Evolution of an interdisciplinary primary care transformation collaborative: from barely knowing each other to becoming system change agents

Co-Authors: M. Patrice Eiff, MD[a], Jill Patton, DO[b], Greg Kirschner, MD[b], Joanna Lewis, MD[b], Leo Kelly, MD[b], Patricia A. Carney, PhD, MS[a]

Abstract

Background: Interprofessional (IP) collaborative care is playing an increasingly important role in healthcare delivery. Optimal preparation of the primary care work force should include meaningful IP ambulatory educational experiences, but residency clinical transformation efforts typically occur in isolation.

Objective: A team of faculty from internal medicine, family medicine and pediatric residencies, which constitutes the Advocate Primary Care Transformation Collaborative (APCTC), have worked collaboratively for six years as change agents to improve residency clinical learning environments in alignment with health system priorities.

Methods: Collaborative approaches undertaken by the APCTC from 2013-2019 include: forming a steering committee that includes institutional stakeholders, establishing monthly meetings, making targeted asks of institutional stakeholders to sustain momentum, obtaining institutional funding for a project manager, collaborating on small institutional grants.

Results: Outcomes of the APCTC's efforts to improve primary care residency training and practice include: obtaining information technology support to get resident panel reports and quality metrics for all residents; enhancing resident quality improvement projects; initiating multi-specialty, interprofessional faculty development and joint grand rounds; and establishing an interdisciplinary team approach to manage high risk patients in all residency clinics.

Conclusions: Primary care faculty crossing boundaries to work collaboratively can integrate ideas and insights toward devising creative solutions to problems resulting in unified change efforts across the academic and healthcare enterprise. Replicating this model in other institutions could further catalyze clinical learning environment transformation.

[a] Oregon Health & Science University

[b] Advocate Lutheran General Hospital

Introduction

Evidence is now emerging that demonstrates the vital impact that Interprofessional (IP) collaborative practice is having on patient and population health outcomes (1-3). In addition, developing effective IP teams between and among physicians, nurses, physician assistants, nurse practitioners, pharmacists, behavioral health specialists, and other health professionals and optimizing IP practice are enhancing the quality of care, improving patient and provider satisfaction, and creating more effective and efficient work flows (4-6). Developing innovations on how best to prepare the primary care workforce to work in this collaborative environment is needed.

Barriers and benefits of collaboration among the generalist disciplines have been described (7), and this type of collaboration is often advocated (8-10); however, few reports exist on models that actually accomplish this. Koslov, et al reported on their processes for developing a unified primary care leadership team to comprehensively redesign primary care at the University of Wisconsin (11). Their collaboration achieved some improvements in patient satisfaction and preventive care delivery, but they also experienced challenges in communication, managing specialty differences, resource limitations and sustainability. A two-year learning collaborative of six academic medical centers and 19 primary care teaching practices at Harvard attempted to transform primary care education and practice (12). With substantial financial support ($8.4 million) and an intensive intervention approach including protected faculty and staff time, in-person meetings, and practice coaching, the practices showed progress towards team-based patient centered care (12).

The cross-disciplinary effort, the Primary Care Faculty Development Initiative (PCFDI) national pilot project was an innovative effort to stimulate primary care residency redesign (13). The PCFDI prepared faculty from family medicine, internal medicine, and pediatrics to accelerate change in residency practices by helping them unite around a common mission. Results from this pilot demonstrated that faculty in the primary care disciplines, who prior to PCFDI had little contact with each other, could come together successfully around Patient-Centered Medical Home (PCMH) transformation and trans-disciplinary training (13).

A team of primary care physicians, the Advocate Primary Care Transformation Collaborative (APCTC), undertook the challenge of creating a better-trained workforce and their journey began with participation in PCFDI. In this report, we describe the lessons learned from this team of nine internal medicine (IM), family medicine (FM) and pediatric (Peds) residency faculty who have been working collaboratively for six years to improve residency clinical learning environments.

Methods

Educational Setting

Advocate Aurora Health Care is an integrated system which operates eleven hospitals located in Chicago and central Illinois. Four of the eleven hospitals train medical residents, which includes Advocate Lutheran General Hospital (ALGH). Within Advocate, there are 25 accredited residency and fellowship programs that train 650 learners annually including 36 categorical pediatric, 27 family medicine and 57 categorical internal medicine residents.

Educational Problem: Siloed, Misaligned & Inadequately Supported Efforts

Prior to the formation of the APCTC, primary care residency practices at ALGH were separately attempting to become highly functional Patient-Centered Medical Homes (PCMH), unaware of each other's transformation efforts. While pursuing National Committee for Quality Assurance (NCQA) PCMH recognition provided some common ground for activity, little coordination of effort was undertaken to actively interface residency practice transformation initiatives with larger organization goals in primary care. All three primary care residencies were wrestling with the challenges of: 1) a continually evolving approach to care; 2) working with faculty clinicians who had yet to truly experience the PCMH model of care; and 3) attempting to make transformative changes without added resources of time or money. Additionally, the Peds and IM residencies were acutely aware of the need to provide strong primary care experiences for their residents to graduate more physicians choosing primary care practice in an era of increasing specialization.

