Transforming Training to Build the Family Physician Workforce Our Country Needs

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BACKGROUND AND OBJECTIVES: The Affordable Care Act has spurred significant change in the US health care system, including expansion of Medicaid and private insurance coverage to millions of Americans. As a result, the need for the medical education continuum to produce a family physician workforce that is sizable enough and highly skilled is significant. These two interdependent goals have emerged as top priorities for Family Medicine for America's Health, a new, 5-year, $21 million collaborative strategic effort of the eight US family medicine organizations to lead continued change in the US health care system. To achieve these important goals, reforms are needed across the entire educational continuum, including how we recruit, train, and help practicing family physicians refresh their skills. Such reforms must provide opportunities to acquire skills needed in new practice and payment environments, to incorporate new educational standards that reflect the public's expectations of family physicians, to collaborate with our primary care colleagues to develop effective interprofessional training, and to design educational programs that are socially accountable to the patients, families, and communities we serve. Through Family Medicine for America's Health, the discipline is well positioned to emerge as a leader in primary care workforce development and educational quality.

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The US health care system is rapidly changing in ways that increase demand for primary care. As a result of delivery system reform and increased insurance coverage, ensuring access to an adequately sized and appropriately trained family medicine workforce has never been more critical. Experts estimate that we require up to 52,000 primary care physicians by 2025[1] to deliver what our patients need: care that is centered around their needs, locally available, team-oriented, and collectively comprehensive. This number does not reflect estimates of the other primary care team members that we need, including nurse practitioners, physician assistants, social workers, pharmacists, nurses, psychologists, and others. The challenges that the US health care system faces are immense and require urgent attention and creative solutions from all primary care professionals. Workforce shortages and geographic distribution issues, as well as development of interprofessional, team-based educational training and practice environments, are challenges that one discipline cannot solve alone. In this paper, however, we choose to focus on the specific changes the discipline of family medicine needs to make across the entire educational spectrum to deliver better health, better care, and lower costs in the US health care system.

Reorienting the medical education continuum to ensure a sizable enough and highly skilled family physician workforce are two important, interdependent goals that have recently emerged as top priorities for both the Council of Academic Family Medicine (CAFM) and Family Medicine for America's Health (FMA-Health). Launched in October 2014,

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FMAHealth is a new, 5-year, $21 million collaborative strategic effort of the eight US family medicine organizations to lead continued change in the US health care system.[2] Earlier in 2014, CAFM released a comprehensive roadmap designed to enhance the nation's physician workforce by increasing the recruitment and retention of medical students interested in family medicine, improving the process of medical education, transforming practices to attract students into primary care, and reforming payment to keep these practices viable in the long term.[3] The CAFM plan informed the development of the FMAHealth workforce and education strategies that will concurrently guide family medicine over the next 5 years.

Both the CAFM and FMAHealth calls to action have arrived at a time of great challenge—but also of great opportunity—for the discipline of family medicine to emerge as a leader in primary care workforce development and educational quality. The Affordable Care Act established the National Health Care Workforce Commission, but Congress has yet to appropriate funding for the commission to begin its work. As a result, the United States lacks national policy leadership determining workforce needs and overseeing its development, training, and longitudinal integration with care delivery.[4] Medical students encounter many factors that can negatively influence their primary care career choices, including lack of prestige, salary differentials, and lifestyle challenges.[5] Existing incentives in our care delivery and payment models, as well as the current Medicare Graduate Medical Education (GME) funding strategy, compound the problem by driving student interest toward specialty careers rather than prioritizing training based on the needs of our communities.[6] Many argue our traditional training approaches are no longer sufficient, as we are not yet fully preparing providers in data analysis, health information technology, social determinants of health, and behavior change, all important skills to the 21st century family physician.[7,8] Primary care is often "siloed" from mental health, public health, and allied health professions, preventing timely and necessary delivery integration and training.[9,10]

The FMAHealth plan emphasizes the need for a new generation of family physicians that can transform health outcomes within our communities and deliver a robust set of services the public expects of us. This new strategic direction challenges our discipline to make critical and timely changes in how we recruit, train, and help currently practicing family physicians reactivate dormant skills while simultaneously collaborating with our primary care colleagues to truly build the health care workforce our country needs.

