THE BEST PRACTICE GUIDE FOR

Strategic Planning to Increase Student Choice of Family Medicine

The America Needs More Family Doctors collaborative on behalf of the Association of Departments of Family Medicine, the American Academy of Family Physicians, and the Society of Teachers of Family Medicine, with significant research, writing, and reference contributions from:

Michelle Roett, MD
Phillip Diller, MD
Cleveland Piggott, MD, MPH
Amanda Weidner
Gerald Fetter, MHA
Ashley Bentley, MBA
Marselle Bredemeyer, MA
S Latta
Karen Mitchell, MD
Christina Kelly, MD
Rick Kellerman, MD
Julie Phillips, MD, MPH

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Introduction

In 2012, The Robert Graham Center for Policy Studies in Family Medicine and Primary Care projected a shortage of 52,000 primary care physicians by 2025.[1] In 2021, the Association of American Medical Colleges (AAMC) projected a primary care physician shortage of up to 48,000 physicians by 2034.[2] This shortage will be compounded by rapid population growth of up to 10.6% by 2034; an aging patient population, with 42.4% growth in the number of patients aged 65 years and older; and the impending retirement of older physicians. Among physicians currently working, 30.9% are aged 60 years and older, a 12% increase from 2013.[3] About 40% of the physician workforce will need to be primary care to meet the needs of the growing U.S. population.[4] In 2022, 23 fewer medical students and graduates matched to family medicine residency programs in the National Resident Matching Program® (NRMP®) compared with 2021 (4,470 versus 4,493).[5] In 2018, eight national and international family medicine and primary care organizations initiated a goal of 25% of all graduating U.S. medical students entering family medicine residencies by 2030 to increase Match rates and graduate medical education (GME) capacity for more family medicine trainees. This initiative has evolved into the America Needs More Family Doctors collaborative.

The Association of Departments of Family Medicine (ADFM) recommends increasing the primary care physician workforce using four pillars for reform: pipeline, process of medical education, practice transformation, and payment reform.[6] *The Best Practice Guide for Strategic Planning to Increase Student Choice of Family Medicine* (BPG) was developed to continue the work of Family Medicine for America's Health (FMAHealth), summarize organized family medicine initiatives to increase student choice, and provide examples of implementation across the country. The four pillars will be referenced throughout the BPG, and evidence and tools will be provided to help medical schools, aided by departments of family medicine, increase student choice.

The BPG relies heavily on published evidence on increasing student choice of primary care careers, especially in family medicine, as well as internally procured results of surveys of ADFM member family medicine department chairs, student surveys from the American Academy of Family Physicians (AAFP), and NRMP® data. These sources provide valuable context and background information for recommendations. For example, a 2015 survey of graduating seniors who were AAFP members matching in family medicine showed that being involved in a family medicine interest group (FMIG) (OR=1.75) and reporting that it influenced specialty choice (OR=2.35) were associated with intention to match in family medicine (OR=2.35).[4] For these students, membership in the AAFP influenced both interest in and choice of family medicine (OR=2.13 for interest, OR=2.44 for choice). Students who reported that the AAFP National Conference of Family Medicine Residents and Medical Students influenced their interest also exhibited a higher intention to match in family medicine (OR=9.77).

FAMILY MEDICINE BY THE NUMBERS

48,000 projected primary care physician shortage by 2034

30.9% of physicians are aged 60 years and older

40% of physician workforce will need to be primary care to meet growing U.S. population

4,935 family medicine residency positions available in 2022 Match

13.6% of positions offered in all specialties

12.2% of all U.S. students or graduates matched into family medicine

In the 2018 ADFM survey, department chairs were asked to rank the top five efforts/activities their departments were doing to positively impact the visibility of the family medicine department/division at their respective schools.[7] The following were the top results:

1. Family medicine/primary care clerkship
2. Presence of family medicine during first and second years
3. FMIG involvement
4. Family physicians from the department in leadership positions elsewhere within the medical school or health system
5. Family physicians from the department in leadership positions within the dean's office

While these factors all contribute to medical student experiences, known predictors of specialty choice, such as family physician mentorship and longitudinal precepting experiences, were ranked low on the list of department activity priorities. In contrast, when focus groups comprised of medical students matched in family medicine were asked to rank their most meaningful interactions, students reported the following impactful experiences[8]:

1. Early clinical experiences, scope, setting (particularly rural), quality of practice, exposure to family medicine careers
2. Early family medicine mentorship opportunities
3. Early community service experiences with family medicine
4. AAFP membership, AAFP National Conference attendance, FMIG membership

While there is no direct comparison between the student and department chair surveys, students are consistently showing the family medicine community a path toward increasing student choice. The BPG will include a summary of ongoing initiatives, recommendations, and examples from medical schools across the country to share success stories, ongoing programs, challenges, and barriers.

Each department should consider specific activities that are most likely to make an impact on student choice, considering feasibility and institutional, local, and regional contexts. Appendix A is a worksheet to help departments of family medicine discuss specific tactics that would have the highest likelihood of success in increasing student choice of a family medicine career.

Background

Project Purpose

The purpose of the BPG project is to:

1. Provide departments of family medicine with evidence-based best practice resources regarding increasing student choice of a family medicine career
2. Provide a virtual community to share student choice resources
3. Provide a living repository of success stories and evidence-based strategic planning for family medicine departments
4. Provide annual goals and objectives to the ADFM Education Transformation Committee to support America Needs More Family Doctors by maintaining this living resource

Organized Family Medicine's Initiatives to Increase Student Choice

Family Medicine for America's Health

Now sunsetted, FMAHealth was a collaboration among the eight leading U.S.-based family medicine organizations. It recommended sustaining student family medicine interest and increasing the likelihood of entering family medicine residency training by applying the following strategies[9]:

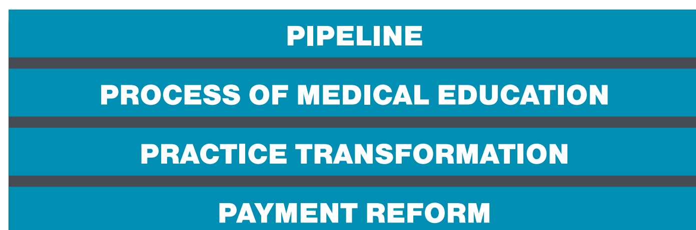
- Fostering a community-oriented mission
- Incorporating ethics and social determinants of health in the curriculum
- Introducing community learning and service into medical education, as well as training in advocacy
- Connecting students with dedicated, full-scope family physicians and peer mentors
- Mitigating any environment that permits specialty disrespect and "trash talk" about students' career choices
- Exposing students to new models of care and sustainable examples of patient-centered care, such as the patient-centered medical home (PCMH)
- Establishing diverse outpatient training settings where everyone is seen regardless of ability to pay, including rural offices and community health centers
- Creating opportunities to train students in a team-based, interdisciplinary setting

