

Transforming Primary Care Residency Training: A Collaborative Faculty Development Initiative Among Family Medicine, Internal Medicine, and Pediatric Residencies

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Abstract

Problem

The scope and scale of developments in health care redesign have not been sufficiently adopted in primary care residency programs.

Approach

The interdisciplinary Primary Care Faculty Development Initiative was created to teach faculty how to accelerate revisions in primary care residency training. The program focused on skill development in teamwork, change management, leadership, population management, clinical microsystems, and competency assessment. The 2013 pilot program involved 36 family medicine, internal medicine, and pediatric faculty members from 12 residencies in four locations.

Outcomes

The percentage of participants rating intention to implement what was learned as “very likely to” or “absolutely will” was 16/32 (50%) for leadership, 24/33 (72.7%) for change management, 23/33 (69.7%) for systems thinking, 25/32 (75.8%) for population management, 28/33 (84.9%) for teamwork, 29/33 (87.8%) for competency assessment, and 30/31 (96.7%) for patient centeredness.

Content analysis revealed five key themes: leadership skills are key drivers of change, but program faculty face big challenges in changing culture and engaging stakeholders; access to data from electronic health records for population management is a

universal challenge; readiness to change varies among the three disciplines and among residencies within each discipline; focusing on patients and their needs galvanizes collaborative efforts across disciplines and within residencies; and collaboration among disciplines to develop and use shared measures of residency programs and learner outcomes can guide and inspire program changes and urgently needed educational research.

Next Steps

Revise and reevaluate this rapidly evolving program toward widespread engagement with family medicine, internal medicine, and pediatric residencies.

Problem

Efforts to redesign primary care practice using advanced models of care are transforming the delivery of primary care in the United States. The explicit goals of these models are producing better care experiences and better health outcomes at lower costs (the “Triple Aim”).¹ These efforts use strategies that enhance patient relationships, provider competencies, and organizational functions in the health system.² However, the scope and scale of developments in health care redesign have not been sufficiently adopted in

the training of primary care physicians. There is an urgent need to transform primary care residency education, both to enhance capacity to produce physicians capable of effectively practicing patient-centered care on revised platforms of primary care and to train local leaders in this transformation process.

The move toward redesigning practice began for each of the three primary care disciplines separately. In family medicine, the initiative known as Preparing the Personal Physician for Practice³ was a comparative case study of 14 residencies that experimented with changes in residency education, many of which included aspects of the patient-centered medical home (PCMH).² Two pediatrics initiatives, Residency Review and Redesign in Pediatrics⁴ and the Initiative for Innovation in Pediatric Education,⁴ were designed to initiate, facilitate, and oversee innovative change in pediatric residency education through carefully monitored, outcome-directed experimentation. The internal medicine

initiative, the Education Innovation Project, targeted ambulatory redesign in several programs through training revisions.⁵

In 2009, the three primary care American Board of Medical Specialties boards (family medicine, internal medicine, and pediatrics) united to establish a Tri-Board Steering Committee (SC) to explore collaboration to strengthen residency training. In partnership with evaluation experts at Oregon Health & Science University, the SC engaged in a project to create and test interdisciplinary learning communities designed to better prepare graduates to practice effectively in redesigned health systems. In the fall of 2012, the Health Resources and Services Administration (HRSA) awarded an 18-month contract to Oregon Health & Science University to implement and evaluate a pilot faculty development initiative. The Primary Care Faculty Development Initiative’s (PCFDI) overarching goal is to expand the skill sets of primary care residency

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faculty to enhance and accelerate the transformation of residency training and create an interdisciplinary learning collaborative among the three disciplines to work within their local institutions. Here we describe the initiative, initial curriculum, and organizational approach, and report early results.

Approach

PCFDI project overview and curriculum

The SC developed a proposal, framework, and time line for the PCFDI (Figure 1) by convening additional leaders and key stakeholders and completing a robust review of the current state of ambulatory training and of policy maker and health system concerns about medical education. In addition, the SC surveyed program directors in the three disciplines in 2011 to determine faculty development needs and assessed the literature for current gaps in faculty skills. These activities identified a number of needed skills: using electronic health records (EHRs) in teaching; change management; curriculum design; evaluation; individualized learning plans; career coaching; competency-based assessment; leadership; systems-based practice; teamwork; and practice-based learning and improvement.

