

Accelerated Medical Pathway Programs for Workforce Development

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MEDICINE

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Objectives

- Review the history of Accelerated Medical Pathway Programs
- Describe the motivation for Accelerated Pathways
- Understand the success of the Consortium of Accelerated Medical Pathway Program and growing national presence
- Describe the UNC FIRST Program
- Discuss participation in accelerated programs from a learner perspective



Accelerated Medical Pathway Programs

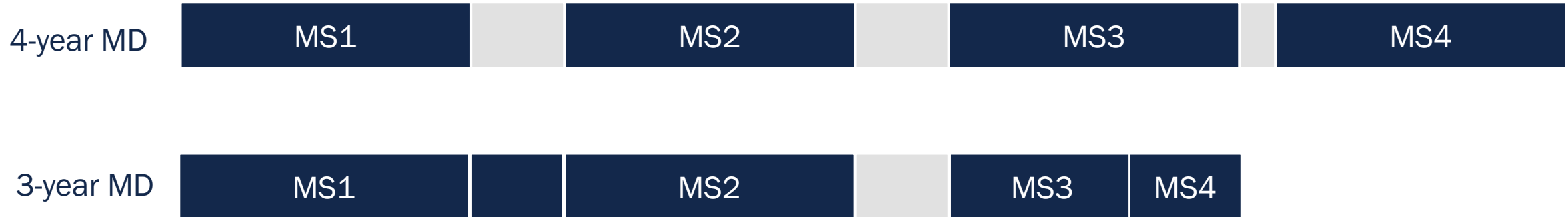
- Flexner Report established standards and 4-year curriculum set
- WW II – accelerated from 4 to 3 years for war effort
 - After, all returned to 4 year – financial impact to students who couldn't work during summer
- 1960s/1970s – Combined BS/MD and accelerated
 - Federal funding supported
 - Good 'readiness'
 - Graduate Medical Education National Advisory Committee (GMENAC)

Current Setting

A 2014 survey showed that 35% of medical schools (n=127) are considering the development of an accelerated pathway program



General Structure of 3YR MD Programs



- Meets 130-week requirement from Liaison Committee on Medical Education (LCME) for MD
- Eliminates/focuses ‘white space’
- Most have a directed pathway to affiliated residency program
- Less need for electives due to individualized curriculum

General Structure of 3YR MD Programs

Assessments align with those in 4-year curriculum

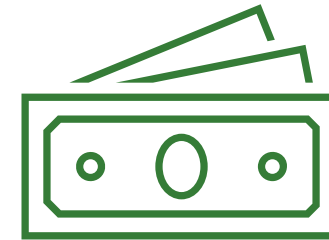
- NBME, USMLE exams
- Performance in courses and clerkships

Option for deceleration

- Program recommendation: Academic challenges, readiness, professionalism
- Student choice: personal circumstances, change in specialty preference, change in residency site choice

Mission of Accelerated Programs

- Debt Reduction
- Individualized Pathways
- Train patient-centered physicians
- Physician Workforce Needs
 - Underserved communities
 - Primary care and Family Medicine
- UME-GME continuum



Savings

\$250,000

Benefits of Accelerated Medical Programs

- Accelerated entry into desired field
- Reduced debt, earlier earnings
- Continuum of training from Undergraduate Medical Education (UME) through Graduate Medical Education (GME)
- Intensive mentorship
- Integration into departments through UME
- Research opportunities





Consortium of Accelerated Medical Pathway Programs

Consortium of Accelerated Medical Pathway Programs

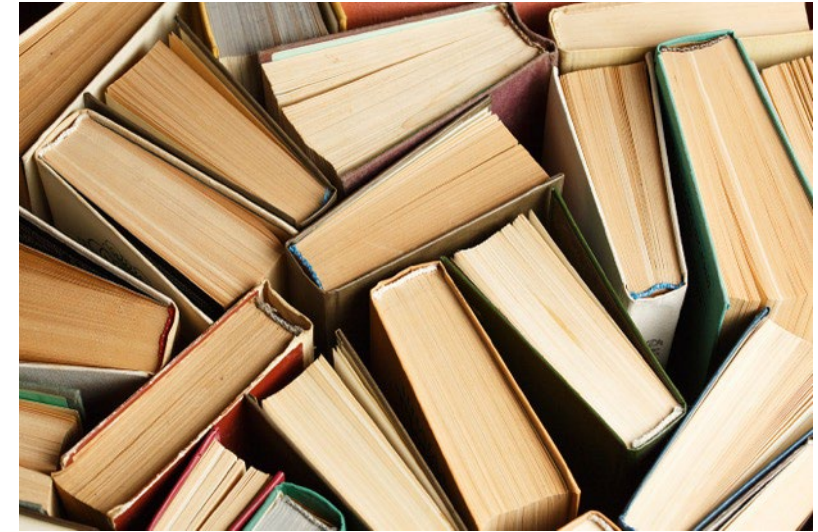
- Funded by Josiah Macy Jr. Foundation
- Nine founding members (now 30)
- <https://www.acceleratedmdpathways.org/>