Ensuring a Robust Family Medicine Pipeline

In many ways, the objectives set forth in the CAFM and FMAHealth plans align with a larger movement calling for academic health centers (AHCs) to fulfill their social accountability to the communities in which they reside, especially in exchange for receipt of public funding. Some suggest this accountability extends to education, patient care, and research endeavors, as well as correcting an unfavorable geographic distribution of physicians and other health care providers in both rural and urban areas.[11-15] Renewed interest in social mission, as well as unmet health needs in society, has led to examination of the role AHCs play in the size, practice locations, and career choices of the primary care workforce.[16] In 2010, the Council on Graduate Medical Education (COGME) recommended that medical schools change both medical student and resident selection and adapt the educational environment so that "at least 40% primary care physicians" are produced to meet society's needs.[17,18]

Recruiting Family Medicine-Oriented Students Into Medical School

A key way to ensure AHCs fulfill their social missions is to recruit students more likely to choose family medicine. Research indicates that several factors are associated with increasing the pipeline of primary care-oriented students and those desiring to practice in underserved areas, including:

- Cultivating pipeline programs that encourage junior high, high school, and college students to consider careers in medicine.[16,19]
- Developing medical school admissions processes that prioritize entry of students more likely to commit to family medicine, such as women; older students; those from rural, underserved, and/or low-income backgrounds; those who express greater altruism or interest in primary care at the outset of medical school; and those who do not intend a research career.[3,16,19,20-23]
- Including family physicians on medical school admissions committees.[3]
- Supporting primary care physicians in leadership positions at AHCs.

This multi-pronged approach to increasing the primary care pipeline extends to both the process and structure of undergraduate medical education.

Sustaining Interest in Family Medicine During Medical School

Once primary care-minded students matriculate in medical school, it is critical to sustain their interest throughout and increase the likelihood they ultimately enter family medicine for residency. Several strategies can be applied, including:

- Fostering a community-oriented mission.[16,19,24]
- Incorporating ethics and social determinants of health in the curriculum.[16,19]
- Introducing community learning and service into medical education, as well as training in advocacy.[25,26]

• Connecting students with dedicated, full-scope family physicians and peer mentors.[3]

• Mitigating any environment that permits specialty disrespect and "trash talk" about students' career choices.[27]

• Exposing students to new models of care and sustainable examples of patient-centered care, such as the patient-centered medical home (PCMH).[28]

• Establishing diverse outpatient training settings where everyone is seen regardless of ability to pay, including rural offices and community health centers.[29]

• Creating opportunities to train students in a team-based, interdisciplinary setting.[30]

• 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.[31]

Cohesive national leadership is needed to ensure public spending for medical education is aligned with future workforce needs.[28] Such leadership would set direction for policies at the admission and curricular levels encouraging entry into primary care,[32] as well as accountability across governing, accrediting, and licensing entities.[30] Moving forward, it will be critical to establish clear criteria to assess social accountability, such as graduates' specialties and practice locations, curriculum content, or interaction of training programs with their communities.[33]

Reallocating Funding to Expand Family Medicine Residency Training Opportunities

Another critical juncture in ensuring a robust family physician pipeline is providing sufficient numbers of graduate medical education (GME) training positions but also reforming the way GME is financed with regard to social accountability. For several years, calls for reform of the current hospital-centric, Medicare-dominated GME funding system have come from various constituencies, including COGME and the Institute of Medicine (IOM).[17,34,35] Both entities prioritize aligning federal resources with population health needs and expanding support for primary care training, while the IOM report additionally recommends phasing out the current GME payment system and modernizing payments to reflect performance and accountability. More recently, the American Academy of Family Physicians (AAFP), joined by CAFM and the American Board of Family Medicine (ABFM), released a comprehensive proposal to reform GME that is congruent with the IOM and COGME recommendations. Specifically, the AAFP, CAFM, and the ABFM call for:[36]

• Funding the National Health Care Workforce Commission that was created by the ACA.

• Using funding to support innovation in GME that will better meet population health needs.

• Establishing primary care thresholds and maintenance of effort requirements for institutions receiving federal funding.

• Requiring the maintenance of those thresholds as a condition for expanding residency positions.

Strategies that increase the number of trainees interested in family medicine, as well as ensure there are sufficient numbers of socially accountable GME positions, will establish a robust pipeline the country needs to care for an aging, growing, and increasingly insured population. These strategies will also be particularly important as we face a large proportion of family physicians retiring in the next few years.