Using this background, patient-centered care emerged as the core of a conceptual model, and six key areas were conceptualized as interdependent modules: leadership, change management, teamwork, population management, clinical microsystems, and competency assessment. The key components were revised and validated at a January 2012 national conference of key stakeholders that included representatives of the Association of American Medical Colleges, the Accreditation Council for Graduate Medical Education (ACGME), the Agency for Healthcare Research and Quality, the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Patient-Centered Primary Care Collaborative, HRSA, consumer groups (e.g., Consumer Reports), members of the American Board of Family Medicine, the American Board of Internal Medicine, the American Board Pediatrics, and others.

Selection of participating programs

An open solicitation for participation in the PCFDI was sent to the program

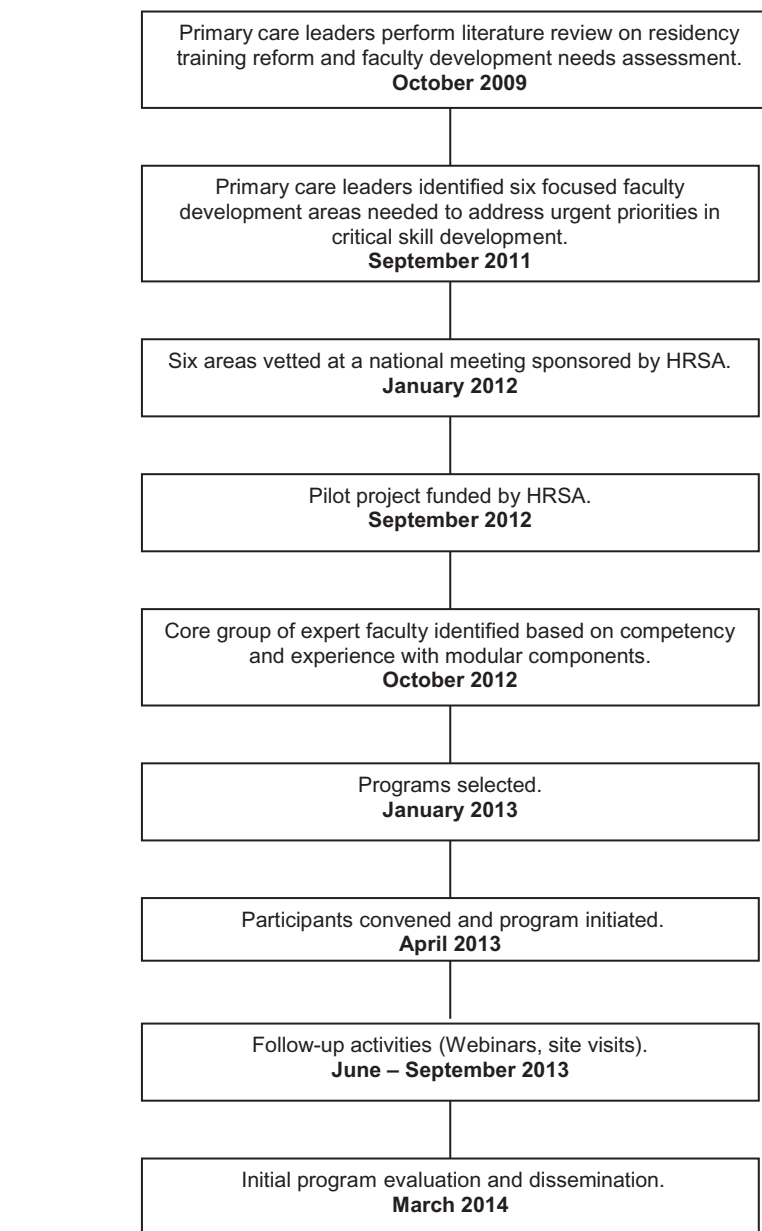


Figure 1 Developmental time line of the Primary Care Faculty Development Initiative (PCFDI). The PCFDI was created to accelerate revisions in primary care residency training. The program focused on skill development in teamwork, change management, leadership, population management, clinical microsystems, and competency assessment. The 2013 pilot training session involved 36 family medicine, internal medicine, and pediatric faculty members from 12 residency programs at Advocate Lutheran General Hospital, University of Minnesota Medical School, University of Nebraska Medical Center, and Ohio State University College of Medicine. Abbreviation: HRSA indicates Health Resources and Services Administration.