2015	NYU	UC-Davis	Penn State	University of Louisville	MCW-Green Bay, Central	Mercer	McMaster
2016	University of Kentucky	Duke	Ohio State	Cooper Medical School of Rowan University			
2017	Medical University of South Carolina	University of North Carolina					
2018	Hackensack Meridian SOM	Stony Brook University SOM					
2019	NYU – Long Island	Meharry Medical College	Virginia Commonwealth	Rutgers			
2020	University of Tennessee	Wayne State University	Rush Medical College	University of Arkansas Northwest	Medical College of Georgia	Wright State University Boonshoft	
2021	University of Massachusetts	University of Wisconsin - Madison	University of Miami Miller				

Are students prepared?

Critics of accelerated programs are concerned about potential negative consequences of a shortened curriculum

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



Preparedness

Academic Comparison – 4 institutions

	AP Graduates (n=244)	Traditional Students
Family Medicine Shelf	79	79
Medicine Shelf	77	77
Surgery Shelf	76	75
OB/GYN Shelf	80	78
Psychiatry Shelf	85	81
Pediatrics Shelf	76	81
USMLE Step 1	225	235
USMLE Step 2 CK	241	246

Outcomes

Specialty (specialties with the highest number of graduates)	Graduates
Family Medicine	98
Internal Medicine	36
Orthopedic Surgery	13
Diagnostic Radiology	10
Neurology	7
Emergency Medicine	6
OB/GYN	4
General Surgery	4

Study using the Association of American Medical Colleges (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
- Pooled data across 9 schools with accelerated pathways
 - **AP Students:** three-year MD graduates from the nine schools ~ **90 students**
 - **AP Schools:** All graduates not in accelerated pathways from those nine schools ~ **1300 graduates**
 - **All Schools:** graduates from all U.S. medical schools ~ **19,000 graduates**

Satisfaction and Preparedness

SATISFACTION WITH QUALITY OF MEDICAL EDUCATION

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

AP Students All Students from AP Schools Students from All Schools



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

PREPAREDNESS FOR RESIDENCY

AP Students All Students from AP Schools Students from All Schools



Learning Environment and Burnout

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

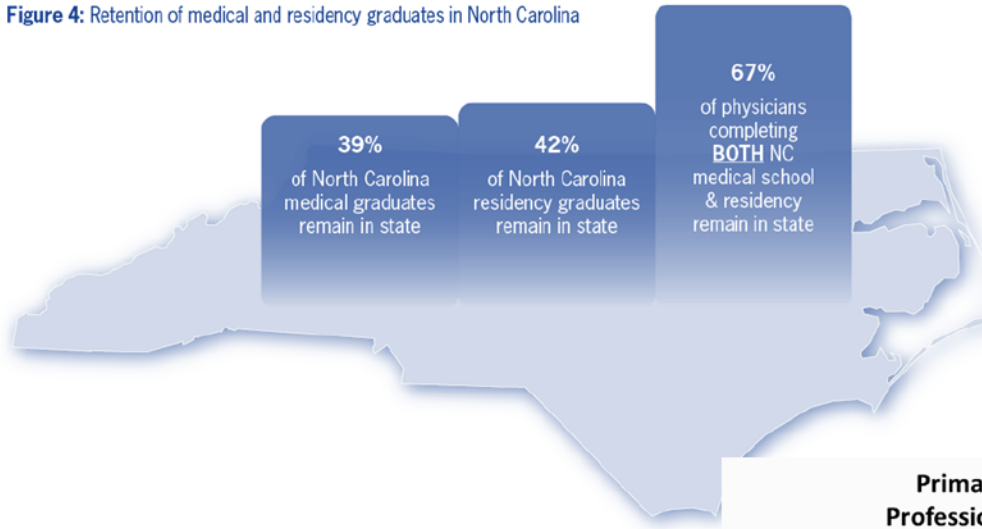
MEDICAL SCHOOL DEBT					
	Cohort	AP Students	All students from AP schools	Students from ALL schools	Chi Square p value
No medical school debt	2017	33.3%	27.1%	27.6%	P=.745
	2018	48.4%	29.8%	28.3%	P=.012
\$1 - \$149,999	2017	37.0%	11.0%	11.8%	P<.001
	2018	35.5%	21.4%	21.1%	P=0.87
\$150,000 - \$400,000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