Achieving Higher Quality Undergraduate Medical Education

The content of undergraduate medical education (UME) significantly impacts attraction to family medicine careers, and how prepared medical students are entering residency reflects the quality of UME. In 2014, the Association of American Medical Colleges (AAMC) released a curriculum guide describing the "core entrustable professional activities" all medical students should acquire prior to entering residency.[37] This report focuses on essential clinical skills students should learn but falls short when detailing the expertise physicians must have to improve population health and effect change in the health care system. In addition to diagnostic and management skills, robust UME requires:

• Education in the social determinants of health, including poverty, education, employment, housing, transportation, access to food and medical care, and literacy and numeracy levels.[38]

• Training in the integration of public health and behavioral health in primary care.

• Opportunities to learn from role models who competently provide care for sick patients and perform procedures when indicated.

• Experiential learning in patient-centered, team-based care delivery in the context of family and community.

Increasingly, however, other skills are required to produce family physicians adept at practice in new models of care, including health information technology, data analysis and research, professionalism, and self-reflection capabilities.[39] Acquisition of these skills will robustly prepare students to perform well in family medicine residencies.

The structure of UME delivery is just as important as the content itself. Longitudinal, integrated curricula, clerkships, and mentoring relationships that embed students in highly functioning patient care teams prioritizing patient-centered care reinforce primary care principles. Training in such environments is likely to help students develop lasting relationships with patients, receive more feedback, and instill skills needed by 21st century family physicians.[40-43]

Quality UME also requires strong faculty educators and community preceptors at rotation sites, ones that serve as mentors and demonstrate the value of the work they are providing for their patients and their

families and communities.[44] Effective clinical site and preceptor recruitment, training, and retention are essential to sustaining the family medicine workforce. Family physicians who teach students in their offices report they do so for the intrinsic enjoyment of teaching,[45] but doing so does not come without challenges, including concerns for impact upon clinical productivity and access to continuing medical education (CME) and Maintenance of Certification (MOC) opportunities.[46] The numbers of available physical clinical spaces for training also poses some challenges. The collective result is an insufficient clinical training capacity in the United States that affects physicians, physician assistants, and nurse practitioners and has created unintended competition within and among health professions for these crucial components of their education.[47] Various approaches to addressing these shortages are being implemented, including innovations in clinical education to maximize existing resources, as well as more controversial solutions that involve financial compensation. The field could also advocate for Medicare and other payers to compensate community preceptors that teach at higher rates.

Despite challenges in recruiting and training a robust family medicine teaching workforce, several techniques are known to be associated with highly rated clinical rotational experiences, including welcoming novice clinicians as legitimate participants in a practice, creating a central role for students in patient care and teaching, regularly engaging students in self-reflection to monitor their progress, helping students discover learning opportunities in routine patient encounters, using feedback to shape rather than evaluate student performance, and creating an environment where novices feel comfortable practicing new skills with patients.[48]

Improving the Graduate Medical Education Experience

Several initiatives, including new training guidelines and skills development and the advance of interprofessional training, are taking place simultaneously to improve the quality of family medicine GME.

Reexamining GME Training Guidelines

Once finalized by the eight US family medicine organizations, the newly developed discipline-specific Entrustable Professional Activities (EPAs) will guide educators in establishing training targets for resident physicians, objectives that reflect the expectations the public has of family physicians, regardless of location or resources.[37] The EPAs build upon expectations encompassed by medical home principles, such as access to comprehensive care, coordination of care, quality care, and teamwork.[49] The new EPAs overlap with the current Accreditation Council on Graduate Medical Education (ACGME) Milestones for family medicine and together will form clearer expectations of the competencies expected of a family physician at residency graduation. The goal of the Milestones is to serve as a national standardized means of tracking resident development.[50]

Besides EPAs and Milestones, the Association of Family Medicine Residency Directors (AFMRD) and the Society of Teachers of Family Medicine (STFM) have jointly launched the Family Medicine Residency Curriculum Resource (RCR) that offers an online, asynchronous resource for educators to use and contribute to for teaching and training residents.[51] Further, CAFM has created new guidelines for maternity care and procedural training that will enhance curricular standardization across the country. As these new guidelines and curricular resources are implemented, it will be important to research changes in knowledge, attitudes, and skills to determine if the changes impact educational quality.