directors associations in family medicine, internal medicine, and pediatrics and was widely distributed to residency programs in all three disciplines. Organizations were invited to be initial participants without compensation for themselves or their residency programs. Fifty-one letters of intent and 53 full applications were received, involving 159 residency programs. Applicants were required to apply as a team of residencies from the

three disciplines of family medicine, internal medicine, and pediatrics and to confirm support from their sponsoring organizations. A peer review committee, consisting of selected members of the SC, chose the four sites clustered in the Midwest in January 2013: Advocate Lutheran General Hospital (Park Ridge, Illinois); University of Minnesota Medical School; University of Nebraska Medical Center; and Ohio State University College

of Medicine. These institutions identified nine clinician–educators and leaders (three from each of the three disciplines) to participate in the program.

Program design

A core group of multidisciplinary faculty were chosen to facilitate the PCFDI on the basis of their expertise and experience with modular components of the program as well as real-life experiences with practice

change and transformation. This group was assembled to develop and deliver the program using a combination of didactic and small-group interactive sessions to allow participants to apply skills in their respective residency continuity practices. The educational program launched with a two-and-a-half-day training session held in Chicago, Illinois, April 18 to 20, 2013 (see Table 1). Faculty encouraged participants to apply program concepts

to local interdisciplinary transformation efforts. The interdisciplinary teams from each site received content reinforcement and coaching after the training session in the form of webinars, conference calls, and visits by core faculty and members of the evaluation team.

A robust evaluation assessed the feasibility and acceptability of the program, and its initial impact on faculty and on residency program

Table 1
Goals and Faculty Competencies for Skill Areas Addressed in the Primary Care Faculty Development Initiative, 2013

Skill area	Goal	Faculty competencies
Leadership	Develop the leadership skills necessary to create a new culture of primary care practice within the local residency and its GME environment.	<ul style="list-style-type: none"> Identify at least five characteristics and associated behaviors of successful transformative and shared leadership (e.g., inclusive, collaborative, facilitative, distributed, adaptive, inquiry centered, servant-like). Demonstrate ability to provide clinical and educational leadership for residency practice’s change and improvement process. Apply leadership practices that support trust, collaboration, and team effectiveness. Develop shared leadership model by involving faculty, residents, clinicians, and staff from every level to be engaged in change process.
Change management	Co-manage the change within one’s residency and other aligned primary care residencies within one’s organization.	<ul style="list-style-type: none"> Create a vision for success and assess stakeholders’ perspectives on how they can support that vision for the future. Prepare a road map for practice development and improvement that acknowledges what is currently known about the change process, physician resistance to change, change fatigue, and human life together. Recognize and manage one’s own emotions, especially at high-stakes, potentially threatening moments, and describe personal approach for strengthening these skills. Create safe space for difficult conversations in presence of hierarchical relationships.
Teamwork	Introduce teamwork models and practices necessary for optimizing patient safety and quality within the practice environment.	<ul style="list-style-type: none"> Appreciate the roles of the various members of the health care team and how team members can be integrated for optimal patient care. Establish team processes that support diverse professionals to work together in support of common change goals. Identify resources for ongoing team training at the local level that optimizes patient safety and quality of care.
Population management	Improve panel management in our training practices.	<ul style="list-style-type: none"> Utilize registries and/or other IT tools to identify and manage populations of patients within the practice. Interpret data as a measure of patient outcomes and design strategies to target those patients whose outcomes are not improving. Identify community resources available to the patient populations served by the residency training program and demonstrate the integration of these resources into the management of patients.
Clinical microsystems	Understand systems science and its application in transforming the practice to embrace patient centeredness, effectiveness, and efficiency.	<ul style="list-style-type: none"> Understand and be able to teach system science. Apply system science principles to patient care design in multiple settings.
Competency assessment	Ensure comprehensive assessment of required competencies of trainees.	<ul style="list-style-type: none"> Design assessment systems that utilize interdisciplinary assessors and multifaceted methods to assess individual competencies as well as the integration of competencies in care delivery. Use appropriate assessment tools based on their “utility” of purpose, a multiplicative function of validity, reliability, educational impact, feasibility, and acceptability. Train and calibrate assessors to use direct observation to enhance the utility and value of assessment. Create a strategy for assessment that connects educational outcomes with clinical outcomes.
Patient centeredness and PCMH principles	Develop training practices authentically infused with patient centeredness.	<ul style="list-style-type: none"> Demonstrate comprehensive, coordinated care using an evidence-based personal care plan, with goals prioritized by the patient and decision making shared with the patient. Manage patients and families with sensitivity to patients’ health literacy, beliefs, customs, culture, and community.