At the same time, Advocate Aurora Health Care system goals were fueling a need for various initiatives in primary care practices, such as improved access for patients, quality-measurement at the outpatient practice level, and attention to cost-effective strategies. A growing awareness developed among Advocate administrative leaders that the primary care residency programs provided important platforms for organizational change and could catalyze change in non-residency primary care providers and clinics. These programs also produced graduates who could help meet primary care practice and leadership needs for an expanding health care system.

Educational Innovation: The Advocate Primary Care Transformation Collaborative (APCTC)

The APCTC started their work together as educational change agents at the initial PCFDI training in April of 2013 and "branding" themselves with a new name was an important first step. The group has continued to meet monthly ever since. APCTC is committed to continuing equal representation from each discipline and the group has expanded to include members from other professions in addition to the founding group of physicians. Early efforts revolved around building connections and collegial support.

For example, within the first few months, members of the APCTC team visited each other's clinics to observe operations and share best practices.

As the group has matured, they have collaborated on building support such as:

- Forming a steering committee that includes institutional stakeholders in order to align innovations with health care system goals
- Consistently making targeted asks of institutional leaders to keep work moving forward.
- Seeking sponsorship from key stakeholders to secure a project manager to provide practice transformation support to the residencies.
- Collaborating on small institutional grants to support joint faculty development and residency education events

Each participating institution in PCFDI and the evaluation team, based at Oregon Health & Science University, received Institutional Review Board (IRB) review for study activities and were granted approvals with waivers of consent or exemptions.

Results

Collaboratively Improving Primary Care Training

The APCTC instituted a number of curricular changes to improve training of all primary care residents. The moto, "The Transformed Clinic *is* the Practice Transformation Curriculum" drove their activities even before health care system leadership called for change in the operational side of the residency practices. First, the APCTC spearheaded efforts to teach residents utilizing resident specific quality data. Speaking with a unified voice allowed them to influence their system-level leaders to provide the information technology support to identify residents as primary care providers within the electronic health record, get resident panel reports and obtain quality metrics for all residents in the Advocate system. Secondly, one of their faculty members received TeamSTEPPS (14) training using support of the PCFDI and then held similar trainings for the residents across all three disciplines. Thirdly, the APCTC became an active participant in quality improvement (QI) by engaging faculty and medical assistants to support resident QI projects. These projects have been shared at regional primary care and graduate medical education meetings.

Developing a Sustainable Model for Faculty Development

The APCTC committed itself to ongoing interdisciplinary professional development and creating a joint residency curriculum in practice transformation. A focus on patient-centeredness remains an ongoing priority. Efforts to-date include:

- Multi-specialty, interprofessional faculty development sessions inclusive of residents and clinical staff.
- Use of the Patient Centered Observation Form (PCOF) (15) as a teaching and evaluative tool across all three residency practices.
- Using a joint Grand Rounds format across departments to share best practices and PCMH content.
- An APCTC-sponsored annual regional meeting that serves as a venue for engagement and collaboration with other residencies.
- Core members of the APCTC became coaches for teams participating in Professionals Accelerating Clinical and Educational Redesign (PACER) (16-17), a national interprofessional faculty development program based upon the foundational work of the PCFDI pilot.

Supporting Interprofessional Collaborative Practice: Interdisciplinary Care Teams

In 2016, the APCTC led a new initiative to care for complex patients in their residency practices by assembling interdisciplinary teams (IDTs) consisting of faculty physicians, nurses, residents, care managers, social workers, behavioral health specialists, palliative care staff, home health care staff, clergy, practice managers, medical directors, and subspecialists when appropriate. Care managers select patients with input from residents and faculty for IDT meetings and the meeting focuses on care planning and case management for complex patients to improve patient outcomes and decrease costs. At the end of the meeting, a care plan generated by the group is shared with the ALGH emergency department keeping everyone in the loop with patients' care goals. Although IM, FM and Peds operate their IDTs independently, they developed their interdisciplinary approach to manage high risk patients together and continue to share best practices and results from their IDTs.

Preliminary results **(Table 1)** show that the IDT model for managing complex patients in IM, FM and Peds has led to decreased ED utilization, decreased hospitalizations and decreased readmissions for this cohort of patients. Though the initial sample of patients was small, system leaders have taken notice of the cost and utilization reduction results and are supporting an effort to implement IDTs for all highly complex patients in other clinics throughout the Advocate system. The APCTC developed an IDT "playbook" to help support expansion of the IDT model throughout the enterprise.