- Developing rural tracks, tailored electives, or advanced clerkships that allow students to appreciate the full scope of family medicine practice, including procedures, in different settings

Key Products From the FMAHealth Workforce Education and Development Tactic Team

- *Family Medicine* journal articles published:
  - Coutinho AJ, Bhuyan N, Gits A, et al. Student and resident involvement in Family Medicine for America's Health: a step toward leadership development. *Fam Med.* 2019;51(2):166-172.
  - Kost A, Bentley A, Phillips J, et al. Graduating medical student perspectives on factors influencing specialty choice: an AAFP national survey. *Fam Med.* 2019;51(2):129-136.
  - Alavi M, Ho T, Stisher C, et al. Factors that influence student choice in family medicine: a national focus group. *Fam Med.* 2019;51(2):143-148.
  - Martinez-Bianchi V, Frank B, Edgoose J, et al. Addressing family medicine's capacity to improve health equity through collaboration, accountability and coalition-building. *Fam Med.* 2019;51(2):198-203.
  - Kelly C, Coutinho AJ, Goldgar C, et al. Collaborating to achieve the optimal family medicine workforce. *Fam Med.* 2019;51(2):149-158.

ADFM Four Pillars Framework



The ADFM Four Pillars framework is a useful working conceptual model to help departments of family medicine organize their efforts to increase student choice for a family medicine career.[6,10,11] Each individual pillar encompasses a series of possible activities that will increase student choice. The four pillars include the following:

- Pipeline (e.g., STEM [science, technology, engineering, and math] programs, medical school admissions and culture, FMIG, GME expansion, new residency programs)
- Process of medical education (e.g., curriculum enhancements, community preceptor teaching experiences, residency innovations for model practice, niche programs)
- Practice transformation (e.g., transforming clinical practice delivery models, improving physician experience of practice)
- Payment reform (e.g., advocating for payment reform at local, state, or federal levels)

ADFM Strategic Priorities and Working Conceptual Model to Increase Student Choice for Family Medicine

Family medicine departments exist to advance the discipline of family medicine, including attracting and training a diverse workforce of family physicians for the United States. This has been true since the beginning of the ADFM. The ADFM Education Transformation Committee works with the ADFM Board of Directors to create strategic priorities. The following were the 2018-2021 ADFM Education Transformation Committee's strategic priorities:

1. Increase the number of U.S. medical school graduates selecting family medicine as a career
2. Collaborate with Association of Family Medicine Residency Directors (AFMRD) and other organizations to redesign GME to meet the needs of the health care system of the future

In the 2018 ADFM survey, the Education Transformation Committee submitted targeted questions for department chairs.[7] Among department chairs who responded, 53.8% reported affirmatively that their department was involved in formal regional or statewide initiatives addressing family physician workforce needs and workforce planning. Chairs were asked about areas in which they were highly engaged and achieving high impact. The results were as follows, in ranked order:

1. Process of medical education
2. Pipeline
3. Practice transformation
4. Payment reform

The ADFM plans to support a learning community developed in collaboration with the AAFP and the Society of Teachers of Family Medicine (STFM). This learning community is intended to leverage data and the concept of positive deviance (i.e., tactics and behaviors that enable a person or group to overcome barriers without special resources) to gain more knowledge of what works to

increase student choice of family medicine. In 2018, 87.5% of department chairs reported interest in having someone from their department participate in the learning collaborative.[7]

STFM Preceptor Expansion Initiative

Aims of the STFM Preceptor Expansion Initiative include:

- Decreasing the percentage of primary care clerkship directors who report difficulty finding clinical preceptor sites
- Increasing the percentage of students completing clerkships at high-functioning sites

The tactic teams continue to work on several identified priority areas to achieve these goals, including the following:

1. Working with Centers for Medicare & Medicaid Services (CMS) regarding revising student documentation guidelines
2. Increasing interdisciplinary education through integrated clerkships
3. Developing educational collaboratives
4. Standardizing onboarding for students and preceptors
5. Recommending teaching incentives and supporting a culture of teaching

America Needs More Family Doctors Collaborative

In August 2018, thought leaders, stakeholders, and executive staff of the eight national family medicine organizations met to kick off a new collaborative venture, picking up from the work of the now-sunsetted FMAHealth Workforce Education and Development Tactic Team. That team initiated action on this collaborative by proposing a shared aim for 25% of all graduating U.S. medical students to enter family medicine residencies by the year 2030 and securing commitment from all eight of the organizations. This initiative has evolved into the America Needs More Family Doctors collaborative.

The following are key themes prioritized from the kickoff meeting and executive summary:

- Impact student experience before medical school
- Impact medical school admissions
- Impact medical school curriculum and role modeling
- Impact health system funding and leadership

Best Practices

Summary of Recommendations (identified with one of the ADFM Four Pillars)*

1. Early and longitudinal community service, community-based learning experiences with family medicine residents and faculty (Process of Medical Education)
2. Longitudinal clinical family medicine precepting experiences, including continuity of preceptors, continuity of care, and continuity of patient interactions (Process of Medical Education)
3. Longitudinal one-to-one mentorship relationships with family physicians (Process of Medical Education)
4. Specific recruitment and engagement activities directed toward medical students, premedical students, and pathway students underrepresented in medicine (URIM) (Pipeline)
5. Increased exposure to under-resourced and vulnerable patient populations, including urban, rural, immigrant, refugee, asylee, and international health populations (Process of Medical Education)
6. Leadership and innovation in curricular development on social determinants of health (Pipeline; Process of Medical Education)
7. Engagement with students in practice-based research on health disparities and social determinants of health with longitudinal family medicine mentors (Process of Medical Education)
8. Medical school policy development to favor primary care interest, including admissions policies, admissions committee membership, and ways to address the hidden curriculum (e.g., specialty disrespect) (Pipeline; Process of Medical Education)
9. Ways to address medical student debt with scholarships, tuition waivers, and loan repayment programs (Payment Reform)
10. Implementation of a student choice strategic plan in each department of family medicine with SMART (specific, measurable, attainable, relevant, and timely) goals aligned with the America Needs More Family Doctors initiative (Pipeline; Process of Medical Education)

**Please note that as new evidence-based information becomes available and departments share their experiences and outcomes, the BPG will be updated and is expected to be a living resource.*

1. Early and longitudinal community service, community-based learning experiences with family medicine residents and faculty (Process of Medical Education)

Evidence Summary

Early community-based family medicine clinical exposure positively influences medical students' career considerations, resulting in higher rates of students favoring family medicine and improved ranking of family medicine as a career option.[12] Several studies have also demonstrated that early community service is highly impactful on students' professional identity formation. The Liaison Committee on Medical Education (LCME) defines service learning as "educational experiences that involve all of the following components: 1) medical students' service to the community in activities that respond to community-identified concerns; 2) student preparation; and 3) student reflection on the relationships among their participation in the activity, their medical school curriculum, and their roles as citizens and medical professionals."[13] In the 2019 ADFM survey, 67% of department chairs reported faculty teaching first- and/or second-year community-based learning, service learning, or required community service hours.[14]

> *"Early community-based family medicine clinical exposure positively influences medical students' career considerations."*

Success Stories

The Green Family Foundation Neighborhood Health Education Learning Program (NeighborhoodHELP) at Florida International University's Herbert Wertheim College of Medicine features longitudinal, interprofessional, community-based service learning.[15] These service-based learning opportunities encourage students to incorporate community-based activities in their careers. As of 2021, all students participated in this experience. Compared with peers from other schools, graduating medical students reported more experience with clinical interprofessional education and health disparities. A survey of residency program directors rated graduates highly for their cultural sensitivity, teamwork, and accountability.