Abbreviations: GME indicates graduate medical education; IT, information technology; PCMH, patient-centered medical home.

and practice redesign. The evaluation also assessed the specific impact that the learning communities had on creating and sustaining momentum for transformation. The specific measures and their timing are included in Supplemental Digital Table 1 at <http://links.lww.com/ACADMED/A270>.

This project, including all evaluation activities, received an exemption from Oregon Health & Science University's institutional review board.

Evaluation of the initial training

Using carefully designed surveys, the participants completed formal assessments of the logistics, presentation quality, and usefulness of the training session, as well as their intentions to implement redesign features in their own practices. All surveys used a five-point rating scale with assessment of presentation skills: Poor (1), Adequate (2), Good (3), Excellent (4), and Outstanding (5). Usefulness of the presentations was assessed using a scale with responses ranging from Not at All Useful (1) to Exceptionally Useful (5). Intention to implement skills was scored using response scales ranging from Unlikely to Implement (1) to Absolutely Will Implement (5). We used descriptive statistics to characterize responses to the program by participants. In reporting the survey results, we collapsed responses in the final two categories (e.g., excellent and outstanding) into a single category. For presentation quality ratings, we combined presenter skills and topic materials, which were scored separately, into a single global score. Data capture was 100% for participants, and < 1% of data involved missing responses for individual variables.

In addition, four senior faculty members from three different academic institutions who were either members of the SC or part of the evaluation team and had expertise in recording field notes served as formal evaluators and took extensive field notes, which were compiled into a single document. Two members of the evaluation team used classical content analysis methods⁶ to identify relevant themes, which arose during discussions related to each topic area. A consensus process was used to verify theme identification and to select exemplars that reflected those themes.

Outcomes

Satisfaction with initial training session

Participation by selected programs was high at the initial training session in April, with 33 of 36 (91.6%) attending (3 members were unable to overcome travel difficulties). Overall, 28/32 (missing 1 response) (87.5%) participants thought the meeting logistics were excellent to outstanding. Presentation quality was rated as excellent or outstanding by 17/33 (51.5%) participants for leadership skills, 26/33 (78.8%) for teamwork skills, 25/33 (75.8%) for change management skills, 26/33 (78.8%) for systems thinking skills, 27/33 (81.8%) for population management skills, 31/33 (93.9%) for patient centeredness skills, and 32/33 (97.0%) for competency assessment skills. Usefulness scores were rated as very or exceptionally useful by 14/33 (42.5%) participants for leadership, 25/32 (missing 1 response) (78.1%) for teamwork, 21/33 (63.6%) for change management, 28/33 (84.8%) for population management, 26/33 (78.8%) for systems thinking, 28/33 (84.8%) for patient centeredness, and 28/33 (84.8%) for competency assessment. The number of participants rating their intention to implement what was learned as “very likely to” or “absolutely will” was 16/32 (missing 1 response) (50%) for leadership, 24/33 (72.7%) for change management, 23/33 (69.7%) for systems thinking, 25/32 (missing 1 response) (75.8%) for population management, 28/33 (84.9%) for teamwork, 29/33 (87.8%) for competency assessment, and 30/31 (missing 2 responses) 96.7% for patient centeredness.

Observed themes and potential contributions of the learning community

Key faculty observations noted that leadership skills are key drivers of change but that participants face challenges in changing culture and engaging other stakeholders (Table 2). Many participants noticed the value of a servant–leadership style rather than a force-of-will leadership model.⁷ Faculty observers also noted that the three disciplines varied in their readiness to change, even within institutions, and that targeting patient-centered redesign strengthened efforts because work that benefits patients garnered widespread support. The potential contributions of this collaborative approach included

identifying the values all three disciplines share in terms of aspiring to be better teachers and physicians. Also, by unifying requests to obtain resources in funding and protected time across all three disciplines, success may be more likely. Faculty observers noted that developing teamwork skills was challenging because of different operational definitions for teamwork; thus, much time was spent rediscovering what teamwork is rather than on developing the “glue” that binds team members together.