Discussion

The APCTC formula for empowering primary care residency faculty to be more successful in their work started with the simple practice of meeting regularly to build trusting relationships and sharing problems and solutions. Despite their differences, they found ways to work collaboratively, created a supportive community of practice and

broke through the entrenched siloes that are so common in residency training programs as well as the separate cultures in health professions. Working collaboratively across disciplines created opportunities for synergistic innovation, which was energizing and encouraging. The collaborative model created by the APCTC provided the "initialization" that others have described as foundational preparation for transformative change (18) and provides a roadmap for other institutions striving to better prepare the primary care workforce. Their IDT model to care for complex patients is also well aligned with the Accreditation Council for Graduate Medical Education (ACGME) Clinical Learning Environment Review (CLER) Healthcare Quality Pathway to Excellence in support of the effectiveness of graduate medical education in promoting safe, high-quality patient care (19).

Formation of a steering committee of key stakeholders and educational leaders from multiple health professions was the first step in aligning innovations with health care enterprise goals, was critical to the ongoing success of APCTC and led to some tangible support for their efforts. Steering committee meetings provided a venue for APCTC to present outcomes of their primary care innovations resulting in lessons that could be used throughout the health care system. The steering committee provided input into the health system's goals for population health, high value care, and quality and patient safety and the APCTC worked to align their work to transform the residency practices with these system goals. Efforts to improve primary care health professional training and redesign primary care practices need to be better aligned given that these complex systems interact and influence each other (20-21).

The national spotlight gained from the PCFDI and PACER initiatives certainly enhanced the credibility of the APCTC team in their own health system and led to greater local impact of their transformation work. The continuing work of the APCTC team now proceeds with greater intrinsic motivation as they face the challenge of maintaining support from system leadership within a changing health care landscape with multiple competing demands.

Lessons Learned

Building on experience and expertise gained through PCFDI and PACER, along with continuing institutional support, the APCTC is now leading an effort to create a PACER Regional Center. This Center will provide professional development for primary care clinicians across the Advocate system as well as faculty in residencies and health professions schools in the region to catalyze transformation in primary care and foster collaboration among primary care health professionals. Although this report is limited to a single institution's experience, lessons from the APCTC (**Table 2)** may give others important aspects to consider when embarking on cross-disciplinary work**.**

Conclusion

This educational innovation adds to our understanding of what actually happens when motivated faculty initiate efforts to improve training and practices together. Replicating this model of a collaborative cross-disciplinary learning community in other institutions and using residency practices as the initial innovation labs could catalyze transformation in primary care practices across a larger system.

REFERENCES

1. Lessons from the Field: Promising Interprofessional Collaboration Practices. 2015. White Paper, The Robert Wood Johnson Foundation, rwjf.org.
2. Brandt B, Lutfiyya MN, King JA, Chioreso C. A scoping review of interprofessional collaborative practice and education using the lens of the Triple Aim. *J Interprof Care.* 2014;28:393–399.
3. Reeves S, Fletcher S, Barr H, Birch I, Boet S, Davies N, Kitto SC. A BEME systematic review of the effects of interprofessional education: BEME Guide No. 39. *Medical Teacher.* 2016;38(7):656–668.
4. Earnest M, Brandt B. Aligning practice redesign and interprofessional education to advance triple aim outcomes. *J Interprof Care*. 2014;28(6):497–500.
5. Reid RJ, Coleman K, Johnson EA, et al. The Group Health medical home at year two: cost savings, higher patient satisfaction, and less burnout for providers. *Health Aff (Millwood)*. 2010;29(5):835-843.
6. Nelson KM, Helfrich C, Sun H, et al. Implementation of the patient-centered medical home in the Veterans Health Administration: associations with patient satisfaction, quality of care, staff burnout, and hospital and emergency department use. *JAMA Intern Med*. 2014;174(8):1350-1358.
7. Kutner JS, Westfall JM, Morrison EH, Beach MC, Jacobs EA, Rosenblatt RA. Facilitating collaboration among academic generalist disciplines: a call to action. *Ann Fam Med*. 2006;4(2):172-6.
8. Inui TS. Stand and deliver—together. *J Gen Intern Med*. 1994;9(Suppl 1):S1-S2.
9. Schatz IJ, Realini JP, Charney E. Family practice, internal medicine, and pediatrics as partners in the education of generalists. *Acad Med*.1996;71:35-39.
10. Donaldson MS, Yordy KD, Lohr KN, Vanselow NA, eds. Primary Care: America's Health in a New Era. Washington DC: National Academy Press; 1996.
11. Koslov S, Trowbridge E, Kamnetz S, Kraft S, Grossman J, Pandhi N. Across the divide: Primary care departments working together to redesign care to achieve the Triple Aim. *Healthc (Amst).* 2016 Sep;4(3):200-6.
12. Bitton A, Ellner A, Pabo E, Stout S, Sugarman JR, Sevin C, Goodell K, Bassett JS, Phillips RS. The Harvard Medical School Academic Innovations Collaborative: Transforming primary care practice and education. *Acad Med*. 2014;89(9):1239-1244.

