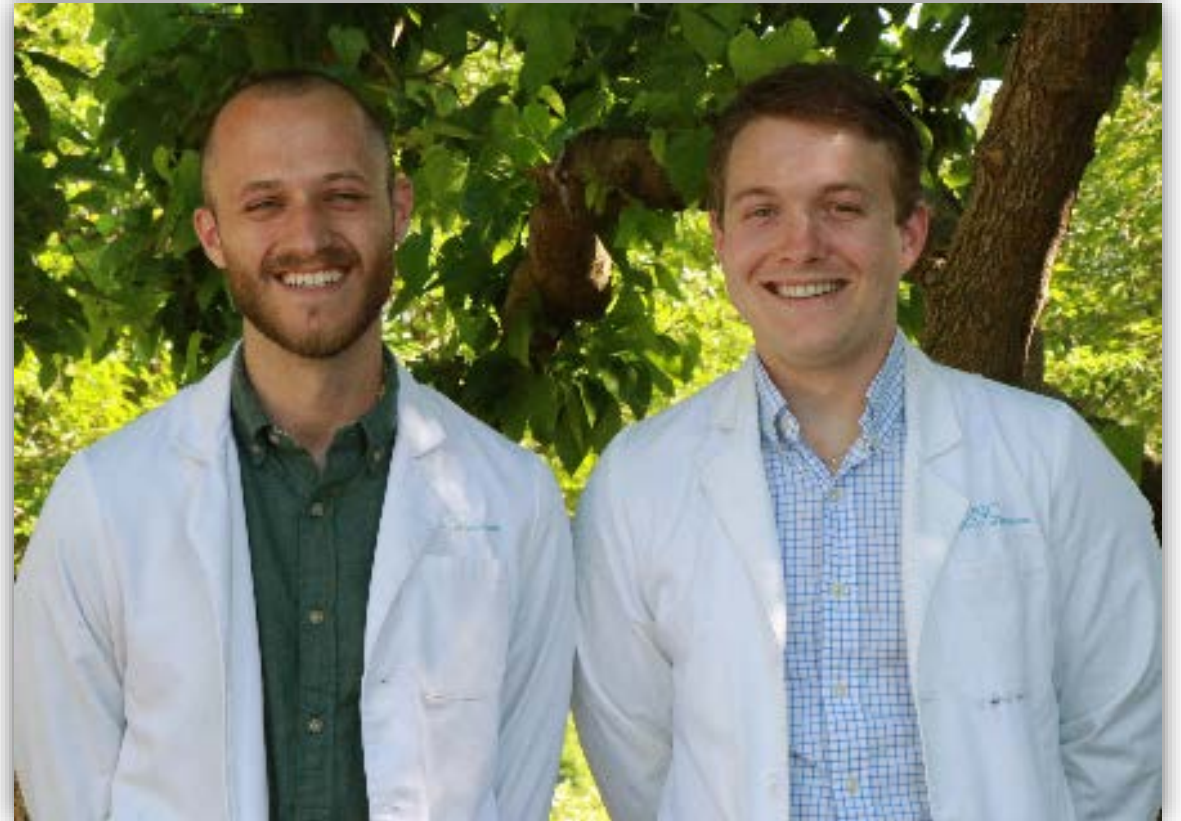
Outcomes

Thane Campbell, MD (L)


- Midway Medical Center – Clyde, NC

Kyle Melvin, MD (R)

- UNC Primary Care at Chatham – Siler City, NC



Working with Stakeholders



Nuts & Bolts

UME

- Dean Suite buy-in
- Approval by Education Committee/curriculum governing body
- LCME Submission
 - 130 weeks
 - Off-ramp option
 - Ability to take electives/individualize curriculum

GME

- Program buy-in if 'direct-progression'
- NRMP Consultation
 - Separate program codes to ensure transparency
- All-in Match Exemption



Accelerating Entry into Primary Care Practice:

Overview of the OSUCOM 3-Year Primary Care Track

Program Co-Directors

Allison Macerollo, MD and Kristen Rundell, MD

Program Manager

Ericka Bruce, MEd



THE OHIO STATE
UNIVERSITY

Goals of the OSU Primary Care Track Program

Graduate more Ohio primary care physicians faster

Reduce student loan burden

Create an innovative program that serves as a national model

Attract students from across the nation to OSU

Address national and Ohio shortages of primary care physicians

Accelerated Programs: A National Snapshot



Accelerated Medical Pathway Programs

Why do they exist?