Ongoing Programs, Challenges, or Barriers

- Georgetown University School of Medicine developed a longitudinal community-based learning project after 20 years of successful service learning with community partners. A pilot started with five first-year medical students who applied to participate from year one through year four, with a plan for third- and fourth-year students to mentor first- and second-year students; leadership and mentorship training; and longitudinal family medicine faculty mentorship. The project includes tracking social empathy, cultural competence, attitudes toward the underserved, and attitudes toward primary care. In 2019, this program became an integral component in a new Primary Care Leadership Track, and 2021 was the final year of the longitudinal community-based learning pilot. It has transitioned to be a component of the Primary Care Leadership Track.
- The University of Washington School of Medicine has the Community-focused Urban Scholars Program (CUSP) to increase diversity; reflect local communities; and provide mentorship and professional development, population health training, service learning, and urban clinical experiences. In 2021, this program was temporarily suspended due to the ongoing COVID-19 pandemic.

2. Longitudinal clinical family medicine precepting experiences, including continuity of preceptors, continuity of care, and continuity of patient interactions (Process of Medical Education)

Evidence Summary

The positive influence of student-preceptor relationships on career choice is strongest where there is continuity of preceptors, continuity of care, and continuity of patient interactions.[16] Longitudinal interactions create trusting professional and personal relationships between students and preceptors over time, which allows teaching to be anchored by an understanding of the individual student as a future physician, as well as for collaborative goal-setting to be based on program objectives with the student as a future physician in mind.[17] A systematic review of 36 articles on medical student career choice and preceptor relationships found that the longer the duration of the primary care preceptorship, the greater the influence on student career choice of primary care specialties.[16] A similar systematic review of 72 articles also concluded that longitudinal programs were the only intervention consistently associated with an increased proportion of students choosing a career in primary care.[18] In the Process of Medical Education pillar, the strongest drivers for students choosing family medicine nationally are family medicine mentors and longitudinal clinical preceptorships.

> *The positive influence of student-preceptor relationships on career choice is strongest where there is continuity of preceptors, continuity of care, and continuity of patient interactions.*

In the 2016 ADFM survey, 96% of department chairs reported that they had a required third-year family medicine or primary care clerkship with a required family medicine component and a family medicine educator responsible for at least that component.[19] Thirty-eight percent reported a clerkship length of four weeks, 37% reported six weeks, 13% reported eight weeks, 2% reported two weeks, and 10% reported "Other" (a clerkship length of five weeks [4%] or longitudinal integrated clerkships [6%]). In the 2019 ADFM survey, 80% of department chairs reported that faculty teach first- and second-year students ambulatory family medicine or primary care in clinical settings, but information is limited on the availability of longitudinal experiences with preceptors or patients after the preclinical years.[14] Longitudinal integrated clerkships (LICs) represent another opportunity for students to be exposed to continuity of preceptors and patient care, with several published examples regarding implementation in different settings with family medicine preceptors, effect on students' professional identity formation, improved faculty satisfaction and engagement, and guidelines on how to implement LICs successfully.[20,21]

Success Stories

- Virginia Commonwealth University has a distinct Family Medicine Scholars Training and Admissions Track (fmSTAT) with longitudinal clinical experiences and preferential consideration for family medicine scholarships and national conference stipends. As of 2021, outcomes for this program include six graduating classes, 47 program matriculants, 37 individuals graduated and matched into family medicine, and a 78.7% retention rate.
- In 2013, the Department of Family Medicine at Rush Medical College started the Rush Family Medicine Leadership Program (FMLP), a four-year longitudinal program for five students per year. The program graduated its fifth class in May 2021. Students have a small panel of patients they follow with a clinical mentor. They engage in longitudinal community projects and have an additional curriculum on leadership development. FMLP is small relative to the size of the class as a whole (144). It has graduated two Pisacano Scholars, and program graduates match in competitive family medicine residency programs and routinely present at national conferences. One hundred percent of students agreed FMLP adapted well to the constraints brought on by the COVID-19 pandemic.
- The University of Texas Medical Branch has a longitudinal primary care preceptor program called Student Continuity of Practice Experience (SCOPE) that features continuity of preceptors and patients. Students in the program demonstrate increasing interest in primary care between years one and three, which is a reversal of national trends.[22] They regularly attend continuity clinic, establishing a panel of patients by their third year, and receive frequent feedback from faculty mentors.

2. Longitudinal clinical family medicine precepting experiences, including continuity of preceptors, continuity of care, and continuity of patient interactions *(continued)*

Success Stories (continued)

- The University of Connecticut has the Clinical Longitudinal Immersion in the Community (CLIC) program. Each medical student is paired with a family physician, internist, or pediatrician in a community practice location where they practice in a 1:1 preceptorship relationship for a half day per week throughout their first three years. This program starts after the first month of medical school and continues to the end of the third year. Quinnipiac University has offered a similar program, called Medical Student Home (MeSH).
- In 2014, the University of Colorado School of Medicine established an 11-month longitudinal integrated clerkship (DH-LIC) at Denver Health, a public safety net hospital partnered with nine fully integrated federally qualified health centers (FQHCs). Other LICs that offer family medicine preceptors, mentors, or educational leadership include the following:
  - Third year 12-month LIC at University of Vermont Larner College of Medicine
  - Third year 26-week LIC at Warren Alpert Medical School of Brown University
  - Third year 28-week LIC at The University of Texas Health Science Center at Houston McGovern Medical School
  - Second year 12-month LIC at Duke University School of Medicine
  - Third year 24-week LIC at Georgetown University School of Medicine

Ongoing Programs, Challenges, or Barriers

- After a 2016 strategic planning meeting that included a large discussion on leadership opportunities with a new medical student curriculum, The Ohio State University started the Primary Care Track (PCT), a three-year curriculum for targeted students, in the summer of 2017. This program offers students who are planning a career in family medicine an opportunity to complete their medical school studies on an accelerated pathway that covers three years and culminates in the family medicine residency program. Two students successfully completed their first year, including a summer of Host Defense. The PCT program welcomed a new cohort of students in July 2018. Its curriculum is augmented with additional longitudinal clinical time and required objectives called "Ambulatory Clinical Experiences." The program expanded to accept four students for the summer of 2019. Students receive a tuition scholarship that covers 50% of in-state tuition for all three years from endowment and department funding. The PCT has graduated two classes of students that have progressed into family medicine residency training.
- The Targeted Rural Underserved Track (TRUST) through the University of Washington seeks to provide a continuous connection between rural underserved communities, medical education, and health professionals in the region. It has a separate admissions process, and 30% of its graduates match into family medicine.