13. Eiff MP, Green LA, Holmboe E, McDonald FS, Klink K, Smith DG, Carraccio C, Harding R, Dexter E, Marino M, Jones S, Caverzagie K, Mustapha M, Carney PA. A model for catalyzing educational and clinical transformation in primary care: outcomes from a partnership among family medicine, internal medicine, and pediatrics. *Acad Med*. 2016;91(9):1293-304.
14. TeamSTEPPS: Strategies and tools to Enhance Performance and Safety. Agency for Healthcare Research and Quality. https://www.ahrq.gov/teamstepps/index.html Accessed 6/11/19.
15. The Patient Centered Observation Form (PCOF). University of Washington, Department of Family Medicine. https://depts.washington.edu/fammed/pcof/ Accessed 6/5/19.
16. Professionals Accelerating Clinical and Educational Redesign (PACER) https://pcpacer.org/ Accessed 6/19/19.
17. Josiah Macy Jr. Foundation, Grantee Description: PACER. https://macyfoundation.org/stories/pacer-professionals-accelerating-clinical-and-educational-redesign Accessed 6/9/19.
18. Gold SB, Green LA, Peek CJ. From our practices to yours: key messages for the journey to integrated behavioral health. *J Am Board Fam Med*. 2017;30:25-34.
19. Kevin B. Weiss, James P. Bagian, Robin Wagner, and Thomas J. Nasca. Introducing the CLER Pathways to Excellence: a new way of viewing clinical learning environments. *J Grad Med Ed*. 2014; 6(3):608-609.
20. Cox M & Naylor M (eds). Transforming Patient Care: Aligning Interprofessional Education with Clinical Practice Redesign. Proceedings of a Conference sponsored by the Josiah Macy Jr. Foundation in January 2013; New York: Josiah Macy Jr. Foundation; 2013.
21. Gilman SC, Chokshi DA, Bowen JL, Rugen KW, Cox M. Connecting the dots: health professions education and delivery system redesign at the Veterans Health Administration. *Acad Med*. 2014;89(8):1113-1116.

Table 1 Impact of Interdisciplinary Team (IDT) on Utilization and Cost

Internal Medicine and Family Medicine Residency Clinics (n=80 adults)*				
Measure	**6 months pre IDT**	**6 months after IDT**	**Change**	**% Improvement**
Emergency Department (ED) Visits	75	28	47	63%
ED Visits/1000	1,596	596	1,000	63%
Admissions	47	30	17	36%
Admissions/1000	2,765	1,765	1,000	36%
Readmits within 30dys	12/80	8/80	4/80	33%
Readmit rate	15%	10%	5%	33%
Total inpatient cost	$566,755	$291,229	$275,526	49%
Total inpatient cost per patient	$7,084	$3,640	$3,444	49%
Pediatric Residency Clinic (n=40 children)**				
ED Visits	38	10	28	74%
ED Visits/1000	950	250	700	74%
Admissions	22	6	16	73%
Admissions/1000	550	150	400	73%
Readmits within 30dys	2/40	1/40	1/40	50%
Readmit rate	5%	2.5%	2.5%	50%
Total inpatient cost	$685,612	$48,627	$636,985	93%

(*) IDT study period June 2016-November 2017
(**) IDT study period January 2016-August 2017

Table 2. Lessons Learned in Working Collaboratively Across Disciplines to Improve Clinical Learning Environments

- Forming a steering committee that includes institutional stakeholders and updating them regularly creates alignment as well as synergies with broader health system priorities. Having decision-makers working alongside the frontline teams helps everyone get farther faster.
- Securing institutional support for a full-time project manager goes a long way in leveraging the small amount of time busy faculty clinicians have to accomplish transformation work.
- Starting with small lower risk projects to build relationships, confidence and momentum will help establish trust among the group that can really make a difference.
- Routinely submitting requests for small institutional or local foundation grants is a viable means of supporting these projects.
- Being patient when working across disciplines and professions is needed because building trusting relationships can't be rushed (12-18 months of meeting regularly is typical).
- Institutionalizing processes that maintain the primary care discipline alliance is key to ensure that future work is not dependent on the originator's passions and volunteerism. It may be helpful to determine a minimum core number of collaborating members from each discipline who need to be at the table, with the support of departmental and system sponsors.
- Seeking trainee representation in all aspects of planning and implementation is ideal to foster the development of the next generation of practice transformation leaders.