Address the physician shortage

Reduce student loan debt

Improve access to care

What purpose do they serve?

Modernize medical education

Competency based pathways

UME-GME Continuum

AMA Bulletin Accelerating Change in Medical Educations. “Why medical school are building 3 year programs”. August 20, 2018



OSU's PCT Program at a Glance

Overview and Outcomes

OSU Primary Care Track Program

- Our Beginnings:
 - LCME approval: 2015
 - Alpha class enrolled 2017
- Our Present:
 - Currently 12 students enrolled and 4 graduates
- Our Successes:
 - Created innovative medical school pathway
 - All students to date have received some tuition reduction (scholarship)
 - Graduated 2 classes, started as PGY-1s
 - 100% Retention of students
 - Full complement of students each year

Program Highlights

Summer Primed for Practice Program

Introduction to clinical care and documentation, ACE, learning community, and additional meetings/lectures with COM faculty & staff

Longitudinal Ambulatory Clinical Experiences (ACE)

ACE sessions begin during Primed for Practice and continue through all 3 years. Preceptor(s) will be at an OSU FM office

Summer between Med1 & Med2

Host Defense block including ACE sessions will be held over this summer


Transition into Residency

PCT program ends in early May allowing for time off before residency begins in July

Curriculum Specifics

All primary objectives and assessments in the LSI curriculum will remain the same

Acceptance into the Accelerated Primary Care Track program comes with direct progression into our OSU Dept. of Family and Community Medicine Residency Program pending successful completion of your medical school training.



Nuts & Bolts

Admission and Acceptance

- Admission models:
 - Admission to accelerated track upon acceptance
 - Admission after acceptance to COM
- Note it is essential that the students be accepted with the same metrics as the 4 year medical students
 - Validity – this is not med school lite
 - Students may need to transfer to 4 year medical school model

Interview Team

Director (s) and Coordinators of the Accelerated Program

Program Director or Associate Program Director of the Residency

Current Accelerated Medical Students (preferably M1s)

Graduates of the Accelerated Program

Residents

Note: need to have time without faculty for students to interact with other students

Acceptance

After deliberation, COM gives list of accepted students to accelerated program. The program decides which students to offer positions.



3+ Accelerated Track

Three year Accelerated MD Pathways

Shou Ling Leong, MD

*Assistant Dean for Pathways Innovation
Director of Longitudinal and Accelerated Pathways*

*Associate Vice-Chair for Education and Predoctoral Director
Professor of Family and Community Medicine*



PennState
College of Medicine

inspired together

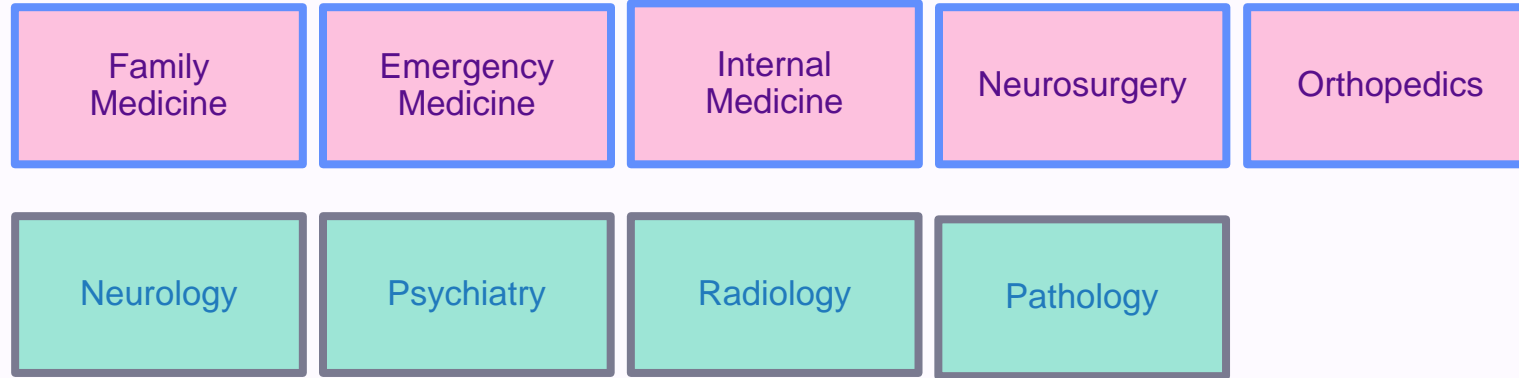
Medical Center

3+ Accelerated Pathways

- In 2014, Penn State College of Medicine launched the **Family Medicine accelerated pathway** to address
 - Student debt
 - Physician shortage
 - UME-GME continuum
- **There are now 12 accelerated pathways**
- **Other goals**
 - Individualized education for students who have already chosen their career specialties
 - Early clinical exposure starting in year one
 - Mentoring
 - All students are assigned a mentor