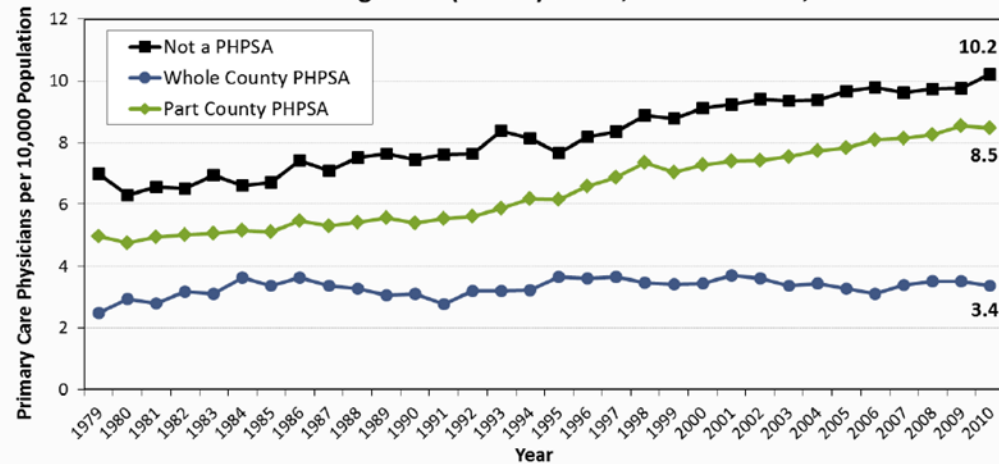
Fully Integrated Readiness for Service Training

FIRST - Background

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



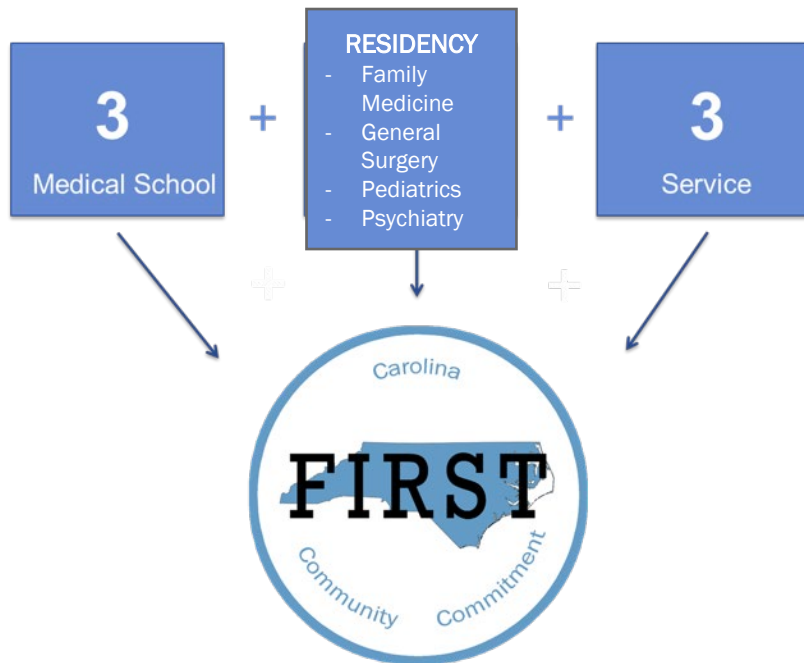
Primary Care Physicians per 10,000 Population by Persistent Health Professional Shortage Area (PHPSA) Status, North Carolina, 1979 to 2010



Sources: *Physician data*: North Carolina Health Professions Data System, 1979 to 2010; North Carolina Office of State Planning. Figures include all active, in-state, 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.