In addition to reexamining GME training guidelines, a handful of family medicine residency programs nationwide have expanded the length of their training from 3 to 4 years. While we do not yet have results from this experiment, many experts have suggested that a longer training period allows residents more time to practice panel management, develop an area of clinical concentration such as sports medicine or obstetrics, and accrue more outpatient procedural expertise.[52]

Developing New Skills for the 21st Century Family Physician

Current family medicine ACGME requirements emphasize the need to incorporate quality improvement (QI) activities and more advanced health systems management skills, while at the same time requiring a robust number of patient encounters in all relevant clinical settings.[53] The ACGME's Next Accreditation System has implemented training requirements that focus on patient safety, health disparities, and quality care in the context of a greater health system, with public accountability the ultimate goal.[54]

As equally important to incorporating new skills in GME is the need to develop them in clinical settings in which residents will ultimately practice, such as PCMHs. In order to ensure that resident physicians train in teams, it is imperative to transform their outpatient practices to function as true PCMHs so that residents can experience organization and coordination of care based on clinical, educational, care management, and/or transition of care needs. Training in dynamic, high-functioning team environments, as well as involvement in QI projects, provide solid exposure to working together and problem solving as a team.[55] In particular, interprofessional training among students and residents entering primary care professions, including physician assistants, nurse practitioners, pharmacists, social workers, nurses, and community health workers, as well

as public health and mental health experts, has been identified as a model that may encourage innovation and teamwork.[56] Through interprofessional education, residents will learn to function in teams both as participants and ultimately as leaders in the appropriate settings.[57]

While it is important that resident physicians develop population health-oriented expertise, it is essential that we continue to teach foundational skills necessary for providing excellent clinical care, including listening, communication, counseling, diagnostic, and procedural skills. First and foremost, family physicians are motivated by the desire to provide personal medicine for patients in the context of family and community.

Training Dynamic Faculty to Teach in New Models of Care

As in the medical school experience, faculty development will also be critical in improving the experience of residents as they progress through their training, particularly in interprofessional settings. Two recent family medicine training initiatives, the Primary Care Faculty Development Initiative (PCFDI) and Preparing the Personal Physician for Practice (P^4), demonstrated the need for faculty to learn new skills, especially in settings where residency practices needed to transform.[58,59]

In preparation for the PCFDI, pediatrics, internal medicine, and family medicine program directors were queried to determine needs for faculty development. Several were identified, including the use of electronic health records in teaching, change management, curriculum design and evaluation, individualized learning plans, career coaching, competency-based assessment, leadership, systems-based practice, teamwork, and practice-based learning and improvement.[58] Using this information, patient-centered care emerged as the basis for the faculty development program, and six key areas were created as interdependent modules to develop skills in leadership, change management, teamwork, population management, clinical microsystems, and competency assessment. Findings from the P^4 Initiative regarding faculty development needs were very similar. One discovery during P^4 was that practice transformation occurred more rapidly when faculty, residents, and staff learned together and were actively engaged.[59]

In addition to the PCFDI and P4 programs for faculty, family medicine residency program directors are eligible to enroll in the National Institute for Program Director Development (NIPDD), coordinated by AFMRD. The NIPDD is a 9-month fellowship that offers education, instruction, and experiential learning designed for family physician educators to develop skills needed to be effective residency program directors. Past participants report less job stress, a larger network for educational ideas and resources, and greater job satisfaction.[60]

In order for faculty to acquire skills needed to teach in new models of care, we need to invest more time and resources into the educational infrastructure required to develop these competencies. Residents will also need longitudinal training on faculty development skills such as observation, feedback, and change management. The STFM Faculty for Tomorrow program is one such initiative to achieve this.

Strengthening Continuing Professional Development Opportunities

The final area of reform in education is that of post-residency continuing professional development (CPD), which includes both CME and MOC programs. Traditionally, maintaining medical knowledge and staying current in clinical treatments were left to physicians to prioritize and complete on their own. Later medical licensing boards began instituting requirements that physicians demonstrate participation in CME with a minimum number of hours in a specified timeframe. An Agency for Healthcare Research and Quality (AHRQ) commissioned review found that CME was marginally effective in achieving increases in knowledge, acquisition of new skills, changing practice behavior, and clinical practice outcomes.[61] However, the included studies were of poor quality, preventing a true systematic analysis.