3+ Accelerated Pathways

MD Pathways



MD/PhD Pathways



PennState
College of Medicine

inspired together

Medical Center

Clerkship Models

B
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C
K



L
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C



Using Data to Build Support

Critics of the 3 year accelerated programs are concerned about potential negative consequences of the shortened curriculum:

- ❑ Poor quality of education
- ❑ Graduates not prepared for residency
- ❑ Increased stress and burnout



Research Questions

Study using the AAMC graduation questionnaire (GQ):

Compared to four-year peers, how did graduates of accelerated programs rate/respond to the following?

- Satisfaction with the quality of their education
- Readiness for residency
- Learning environment and burnout
- Debt burden and scholarships



Consortium of Accelerated Medical Pathway Programs (CAMPP)

- Funded by Josiah Macy Jr. Foundation
- Nine founding members (now 26)

<https://www.acceleratedmdpathways.org/>



ACCELERATED PROGRAMS QUERIED



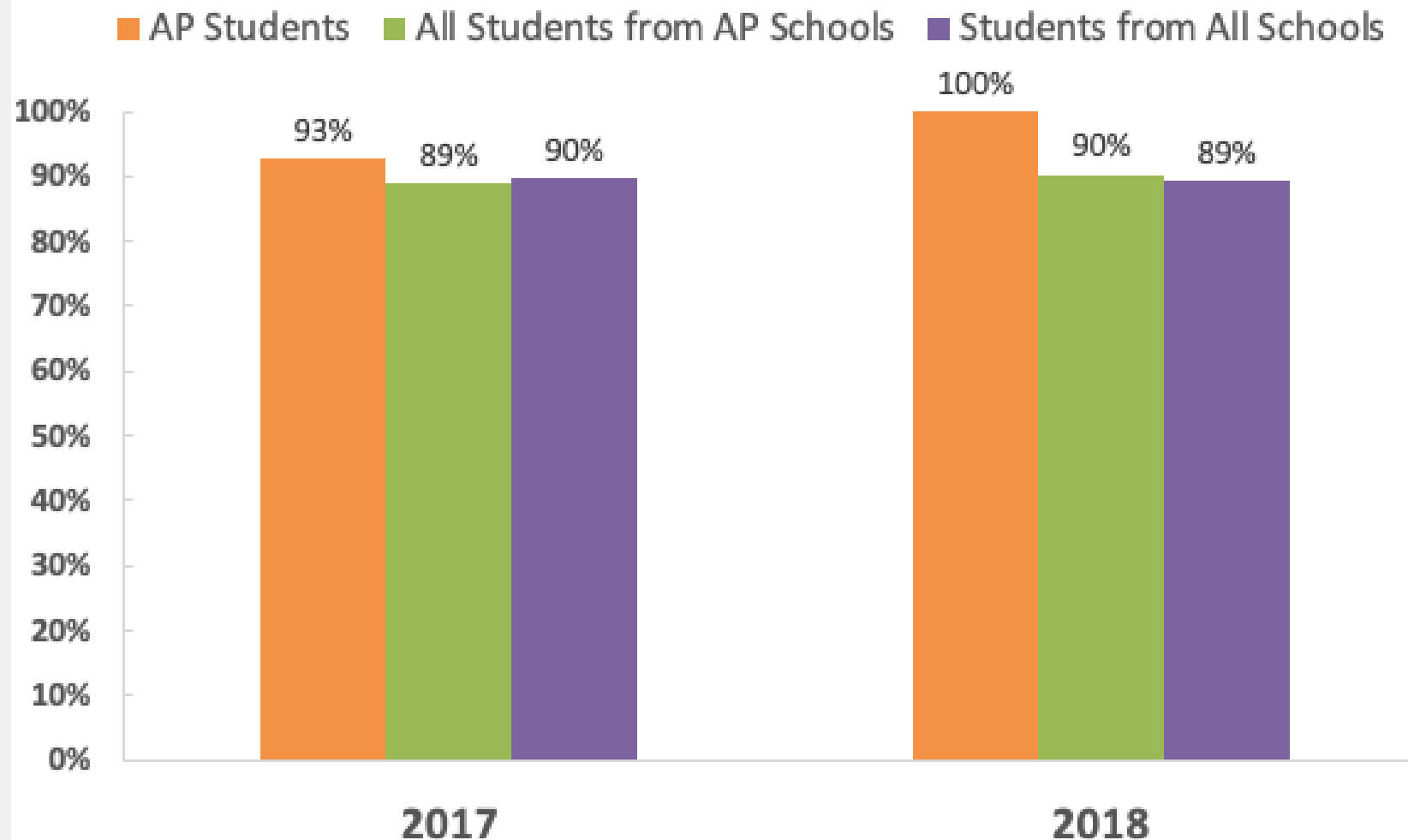
Study of the Graduates

- A customized AAMC graduation questionnaire (GQ) was created for GQ participants from 2017 and 2018
- Pool data across 9 schools with accelerated pathways
- Cohorts
 - **AP Students:** three-year MD graduates from the nine - **90 students**
 - **AP Schools:** all graduates not in accelerated pathway from the nine schools **~1300 graduates**
 - **All Schools:** graduates from all U.S. medical schools **~19,000 graduates**