3. Longitudinal one-to-one mentorship relationships with family physicians (Process of Medical Education)

Evidence Summary

> *Effective mentorship with formal, targeted interactions is associated with a more favorable Match outcome.*

Primary care faculty and resident mentors provide students with support and encouragement to choose primary care specialties. In a clerkship-based resident-student mentoring program, students reported receiving educational and procedural instruction, personal development feedback, and career advice from resident mentors.[23] Simply having a medical school mentor may not impact Match outcome, but having effective mentorship with formal, targeted interactions is associated with a more favorable Match outcome.[24] Students' learning and professional development are enhanced by longitudinal and formalized mentoring relationships as an approach to medical education.[25] One-on-one mentoring with faculty mentors has the added benefit of increasing reflective capacity, emotional competence, and the feeling of belonging to a community.[26] Students are often influenced by resident mentors and interactions when making career choices.[27] Longitudinal mentoring supports student interest in primary care, increasing both understanding of primary care careers and the rate of choosing primary care residency training.[28]

Peer mentoring and reflective journaling may also be impactful. Fourth-year mentorship in clinical settings improves first-year students' comfort with patients and enhances their interactions with attending physicians, and it may be associated with first-year students' self-reported improvements in physical exam skills.[29] Reflective journaling provides important insights on medical student progress in mentorship programs. Reflective journaling in a geriatric longitudinal student-faculty mentorship program revealed that clinical mentors challenged medical students' preconceptions of geriatric medicine, while students learned new medical knowledge and techniques and provided candid mentor assessments.[30] In the 2018 ADFM survey of department chairs, only 38.8% of respondents reported their departments have formal first through fourth year longitudinal mentorship relationships with medical students.[7]

Success Stories

- Columbia University features the Daniel Noyes Brown Primary Care Scholars Program, which accepts eight students per year and has four core faculty from family medicine, internal medicine, and pediatrics. Students value the longitudinal relationship with faculty and their mentoring. The program's curriculum is largely already built into students' schedules: first-year clinical shadowing; history and physical course; and primary care and pediatric clerkships. They also complete a scholarly project related to primary care. In addition, the program also features grand rounds and get-togethers, both with the entire group and between students.
- The University of Rochester Medical Center has a Primary Care Clerkship in which all first- and second-year medical students spend one afternoon a week from October to May in primary care. Some spend half of the year with an internist and the other half with a pediatrician. Students paired with family physicians spend the entire year with the family physician. This program began in the late 1980s as "Introduction to Doctoring" and has been through several iterations. It is ongoing as of 2021.

Ongoing Programs, Challenges, or Barriers

- The University of Rochester Medical Center started a new, required four-week family medicine clerkship in year three or four. This experience will increase student exposure to family physicians and team-based care. While there will be some focus on social determinants of health, not all students will be exposed to underserved populations. The medical school encourages students to apply for summer research and has been working on expanding its outreach for student involvement in research projects focused on fourth trimester care, medication-assisted treatment (MAT), and refugee health.
- The City University of New York (CUNY) School of Medicine has a third-year medical student longitudinal clinical experience in primary care, a longitudinal experience with community health centers, and seven to eight half days per year starting in year three of the seven-year BS/MD program. Limitations include capacity for students. Sites may have students from different years at different times, so they have a student at some level for almost 50% of the year. The students have continuity with their preceptors (over three years) and are exposed to health coaching, team-based care, ways to address social determinants of health in clinical practice, and continuous quality improvement in ambulatory settings. The BS/MD program is specifically focused on encouraging students to become primary care physicians.

4. Specific recruitment and engagement activities directed toward medical students, premedical students, and pathway students underrepresented in medicine (URIM) (Pipeline)

Evidence Summary

The America Needs More Family Doctors collaborative engaged both the National Area Health Education Center (AHEC) Organization and HOSA-Future Health Professionals to recognize existing and potential collaborative efforts supporting pathway programs. In the 2019 ADFM survey, departments of family medicine reported varying levels of participation in targeted pipeline programming or teaching.[14] Among respondents, 8.2% reported teaching roles with elementary schools, 23.7% reported high school teaching roles, 36.1% reported pre-med college-level teaching, and 18.6% reported post-baccalaureate pre-med teaching.

> *"Pathway programs in health professions foster early interest, create a pool of applicants invested in the success of future participants, and provide a supportive mechanism for students with similar career interests."*

Mentorship, pathway, and scholarship programs represent both enhancement and innovation. Pathway programs in health professions foster early interest, create a pool of applicants invested in the success of future participants, and provide a supportive mechanism for students with similar career interests. Rural and underserved medical school settings have targeted high school, college, and premedical students, successfully increasing the medical school acceptance rates for participants.[31] Historically, barriers to choosing primary care specialties have included student debt, perceived disproportionate burnout, and inequities in compensation for primary care specialties. Underrepresented minority (URM) and disadvantaged students are more likely to cite debt and financial obligations as factors in their specialty choices.[32]

Evidence indicates that URM students are more likely to choose primary care careers if they are from disadvantaged socioeconomic backgrounds. Growing up in an underserved setting is specifically associated with primary care interest and is tracked by Health Resources and Services Administration (HRSA) grantees to determine whether funding programs (e.g., Primary Care Training Enhancement, AHECs) result in more primary care physicians in underserved settings. In addition, U.S. medical school graduates who attended community college are more likely to train in family medicine, so community colleges may be an important pathway to increase the primary care workforce.[33]

Success Stories

At the Warren Alpert Medical School of Brown University, the family medicine department successfully dedicated HRSA funding to development of a new scholarly concentration and an eight-year primary care pipeline, including an AHEC partnership.[34]

Ongoing Programs, Challenges, or Barriers

- Howard University has robust undergraduate immersion programs, including the Advanced College Summer Enrichment Program, Pharmacotherapy Preview Program, and High School Summer Enrichment Science Academy, to encourage URM students to pursue health careers.
- Georgetown University School of Medicine also has programming for URM and disadvantaged students with the summer Academy for Research, Clinical, and Health Equity Scholarship (ARCHES) Program for college students and the Gateway Exploration Program (GEP) for students in Washington, DC, public schools. Students shadow family physicians, participate in leadership development programming, perform health disparities research, and receive intensive professional development coaching.