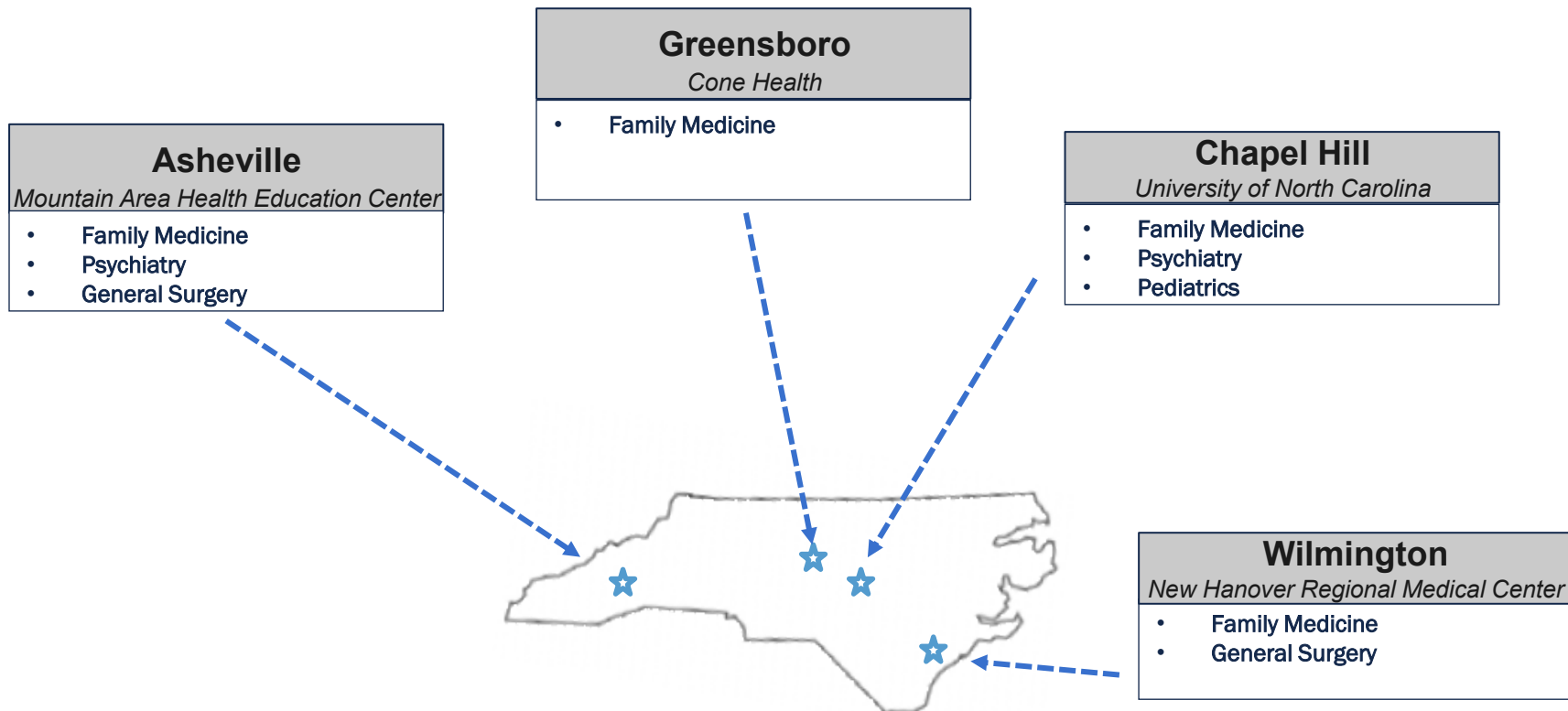
What is FIRST?

An accelerated and enhanced *THREE-year* medical school curriculum to serve the people of North Carolina



UNC FIRST Program

- Accelerated curriculum with direct pathway to affiliated residency programs
 - 3 years medical school
 - Residency options: Family Medicine, General Surgery, Pediatrics, Psychiatry
 - 3 years service in rural/underserved area of NC



FIRST - Outcomes

Year	Matriculants	Graduates	Specialties	Post-Graduation
2016	3	2	FM	2 – rural family medicine placements
2017	2	2	FM	1 – rural family medicine placement 1 – transitioned residencies
2018	3	2	FM	2 – rural family medicine placements
2019	3	2	FM	
2020	6	4	FM/Psych	
2021	8	7	FM/Psych/Peds/Surg	
2022	6	-	Fam/Psych	
2023	6	-	Fam/Psych/Peds	

Total Matriculants	Total Graduates	Chose to Decelerate	Counseled to Decelerate	Changed Specialty
37	19	6	0	3