Nonetheless, given improvements in technology and education, the AAFP has launched several online, interactive CME programs. Family physicians can customize their CPD experience according to instructional format preferences, topics of interest, and time availability. The AAFP has also released smart phone applications where physicians can quiz themselves on the latest articles from both *Family Practice Management* and *American Family Physician*. As well, the AAFP and ABFM have joined forces to prioritize development of educational modules based on board re-/certification scores.

Improving Maintenance of Certification Activities

In response to reports of the failures of the CME system, the American Board of Medical Specialties (ABMS) began implementing MOC where physicians would have to continuously demonstrate professionalism (Part I), lifelong learning (Part II), medical expertise (Part III), and QI (Part IV) to maintain their board certification.[62] There is a small but growing evidence base supporting MOC influence upon physician knowledge and quality of care. However, MOC programs have been criticized for not aligning well with physicians' needs and are often viewed as "mandated CME" and irrelevant to an individual physician's practice. Other than QI through Part IV, current MOC programs are not focused on acquiring new skills but rather updating medical knowledge. Specialty boards, specifically the American Board of Family Medicine and American Osteopathic Board of Family Physicians, could create MOC Part II and IV activities that teach new skills in

population management, care coordination, and practice transformation and provide means to assess whether these are being implemented effectively.

Creating Re-Entry Training Programs for Family Physicians

To meet the goals of FMAHealth, many physicians, especially those in community practice who want to resume or begin teaching students and residents, may need to expand their current scope of practice to include skills not used since residency, including inpatient care, nursing home care, and obstetrics. Other than a handful of "re-entry" programs of limited effectiveness designed to facilitate inactive physicians' return to practice, programs to help practicing physicians reacquire new skills are essentially nonexistent. The National Procedures Institute, a joint venture of STFM and the Texas Academy of Family Physicians to provide outpatient providers opportunities to improve diagnostic and therapeutic skills, may serve as a model for enhancing the expertise of currently practicing physicians.[63] The AAFP also offers procedural training courses, and physicians wanting to improve or reactivate obstetrics skills can enroll in the Advanced Life Support in Obstetrics course. Nonetheless, additional "re-entry" training programs may need to be developed, depending on the number of physicians desiring to refresh their skills.

Translating knowledge and skills into practice will require more aggressive learning strategies that have not yet been made widely available. Learning experiences within practice teams may be the optimal learning model of the future, and providing tools to exploit that model may be a prudent next step in the evolution of CME.

Incorporating Practice Transformation Skills Into CPD

In order to move forward with achieving the Triple Aim, new practice transformation skills will need to be delivered to the existing family physician workforce through the current CPD system. Using the concept framework of the ACGME/ABMS "Core Competencies," the skills needed by family physicians as leaders within patient care teams in PCMHs and the "medical neighborhood" include advanced leadership, change management and communication skills (interpersonal communication), a macro-level perspective (systems-based care), and the capacity to serve their patients, practices, profession, and communities while considering the diversity, health inequities/disparities, and social determinants of health (professionalism). The Institute for Healthcare Improvement, the Josiah Macy Foundation, and the Commonwealth Fund all recommend that CME deliver training for these new skills.[56,64]

Conclusions

To achieve FMAHealth, reforms are needed across the entire educational continuum, including how we recruit, train, and help practicing family physicians refresh their skills. Such reforms must provide opportunities to acquire new skills needed in today's practice environment, to connect UME and GME with eventual practice settings, and to design educational programs that are socially accountable to the patients, families, and communities we serve. Specifically, we recommend:

- Identifying, training, and supporting family medicine role models and mentors on all levels, including medical students, residents, early career physicians, academic faculty, and community preceptors.
- Collaborating with our primary care colleagues to design high-quality and effective interprofessional training opportunities.
- Incorporating the family medicine EPAs across all levels of education.
- Reforming delivery of UME, GME, and CME so that they are accountable to the health goals and outcomes of the populations we serve.
- Creating educational programs that better align training with eventual practice, including exposure to new models of care and payment.
- Developing CPD opportunities that deliver retraining for practicing physicians to learn new skills and understand new models of care.
- Establishing research priorities and effective methods to study primary care workforce needs and trends, as well as impact of changes made across the entire educational continuum.

Acquiring new skills, particularly those focused on improving population health and team-based practice, are essential for family physicians to achieve the Triple Aim. FMAHealth provides an essential roadmap to guide the discipline as we transform our approach to training a more effective family physician workforce our country needs. The timing is right for family medicine to step forward and lead these crucial efforts.

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