5. Increased exposure to under-resourced and vulnerable patient populations, including urban, rural, immigrant, refugee, asylee, and international health populations (Process of Medical Education)

Evidence Summary

The Social Mission Content (SMC) Scale scores the degree to which medical school mission statements reflect the social mission of medical education to address inequities.[35] SMC is a positive predictor of the percentage of physician graduates entering primary care. It also significantly predicts the percentage of graduating physicians entering family medicine and several measures of physician output to work in underserved areas and populations. Predictive variables in the ranking of medical schools include relating SMC to health professional shortage areas (HPSAs) and the school-state ratio of URIM students.[36]

Increased exposure to underserved patient populations, early and longitudinal community-based and clinical experiences, and longitudinal primary care mentorship are known predictors of choosing primary care specialties and continuing to work in underserved settings. Predictors for medical student intention to practice in underserved areas include growing up in an underserved setting, having a very strong sense of calling, and attending a medical school with a high social mission score (as noted above).[37] International health electives also significantly influence student choice of family medicine.[38] Family medicine residents are more likely to choose careers as primary care physicians in community health centers and underserved areas by improving self-efficacy through interacting with diverse patient populations.[39] According to AAMC data, students with rural backgrounds, especially URM students from rural backgrounds, are more likely to choose primary care careers, but the number of applicants and matriculants from these backgrounds is steadily declining.[40]

> *Departments of family medicine have been successful creating new programs, partnerships, and scholarships with directed goals to increase the number of graduating medical students who go on to practice primary care in underserved communities.*

Departments of family medicine have been successful creating new programs, partnerships, and scholarships with directed goals to increase the number of graduating medical students who go on to practice primary care in underserved communities. In the 2019 ADFM survey, multiple departments reported partnerships with state AHECs, FQHCs, and departments of health to support workforce development for family medicine.[14] The AAFP's EveryONE Project® provides family physicians and teams with tools and resources to collaborate with other disciplines and organizations to promote health equity.

Success Stories

- The Rural Underserved Opportunities Program (RUOP) at the University of Washington seeks to provide rural experiences with family physicians for medical students. RUOP is a four-week, elective immersion experience for medical students between their first and second years. Students live in rural or urban underserved communities in Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI). RUOP is a collaborative effort of the University of Washington School of Medicine, WWAMI campuses, AHECs, the Washington Academy of Family Physicians, and the Idaho Academy of Family Physicians.
- Michigan State University College of Human Medicine ranks highly on the SMC Scale when comparing medical school statistics for physicians who are minorities, practice primary care, and work in underserved areas. Each year, up to 12 students with extensive rural experiences or the intention to practice in rural areas are accepted into the Rural Community Health Program (R-CHP). Another leadership in rural medicine opportunity for admitted students is the Rural Physician Program (RPP).
- The Denver Health Longitudinal Integrated Clerkship (DH-LIC) program created by the University of Colorado School of Medicine provides an "immersive experience caring for vulnerable populations" at partner FQHCs, with a goal of establishing physician leaders strongly committed to care and advocate for urban underserved populations.

Ongoing Programs, Challenges, or Barriers

- Rutgers Biomedical and Health Sciences has a family physician in place as medical director at the student-run free clinic for underserved patients, as do other medical schools. As of 2021, the clinic continues to engage a large portion of the student body.
- Physicians for Human Rights has an established program with the Department of Family Medicine at Georgetown University School of Medicine that provides student experiences with family physicians for asylum evaluations in a student-run asylum clinic and teaching initiatives on refugee and asylee care. DC AHEC has also offered AHEC Scholar status for students rotating in underserved settings in the Washington, DC, metro area.

6. Leadership and innovation in curricular development on social determinants of health (Pipeline; Process of Medical Education)

Evidence Summary

In a 2012 survey of departments of family medicine, researchers from the University of Michigan found that 98.1% of respondents had an FMIG, 97.1% offered family medicine electives, 90.4% offered family medicine clerkships, and 85.6% had first- and second-year medical school curricula that featured small-group discussions led by family medicine faculty.[41] Departments were less likely to have either large-group courses or courses with formal career advising with family medicine faculty instructors in years three and four, and larger institutions were less likely to have family medicine faculty leading small groups in years three and four (98% of smaller institutions [less than 605 students] compared with 83% of larger institutions [605 students or more], P = .016). These findings suggest that traditional methods of student engagement, such as FMIGs and family medicine electives, while important, may not be enough to increase family medicine interest.

> *The disproportionate growth in subspecialty training positions for physicians suggests a need for innovative approaches to encouraging medical students to choose primary care, as community needs and position availability remain unmatched.*

Departments of family medicine have successfully created new programs and partnerships with directed goals to increase the number of graduating medical students who practice primary care in underserved communities, including new tracks or scholarly concentrations and primary care pipelines, including AHEC partnerships. In an analysis of specialty match data from the NRMP® from 1986 to 2016, researchers found an average increase of 226 positions per year, including 19 in primary care and 72 in specifically narrow subspecialties with no linkage to community or state needs.[42] The disproportionate growth in subspecialty training positions for physicians suggests a need for innovative approaches to encouraging medical students to choose primary care, as community needs and position availability remain unmatched.

While the ecological teaching model appropriately acknowledges social determinants of health, the biomedical model traditionally employed in medical education fails to address factors related to the larger societal context of health.[43] Primary care-oriented students are more likely to be attracted to prevention and biopsychosocial aspects of specialties. Participatory community-based learning for medical students increases public health skills and knowledge, and enhances both understanding of communities and appreciation of social determinants of health and the local community.[44] In a systematic review of 57 studies addressing community placements for U.S. medical students, the reviewers concluded that: 1) medical schools aimed to improve community health but did not routinely involve community members in identification of local health priorities; 2) educators were enthusiastic about community-based education as a method for teaching social determinants of health; and 3) community placements may be equivalent to traditional didactic curricula.[45]

It is well established that empathy declines over time in medical school, and empathy is generally higher for students choosing family medicine, internal medicine, pediatrics, psychiatry, or obstetrics and gynecology than for those choosing any other specialties.[46] Lack of understanding of cultural differences, social situations, and political and economic conditions may hamper empathic insight. A systematic review of 18 studies on empathy suggested that educational interventions may be effective for maintaining and enhancing empathy in medical students.[47] Social empathy combines measures of interpersonal empathy and the ability to understand people from different socioeconomic, racial, or ethnic backgrounds with contextual insight into inequalities and disparities. Programs designed to validate humanism in medicine may reverse the decline in empathy.[48] Third-year clinical clerkships, especially at non-university sites, play an important role in specialty choice, particularly as students see and experience more psychosocial aspects of medicine. Medical institutions with regional campuses support primary care and both local and regional retention.[49] Introducing regional rotation blocks, such as LICs, may improve student choice.