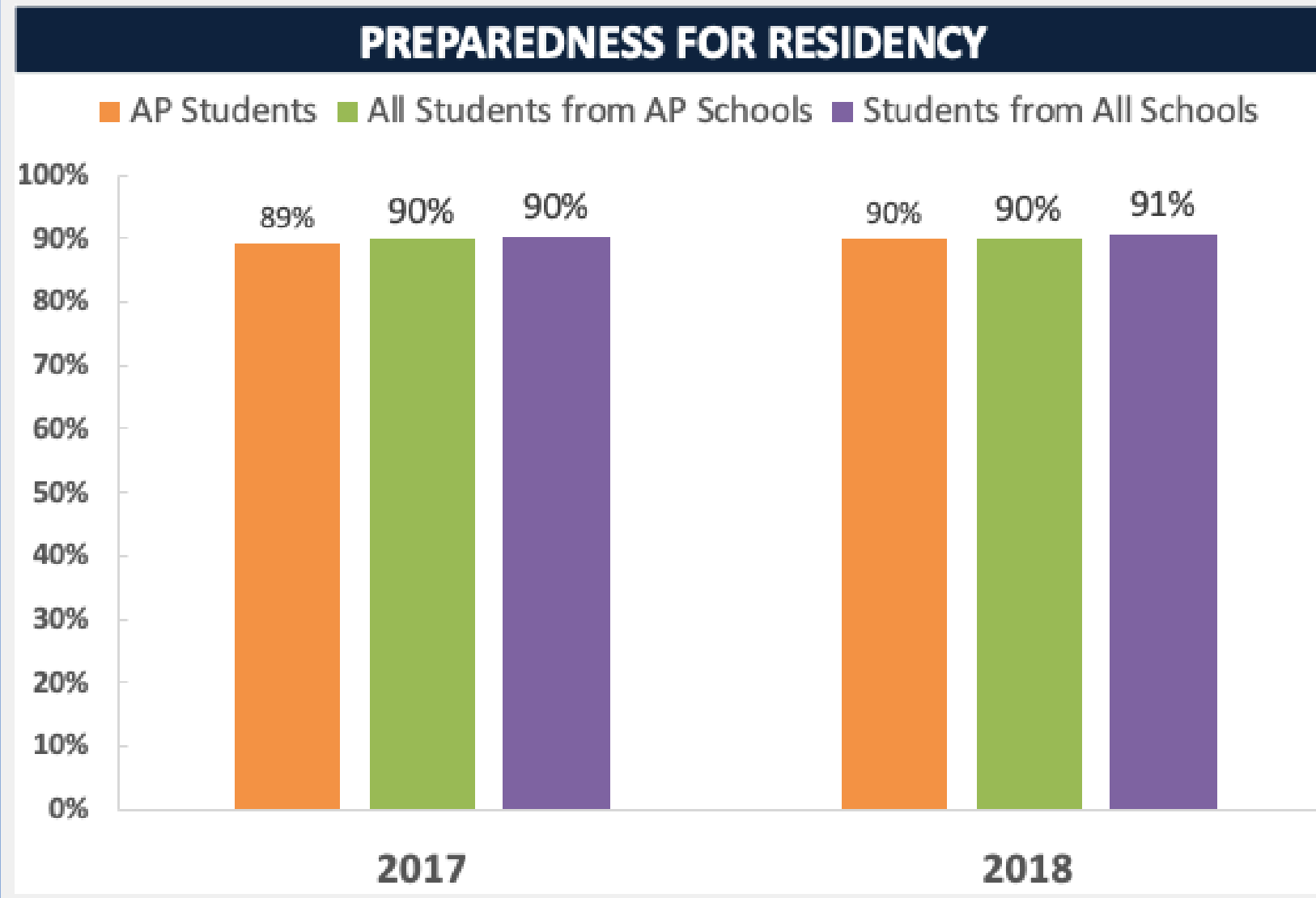


SATISFACTION WITH QUALITY OF MEDICAL EDUCATION

Q: Overall, I am satisfied with my medical education. % Agree and Strongly agree



Q: I am confident that I have acquired the clinical skills required to begin a residency Program. % Agree and Strongly agree



Q: Medical School Learning Environment Survey instrument consists of 7 items where higher scores are more positive.

Emotional Climate, combines 3 items; possible range from 0-15. Faculty Interaction, combines 4 items, possible range 0-20.

Oldenburg Burnout Inventory for Medical Students scale instrument consists of 16 items where higher scores signify higher burnout.

Exhaustion and Disengagement, includes 8 items each, possible range of 0-24.

LEARNING ENVIRONMENT & BURNOUT					
	Cohort	AP Students	All students from AP schools	Students from ALL schools	ANOVA F statistic, p value
Learning Environment - Emotional Climate	2017	10.5	9.4	9.6	F=3.12 p=.044
	2018	10.9	9.8	9.5	F=7.07, p<.001
Learning Environment- Faculty Interaction	2017	15.7	14.2	14.2	F=2.84,p=.058
	2018	16.0	14.6	14.3	F=7.40, p<.001
Burnout - Exhaustion	2017	11.3	11.1	11.1	F=.05, p=.980
	2018	11.0	10.8	11.1	F=3.51, p=.030
Burnout - Disengagement	2017	8.5	9.8	9.8	F=2.01, p=.133
	2018	9.2	9.6	9.9	F=3.88, p=.021