FIRST - Outcomes

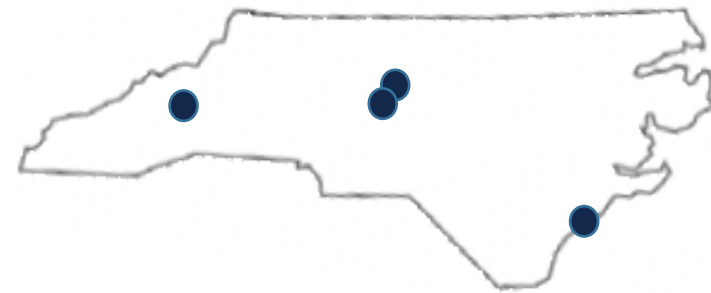
NBME Shelf Exam Performance

FM	FM - All	Medicine	Medicine - All	Surgery	Surgery - All	OB/GYN	OB/GYN - All	Psychiatry	Psychiatry - All	Pediatrics	Pediatrics - All
79.8	80.1	78.6	77	75.4	75.6	77.3	80	84.6	84.9	77.2	79.6

USMLE Step Exam

Step 1	Step 1 - All	Step 2 CK	Step 2CK - All
220	231	244	249

Practice Locations

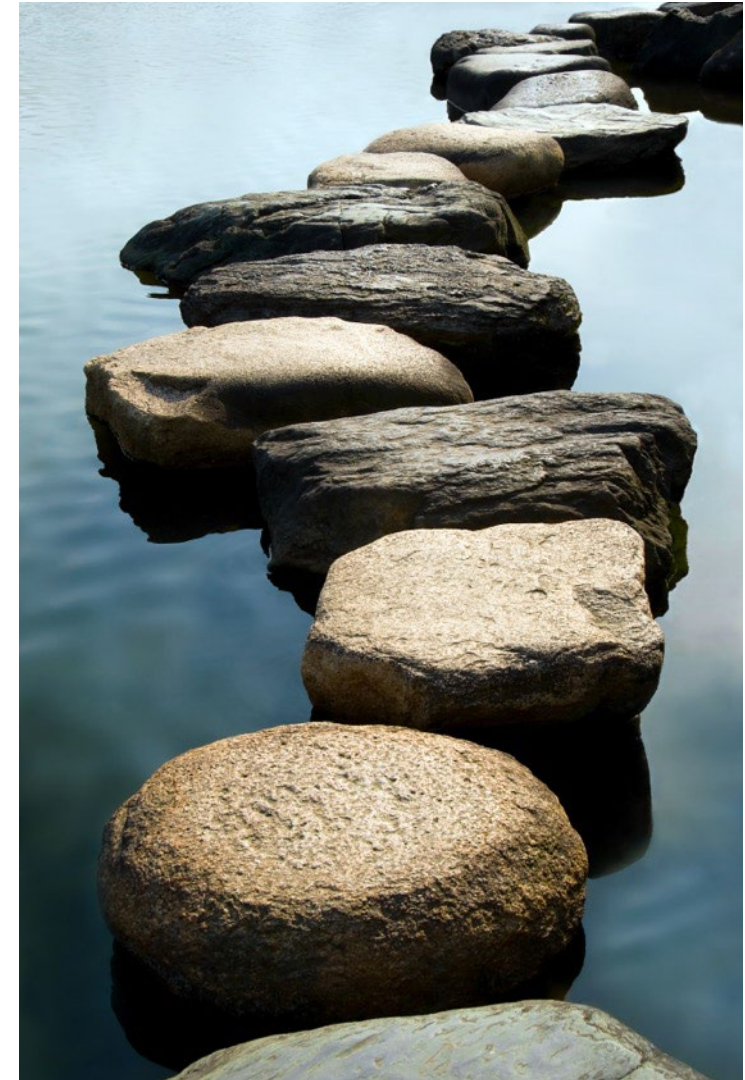




Future Directions and Summary

Future Evaluation

- First ACGME Milestones data (6 months into residency)
- Resident in-training exam comparisons
- Discrete evaluation of wellness/burnout
- Opportunities for continued innovation around time-variability



Conclusion

- Graduates demonstrated equal preparedness to 4-year students
- Directed pathway to residency optimizes placement and outcomes
- Graduates have less debt, do not experience increased burnout, and feel well prepared
- Provides an individualized curriculum with close mentorship and support



Learner's Perspective

Thank You

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