In 2002, the Institute of Medicine (IOM) (now the National Academy of Medicine [NAM]) recommended that all medical students receive basic public health training in population-based prevention and that a significant proportion of medical school graduates be fully trained at a Master of Public Health (MPH) level.[50] In 2010, the LCME required that public health science be included in medical education curricula; as of 2022, it was framed as a requirement for instruction in the "diagnosis, prevention, appropriate reporting, and treatment of the medical consequences of common societal problems."[51] Several leading organizations have called for the integration of primary care and public health as a strategy for addressing social determinants of health.[52] In 2012, IOM released *Primary Care and*

Evidence Summary (continued)

Public Health: Exploring Integration to Improve Population Health, which stipulated required activities in three domains: 1) efforts to address social and environmental conditions that are primary determinants of health; 2) health care services directed to individuals; and 3) population-level public health activities to address health behaviors.[53] The AAFP Health Equity Curricular Toolkit is intended for clinical and public health learners, as well as primary care faculty exploring social determinants of health, vulnerable populations, economics, and policy.

Success Stories

- Since its founding, the Michigan State University College of Human Medicine has immersed students in six diverse communities across Michigan. An analysis of the clinical campuses established found that Michigan State University's regional campus structure has resulted in a higher percentage of practicing primary care physicians and a higher percentage of physicians practicing in HPSAs.[49] As of 2021, the program has expanded to eight campuses.
- The Warren Alpert Medical School of Brown University developed the Primary Care Population Medicine Program, an innovative MD-ScM track that has demonstrated improved scores among track participants in attitudes toward working with the underserved and cultural competency.[54]

Ongoing Programs, Challenges, or Barriers

In the 2019 ADFM survey, 65.3% of department chairs reported teaching first- and second-year medical students health policy, population health, and/or social determinants of health.[14] Chairs reported that AHECs were major partners supporting workforce development, along with departments of health, FQHCs, and primary care associations. The AHEC Scholars program seeks to prepare health professions students for primary care careers by requiring 80 hours of clinical experience in underserved settings and 80 hours of experiential or didactic learning in six core topic areas: social determinants of health, behavioral health integration, cultural competence, interprofessional education, practice transformation, and emerging health issues, such as opioid use disorders. The National AHEC Organization reports 393,819 individuals participated in continuing education programming, and 11,473 medical students rotated through AHEC sites or centers in 2018-2019.

7. Engagement with students in practice-based research on health disparities and social determinants of health with longitudinal family medicine mentors (Process of Medical Education)

Evidence Summary

Research is another established curricular activity in medical education that fosters mentoring relationships and influences career choice.[55] In the 2019 ADFM survey, 53% of department chairs reported faculty were engaged in research with medical students in either required or elective experiences, and another 40% reported faculty were engaged on an ad hoc basis.[14] For 70% of those reporting research with students, the focus was on health disparities and social determinants of health. Community health research projects foster commitment to community involvement, regional engagement, and participatory research.[56] Although community health centers were built around the community-oriented primary care (COPC) framework for marrying primary care and public health,[57] implementation has lagged, due in part to the lack of readily available practice- and community-level data and inability to apply information clinically.

> *Community health research projects foster commitment to community involvement, regional engagement, and participatory research.*

Modern health care reforms and new funding mechanisms provide incentives for improving population health, such as accountable care organizations (ACOs),[58] but typical practices still lack actionable data. Time has been cited as a key barrier to curricular success in improving public health and research training in residency settings.[59] In a Council of Academic Family Medicine (CAFM) Educational Research Alliance survey of family medicine clerkship directors, 99% agreed that public health training is important for medical students but cited insufficient time, lack of funding, and lack of faculty expertise as barriers to public health instruction.[60] Despite the consensus that a well-trained primary care workforce is necessary to achieve improved outcomes, practices and health professions training programs lack a roadmap for achieving this goal. Training is needed on research and data management for students, residents, faculty, and community preceptors to use population data for community-based programs, targeted interventions, and quality improvement. The boards of directors of the ADFM and of the North American Primary Care Research Group (NAPCRG) convened a joint task force in 2015 to develop recommendations for enhancing family medicine research capacity. Recommendations for faculty included a longitudinal curriculum track made available online and in person at a series of national meetings regularly attended by department chairs and family medicine research leaders.[61]

Success Stories

The Geisinger Commonwealth School of Medicine designed yearlong community health research projects, called the Longitudinal Community Health Investigation Projects (L-CHIP), for first-year students by partnering with community organizations and physician research mentors to ensure students learned the following: how to apply concepts, strategies, and tools acquired through coursework to public health research in community and clinical settings; the fundamentals of community engagement, collaboration, and service-based practice; and how to address the differing needs of population subgroups. The L-CHIP experience provides students with the opportunity to learn about communities, principles of community engagement, and the complexity of community health/public health interventions.

Ongoing Programs, Challenges, or Barriers

- As part of its Primary Care Initiative, the Keck School of Medicine (KSOM) of the University of Southern California offers a comprehensive Primary Care Program that includes research programs on health disparities for medical students. The program targets early exposure to family medicine research mentors and, along with other elements, has resulted in increased numbers of students choosing family medicine. In 2021, 23 students graduated, which was the highest number in the school's history. The program also:
  - Saw more students doing primary care research
  - Changed the service-based learning to a virtual platform due to COVID-19
  - Held an annual advocacy and leadership training day
  - Increased exercise and nutrition service-based learning teaching for students
  - Increased the size of primary care tracks at the KSOM from 24 to 32 for the incoming class
- Georgetown University School of Medicine offers a primary care AHEC Summer Research Scholar award as part of a larger institutional application process and offers MedStar Summer Research programs. Students are assigned to primarily family medicine mentors and have clinical experiences in AHEC centers and sites, as well as having seminars on AHEC core topic areas.

8. Medical school policy development to favor primary care interest, including admissions policies, admissions committee membership, and ways to address the hidden curriculum (e.g., specialty disrespect) (Pipeline; Process of Medical Education)

Evidence Summary

In the 2016 ADFM survey, only 20% of department chairs reported that primary care or family medicine was specifically included in their medical school mission statement, and 30% reported their admissions committee had a specific charge to seek out applicants interested in primary care careers.[19] Although more medical schools have been adding a social mission, this is not always connected to the admissions process, and there is little evidence available to date about any impact this connection yields.[62] There is evidence that, in general, higher institutional National Institutes of Health (NIH) funding is associated with less support for family medicine and a lower proportion of students choosing family medicine.[63] A 2012 survey found that departments of family medicine in private schools were less likely to have an admissions preference for students who expressed primary care interest (6.9% of private schools compared with 33% of public schools, P = .010).[41]

> *The 'hidden curriculum' refers to informal aspects of medical education, which are known to influence specialty choice.*

The "hidden curriculum" refers to informal aspects of medical education, which are known to influence specialty choice. In one of the first studies of its kind, researchers found that 95% of fourth-year students at a university medical center reported hearing criticism of primary care, after which only 39% of those who were initially interested in family medicine chose it.[64] More recently, 1,554 fourth-year students from 20 medical schools were surveyed, and students who heard "bad-mouthing" of primary care were significantly less likely to choose it.[65] However, those with a greater number of positive experiences in primary care clerkships had an increased likelihood of practicing primary care.