Accessing and managing data from EHRs for population management was a universal challenge, especially retrieving data for individual residents. Consequently, residents had virtually no exposure to their own data and had little understanding of how it could be used to improve patient care. Residents tended to see the EHR as being used singularly to take care of individual patients. Faculty observers speculated that members of the learning collaborative could generate a common information technology agenda that would benefit all three disciplines. Faculty also noted the need for clarity in defining a common purpose related to Triple Aim efforts.¹ Participants generally agreed that focusing patient-centered efforts around building relationships, improving service, and assuring reliability could be a unifying purpose.

Faculty observers noted the need for embedded patient-based outcome assessments in the curriculum, as well as for feedback for all residents to help them reflect on their experience and performance and avoid “arrested development,” or the inability to sustain evolving change. If the collaborating residencies were to focus on developing curriculum and measurements together for shared topics, then data on the residents in respective disciplines could be shared, and all would benefit. Patient centeredness and PCMH principles were sometimes challenging to develop because institutional missions did not always align with primary care.

Interestingly, we learned that although many faculty knew of each other at their respective institutions, they had not collaborated before. In fact, some faculty had not met prior to starting the project. Participants therefore appreciated that a majority of the two-and-a-half-day meeting

Table 2

Themes Observed During the Primary Care Faculty Development Initiative Pilot Training Session, 2013, and Their Practical Application According to Skill Area

Skill area	Themes identified by faculty observers	Practical application within a learning community that includes all three disciplines ^a
Leadership	<ul style="list-style-type: none"> • These skills are key drivers of change and include listening skills, understanding and communicating the history and paradigm of primary care including continuity of care, patient/physician relationships. • Strategies programs have used to promote change include coaching by leaders who empower smaller teams to work with them in leading change within their institutions. • The three disciplines are relatively uniform in believing they are subject to senior institutional leadership who control resources and do not necessarily support them in innovating in residency training. • Many programs have leaders who do not understand what they don't understand, resulting in leaders being "stuck" in how they operate and not being amenable to change. • Effective leadership is key, being able to engage and engaging others to convey a vision and create the momentum that will get teams to buy into change. 	<ul style="list-style-type: none"> • Leadership is unrelated to rank, and becoming united servant-leaders rather than leading by force could produce the changes needed within the three disciplines. • This would take thoughtful listening, understanding why people don't want to change, establishing trust, managing the things that work well and adjusting what doesn't work well, being willing to fail and helping the team to make sense of failures and then adjust. • Working collaboratively to achieve the above would create a support system likely to achieve success.
Change management	<ul style="list-style-type: none"> • The three disciplines differ greatly in readiness to change. • Strategies include redesign that is patient focused, which all agree is a priority, though there may be conscious, unconscious, and deliberate resistance to change, which is unpredictable. • Buy-in depends on credibility, time spent in the health care system, including those affected by change in the change process, good communication skills among all stakeholders, assimilating a diversity of opinions into a single vision. • Change takes time, which can be a challenge—getting protected time to do change work is hard. • It is very easy to slip into old habits; projects take time and sometimes don't align with group expectations. 	<ul style="list-style-type: none"> • Participants in all three disciplines aspire to teach and be better primary care providers. They can use these values to overcome issues related to co-location without collaboration both within and across primary care residencies. • They may be able to leverage more funding/protected time by unifying their requests to department and institutional leadership.
Teamwork	<ul style="list-style-type: none"> • A driver for better teamwork is patient safety. • Much time and effort is spent rediscovering what is already known about working together—there is a core set of values needed for both the transformation of training as well as for providing a foundation or the "glue" that binds teams together. 	<ul style="list-style-type: none"> • Working together, the three disciplines could use patient stories to create the guiding principles for transformational change and in so doing develop the glue to bind effective teams together.
Population management	<ul style="list-style-type: none"> • Being able to access and manage data from electronic health records is a universal challenge. • Participants have limited experience in working to gain access to their data, or their efforts have not produced the desired results. • Clinical performance/registry data flow to faculty but not to residents, so how do we get residents to see this as important? • There is a tension between focusing on an individual provider versus the whole team. • There is a need to empower clinicians to secure funding and protected time for developing and implementing a public health curriculum. • Having a well-established relationship with IT is considered a crucial ingredient. 	<ul style="list-style-type: none"> • Significant leverage could be gained if the three disciplines went to IT with a common agenda for data needs. Clinical areas that include asthma, diabetes, and hypertension are common and are good areas to use to develop these skills.
Clinical microsystems	<ul style="list-style-type: none"> • There is a tension and disagreement about the common purpose of a clinical system, especially as it relates to the Triple Aim. • Engaging residents in this requires careful thought. Might be best to pick something not currently being done or discontinuing something that is unnecessary, so the residents can observe and be a part of the whole process. • Many approach this as an add-on that is too difficult to really implement and sustain. In addition, methods of evaluation do not include process measures. 	<ul style="list-style-type: none"> • Shared accountability for relationship service and reliability across the three disciplines could help to more fully establish the change experience, especially for microsystem efforts common to all of them.
Competency assessment	<ul style="list-style-type: none"> • An identified focus is to start with patients' health needs and how the health system can meet those needs. Then use these to develop outcome assessments. • The outcome assessments need to be imbedded into the curriculum. • Even really good residents need feedback to help them learn how to receive and process it so they can avoid "arrested development." • There is some pushback about whether the IHI Triple Aim includes the right outcomes to focus on. 	<ul style="list-style-type: none"> • By collaborating on measurement development, data on residents in the respective disciplines can be compared and processes used to improve both the training curriculum and the resident performance in all three disciplines.