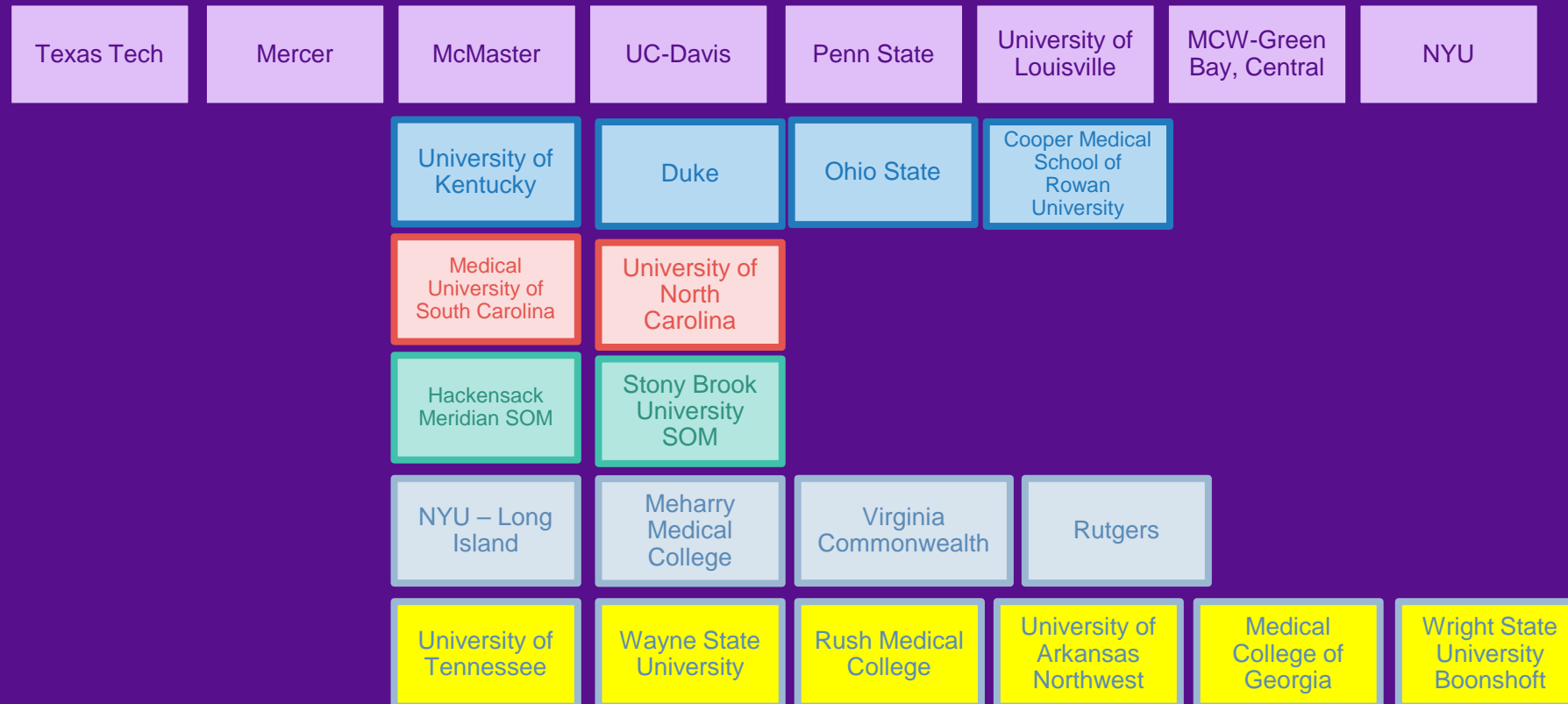
MEDICAL SCHOOL DEBT					
	Cohort	AP Students	All students from AP schools	Students from ALL schools	Chi Square p value
No medical school debt	2017	33.3%	27.1%	27.6%	P=.745
	2018	48.4%	29.8%	28.3%	P=.012
\$1 - \$149,999	2017	37.0%	11.0%	11.8%	P<.001
	2018	35.5%	21.4%	21.1%	P=0.87
\$150,000 - \$400,000	2017	29.6%	62.0%	60.6%	P=.002
	2018	16.1%	48.9%	50.6%	p=<.001

Consortium of Accelerated Medical Pathway Program (CAMPP)

Invitation to join CAMPP

- Members with expertise and generous with advice and consultation
- Collaboration and networking
 - Research and scholarship
 - Influence policies
 - Share best practice
- Meeting – Zoom and in-person
- Board of Directors: Joan Cangiarella, Betsy Jones, Shou Ling Leong, Kristen Rundell, Catherine Coe





Consortium for Accelerated Medical Pathway Programs (CAMPP) <https://www.acceleratedmdpathways.org/>



References

- Leong SL, Gillespie C, Jones B, et al. Accelerated 3-Year MD Pathway Programs: Graduates' Perspectives on Education Quality, the Learning Environment, Residency Readiness, Debt, Burnout, and Career Plans. Acad Med. 2021 Aug 10. PMID: 34380931, DOI: [10.1097/ACM.0000000000004332](https://doi.org/10.1097/ACM.0000000000004332). Online ahead of print.