Success Stories

- Institutions might consider using several tools that can help predict if a student will enter family medicine, such as a survey and single-item screen developed at the University of Washington.[66]
- The vision statement at the College of Medicine at Northeast Ohio Medical University (NEOMED), which has had relative success in producing primary care and family medicine graduates, is as follows: "We aspire to be a national leader in community-centered medicine, recognized for challenging and empowering its students and faculty to be leaders of transformational change to further the health of Ohio communities and address Ohio health care challenges."[67]
- The University of New Mexico has implemented innovative programming aimed at revising admissions policies and serving the community, such as the Rural and Urban Underserved Program (RUUP).

Ongoing Programs, Challenges, or Barriers

- The Keck School of Medicine of the University of Southern California implemented a Primary Care Initiative to change the primary care culture and affect the numbers of primary care graduates.
- The Department of Family Medicine at Georgetown University School of Medicine has formed a task force to develop policies and procedures to address specific incidents of note reported by students, residents, or faculty, as well as a plan for communicating and working with executive leadership on implementing best practices. Specialty-related data from the 2019 AAMC Graduation Questionnaire (GQ) and the 2018 and 2020 Social Circle of a Medical Student surveys of MD and DO students will be examined for any trends that might inform further investigation or intervention.

9. Ways to address medical student debt with scholarships, tuition waivers, and loan repayment programs (Payment Reform)

Evidence Summary

In the 2019 ADFM survey, 70% of family medicine department chairs reported sharing information with medical students regarding student debt, loan repayment, and scholarships during FMIG events.[14] However, only 11.5% included National Health Service Corps (NHSC) or other loan repayment programs, despite the NHSC program having a proven track record for more NHSC student scholars choosing family medicine. High educational debt is known to deter medical school graduates from choosing primary care careers. Students from relatively lower-income families are more strongly influenced by debt.[32] An independent global commission found that the average cost per graduate is $113,000 per medical school student, and the cost is highest in North America and lowest in China.[68] This commission suggested that medical school accreditation should include accountability for social equity in admissions, scholarships for disadvantaged students, curricular exposure to work with disadvantaged communities, and policies that promote graduates serving in underserved areas.

> *"High educational debt is known to deter medical school graduates from choosing primary care careers."*

There are more than 67 federal and state loan forgiveness, repayment, or scholarship award programs available to students.[69] Primarily, state scholarship programs stipulate commitments from medical students to practice medicine in medically underserved areas (MUAs) following medical school and completion of a primary care residency program. Reducing medical student debt may be effective in promoting a larger primary care physician workforce. A 2009 study by the Graham Center revealed that participation in NHSC loan repayment programs was associated with a high likelihood of choosing family medicine as a career.[70] NHSC scholars had much lower average debt, and participation in the NHSC scholarship program was associated with a quadrupling of the odds of choosing primary care and family medicine careers.

The disparate salary ratio of primary care physicians to specialists also plays an important role in student choice. An Altarum Institute analysis of data from 1985 to 2010 demonstrated that primary care choice fell as the income ratio for primary care physicians decreased from 0.78 of specialty physician income in 1985 to 0.5 in 2007.[71] While experiencing similar lows over the same time frame, Canada has maintained a 0.83 ratio of primary care income to specialty income and boosted the percentage of medical school graduates entering family medicine residency programs to 40%.

Success Stories

- At Texas Tech University Health Sciences Center, a Family Medicine Accelerated Track waives one year of tuition for medical students committing to family medicine.
- The Arizona Legislature provided additional funds to the University of Arizona to offer tuition waivers or scholarships that would encourage medical students to choose careers in primary care in HPSAs (rural/urban underserved), with an obligation to practice in an HPSA for years equivalent to the amount of time the student receives support.
- Newly graduated physicians from four Michigan medical schools in the MIDOCs consortium (Central Michigan University College of Medicine, Michigan State University College of Human Medicine, Wayne State University School of Medicine, and Western Michigan University Homer Stryker M.D. School of Medicine) have an opportunity to reduce their medical school loans in exchange for working in underserved areas, thanks to an innovative program supported by a $5 million appropriation by the state legislature in fiscal year 2019. The program offers up to $75,000 in loan repayment to each MIDOCs physician in exchange for a two-year, post-residency commitment to practice in a rural or urban underserved setting in Michigan. MIDOCs will add select GME residency slots in medically underserved areas of Michigan. As of 2021, the MIDOCs program has three cohorts of primary care residents enrolled for a total of 52 residents across seven specialties.

Ongoing Programs, Challenges, or Barriers

- The Ohio State University Wexner Medical Center welcomed its first class of three-year Primary Care Track students in 2017. Program graduates are offered acceptance into the Ohio State University Family Medicine Residency Program upon medical school graduation.
- The NEOMED has started an Accelerated Family Medicine Track for students to complete medical school requirements in three calendar years and enter a family medicine residency at a NEOMED-affiliated hospital.
- The Department of Family and Community Medicine at Penn State College of Medicine has a similar 3+3 program.

10. Implementation of a student choice strategic plan in each department of family medicine with SMART (specific, measurable, attainable, relevant, and timely) goals aligned with the America Needs More Family Doctors initiative (Pipeline; Process of Medical Education)

Evidence Summary

In the 2016 ADFM survey, 96% of department chairs reported interest in a shared playbook of best practices for departmental strategic planning to increase student choice of family medicine (see Appendix A).[19] Chairs were further responsive at ADFM conference breakfast and lunch discussions and on the ADFM listserv regarding their student choice efforts. Most shared that they did not include these efforts in their strategic plans, but those who routinely included them were willing to share examples.