(Table continues)

Table 2
(Continued)

Skill area	Themes identified by faculty observers	Practical application within a learning community that includes all three disciplines ^a
Patient centeredness and PCMH principles	<ul style="list-style-type: none"> • Shared-vision/institutional mission are important—there is a need to change and build the culture of care so it is about and for patients. The patients and staff must have shared expectations and understand how to include both goals and values in shared decision making. This is important to help activate patients. • A challenge is that institutional missions don't always align with primary care. • Another challenge is the electronic health record, which may not have the functionality to optimize care processes for patients. • For some disciplines (IM), trying to change the balance of outpatient and inpatient care is especially hard. • Self-reflection is needed to really engage patients as partners in their care. This represents an important culture shift in both patient and physician behavior. The goal is to empower patients so that they feel they are allowing health professionals to be guests in their lives, and not as though they are intruders in the world of health professionals. 	<ul style="list-style-type: none"> • As with clinical microsystems, shared accountability may be the glue that makes patient centeredness “stick” in ways that will allow this to gain momentum. This will be important for having a shared vision, mission; EHR use will promote the needed self-reflection.

Abbreviations: IT indicates information technology; IHI, Institute for Healthcare Improvement; PCMH, patient-centered medical home; IM, internal medicine; EHR, electronic health record.

^aThe three primary care disciplines included in the Primary Care Faculty Development Initiative are internal medicine, family medicine, and pediatrics.

was spent working within institutional teams. Indeed, we observed a natural evolution into a professional learning community, consistent with the definition as a group of educators that meets regularly, shares expertise, and works collaboratively to improve teaching skills and learner performances.⁸

This study was an exploratory study and is quite limited in what can be definitely concluded. The small sample size precludes generalizability. Our approach to evaluating this pilot was to learn from experience and identify relevant contextual and practical operational factors useful in transporting findings into further development of an emerging program. This is an important methodology for educational and practice transformation.

Next Steps

To our knowledge, this effort is the first to actively study the impact of developing a learning community among the three primary care disciplines to simultaneously transform clinical care and residency training. To date, we have learned that primary care residencies have substantial interest in transforming their programs, shared needs, and an untapped ability to collaborate across the three primary care physician specialties. Participants were generally satisfied with the initial content of the program. Participants were least

satisfied with the approach to leadership and most positive about competency assessment, systems thinking, and patient centeredness skills, areas in which they likely received little training during their own education. Skills in evaluation and competency assessment were reconfirmed as a gap in current skills for faculty attempting to redesign residencies.⁹ This is particularly important because enhanced competency assessment is an essential component in the ACGME's Next Accreditation System,¹⁰ and doing this well will benefit many disciplines.

Lessons learned from this pilot are still emerging and will inform further revisions and possible expansion of this initiative to help family medicine, internal medicine, and pediatric residencies better prepare the primary care workforce for the future.

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