- Cangiarella J, Fancher T, Jones B, et al. Three-Year MD Programs: Perspectives From the Consortium of Accelerated Medical Pathway Programs (CAMPP). Acad Med. 2017;92(4):483-490
- Leong, SL, Cangiarella J, Fancher T, et al. Roadmap for Creating an Accelerated Three-year Medical Education Program. Med Educ Online. 2017;22(1):1396172. PMID: 29117817
- Cangiarella J, Cohen E, Rivera R, Gillespie C, Abramson S. Evolution of an accelerated 3-year pathway to the MD degree: The experience of New York University School of Medicine. Acad Med. 2020;95(4):534-539.
- Cangiarella J, Gillespie C, Shea JA, Morrison G, Abramson SB. Accelerating medical education: A survey of deans and program directors. Med Educ Online. 2016;21:31794.
- Jones BG, Berk SL. The Family Medicine Accelerated Track at Texas Tech University Health Sciences Center. Tex Med. 2016;112(2):62-67.
- North Carolina Institute of Medicine, North Carolina Department of Health and Human Services Office of Rural Health and Community Care. North Carolina Rural Health Action Plan: A Report of the NCIOM Task Force on Rural Health. Morrisville, NC: North Carolina Institute of Medicine; 2014.
- CAMPP: <https://www.acceleratedmdpathways.org/>