> *Ninety-six percent of department chairs reported interest in a shared playbook of best practices.*

Success Stories

At the University of South Florida (USF) Health Morsani College of Medicine, 52 students are recruited and selected by their own committee for the MD SELECT (Scholarly Excellence, Leadership Experiences, Collaborative Training) program. It includes a special curriculum on leadership development. For 2016-2017, the Department of Family Medicine had a strategic plan goal for increasing student choice of family medicine, which included creating a set of measures tracked monthly at core meetings and on the department visibility board. The goal included the following:

- Primary care growth plan – Plan developed with initial implementation on approach to increase the number of MD SELECT students going into family medicine
- Joyful clerkships – All spots identified and positive experiences; design and implement evaluation process, and then look for best practices, replicate, and spread

Ongoing Programs, Challenges, or Barriers

At the University of Arkansas for Medical Sciences (UAMS), 33 senior medical students (out of 172) matched in family medicine in 2016, up from 30 in 2015, 24 in 2014, and 18 in 2013. This represented an 83% increase in the number of UAMS graduates who chose a career in family medicine. The UAMS Department of Family and Preventive Medicine used a five-year HRSA predoctoral grant to interest more medical students in family medicine. The team used a variety of strategies to accomplish this success, including the following:

- Improvement in several educational programs
- Enhancement of the image of family medicine within the medical school
- Support for interested students
- Marketing aimed at students and their families

This has been a part of the department mission for some time. Unfortunately, the associated grant funding ended and the department has had some setbacks. Twenty-six students matched in family medicine in 2017.

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APPENDIX A: Worksheet to Guide Discussion on Departmental Strategies to Increase the Primary Care Workforce

A. Initial Considerations

1. Define the local/regional/state need.
   a. How many primary care physicians (PCPs) are needed?
   b. Over what time period?
2. For each strategic pillar (Pipeline/Process of Medical Education/Practice Transformation/Payment Reform), keep in mind difficulty, resources, and partners.
   a. Where can you make an impact?
   b. How difficult will it be to make an impact?
   c. Do you have the right people? Resources?
   d. Who are your partners? Who do you need as an ally or collaborator to be successful?
3. Have discussions related to the four pillars for workforce reform.

PILLAR: Pipeline

Student Characteristics and Likelihood Ratio for Choosing a Family Medicine Career[1]

POSITIVE	NEGATIVE
Born in rural county: 1.84 Married: 1.47	Male: 0.87 High income expectation: 0.54

A. Premedical Stage

1. Do you have STEM [science, technology, engineering, and math] programs with high schools?
2. Do you have a linkage with college pre-med majors that:
   a. Exposes students to the role and satisfaction of PCPs?
   b. Creates personal relationships with PCPs?
   c. Provides opportunities for research?
   d. Offers helpful clinical experiences?
3. Capture students' experiences with their own PCP.

B. Medical School Stage

1. Culture
   a. Is the school's mission inclusive of valuing primary care? How to change?
   b. Are there negative attitudes and behaviors toward primary care from other disciplines? How to combat?
   c. Do the values of the department of family and community medicine (DFCM) align with the school's mission? The health system's mission? Where are the win-wins?
2. Admissions committee
   a. Are family physicians on the admissions committee? Do they influence decisions on applicants?
3. Department of family medicine
   a. Engaged with students? In what ways? How effective?
   b. How respected?
   c. Has a seat at strategic leadership table?
   d. Enjoys strong collaborative partnerships with primary care specialties?

C. Residency Stage

1. Number of graduate medical education (GME) positions for family medicine? Are there enough?
   a. How to increase?
      i. New programs at hospitals with no GME
      ii. Community partner to fund
      iii. Expand at hospital
2. GME financing reform?
   a. Local and federal

PILLAR: Process of Medical Education

Medical School Characteristics and Likelihood Ratio for Choosing a Family Medicine Career[1]

POSITIVE	NEGATIVE
Public medical school: 1.77 Rural medical school: 1.38 Title VII funds medical school: 1.12 Community-related medical school: 1.20	Student debt >$250K: 0.72

A. Medical School Stage

1. Curriculum
   a. Clerkship experiences: Are they present? How relevant? Transformative? Excellent? Meet students' needs?
   b. Do you have meaning-filled offerings and address social issues on national and local levels?
   c. Do you have skill-building offerings that address the fundamentals of doctoring?
   d. Do you have niche offerings, such as global and underserved health? Health policy? Sports medicine? Leadership skills?
2. Experience with community preceptors
   a. Positive or negative? How to address? Make more impactful?
   b. How to showcase outstanding community preceptors?
   c. Mentorship programs?
3. Experience with family medicine residents
   a. What sort of residency experience does a student see?
   b. What do the residents communicate to students?
   c. Any mentorship program? How effective?

B. Residency Stage

1. Training program specifics
   a. How strong is its reputation? What are the strengths and weaknesses from students' perspective? What needs to change?
   b. Faculty: Strength of? Satisfaction? Enthusiasm for the work?
   c. Resident satisfaction/contentment
   d. Resident readiness for practice/moving on to next stage in career
   e. Scope of practice modeling
   f. Hospital/culture: How is family medicine viewed by administration and specialty colleagues?
2. Curriculum
   a. Family medicine clinic (FMC) experience: Patient-centered medical home (PCMH) features?
   b. Core offerings of required experiences: How effective? Performance areas needing improvement?
   c. Do you have niche offerings, such as global and underserved health? Health policy? Sports medicine? Leadership skills? Fellowships?

PILLAR: Practice Transformation

What does the student observe and experience in the office?

A. Physician Experience of Family Practice

1. Lifestyle management of professional and personal: How well are physicians managing the work-life balance?
2. Joys of practice and physician satisfaction in an environment of change: Are physicians experiencing burnout or role modeling resilience/mindfulness?
3. Learning in practice: Role modeling enthusiasm for learning and discovery in practice?
4. Value of continuity in the health system: Exposure to value of continuous patient relationship?
5. Physician-patient relationships: Experience of patients' gratitude toward the family physician?
6. Scope of practice: Diversity

B. Transformed Care Models and Outcomes of Care

1. Delivery of care checklist: "How well are these implemented?"
   - a. Patient-centered care
   - b. Team-based care
   - c. Comprehensive care
   - d. Data-driven/risk-adjusted population health
   - e. Determinants of health incorporated
   - f. Optimized technology
   - g. Procedures
   - h. Scope of practice
2. Patient safety and quality of care outcomes: How well achieved? Transparent metrics?
3. Change engagement: Managed well?

PILLAR: Payment Reform

A. Federal and State Advocacy: Engaging in the national conversation with the American Academy of Family Physicians (AAFP) and partnering organizations?

1. Medicare programs
2. Medicare and CHIP Reauthorization Act (MACRA)
3. GME reform
4. Federal loan repayment programs [1]:
   - a. National Health Service Corps (NHSC) loan repayment: 5.29
   - b. NHSC scholarships: 4.47

B. State and Local Advocacy

1. State initiatives
   - a. Medicare payment reform
   - b. Education for Primary Care payment
   - c. PCMH incentive payments
   - d. State loan repayment programs
2. Local health system initiatives: What is being done or should be done on these concerns?
   - a. Support of new practice infrastructure from health system in the PCP office
   - b. Conversations about shared savings/funds flow
   - c. Loan forgiveness for starting physicians
   - d. Compensation model conversations
     - i. Average base compensation for salary
     - ii. Quality of care incentive payments
   - e. Family medicine role in the health system: Value added? Alignment?

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