AMA Journal of Ethics®
September 2016, Volume 18, Number 9: 910-916

MEDICAL EDUCATION

Walking the Walk in Team-Based Education: The Crimson Care Collaborative Clinic in Family Medicine

Kirsten Meisinger, MD, and Diana Wohler, MD

Abstract

Effective implementation of robust team-based care in the United States requires significant training for all team members. This education is integral to creating a culture of collaboration and respect among interprofessional members of the health care team. The lack of interprofessional clinical educational experiences contributes to a "hidden curriculum" that reinforces the problematic view that medicine is at the top of a hierarchy among health professions. However, learners themselves have started resisting this view by integrating cross-disciplinary team-based training into their own education. One example of learner-based leadership in interprofessional team care is the Crimson Care Collaborative at Cambridge Health Alliance, a student-faculty collaborative family medicine clinic. This successful clinic demonstrates that high-quality interprofessional clinical education can be accomplished through partnerships between educational institutions and existing patient-centered medical homes.

Introduction

The US medical system is undergoing a paradigm shift from traditional "one doctor, one patient" interactions, largely limited to addressing acute issues, to a chronic care model within patient-centered medical homes in order to more effectively address a spectrum of needs for each patient at each visit [1, 2]. Compared to intermittent, one-on-one interactions, interdisciplinary teams have demonstrated improved outcomes in patients with chronic disease [3-8] and effective population-based prevention strategies [9-12]. Yet there is still room for improvement.

Effective implementation of robust team-based care in the United States requires significant training for all members [13]. This education is integral to creating a culture of collaboration and respect among members of the health care team. Several studies have demonstrated that health care teams that score highly on "teamwork" measures deliver better patient outcomes [14, 15]. However, the traditional hierarchical, physician-centered culture of medicine is a barrier to the formation of highly effective teams in the primary care setting [16]. Without changing the culture of primary care to encourage

collaboration and interprofessional trust and respect among all care providers, the potential for high-quality, team-based health care will not be realized [17, 18].

The professional standards learned in medical schools and residencies have been shown to have long-standing effects on habits in clinical practice [19, 20]. The traditional culture of medicine promotes the view that the physician is the sole agent responsible for the health of her patients. On the wards, medical students are explicitly told to "trust no one" and to check and recheck all data and interactions in patient care. Medical students are insulated from the interactions among patients and nurses, physical therapists, pharmacists, and other care team members; this lack of exposure breeds misunderstanding of others' strengths. Interdisciplinary educational experiences, then, have the potential to instill in students a set of values for collaboration and interprofessionalism in the clinical setting. Although progress is being made and programs across the country are starting to provide interprofessional education [21, 22], there is still room for experimentation and innovation.

Thus far, however, there has not been a paradigm shift toward interprofessional medical education on a broad scale. The lack of interprofessional clinical educational experiences contributes to a "hidden curriculum" that reinforces the view of physicians atop a hierarchy among professions [23]. In this paper, we discuss a model interprofessional team-based clinical training program and outline the benefits of and obstacles to team-based care.

The Crimson Care Collaborative Clinic in Family Medicine

Learners in the health professions come to their professions with fewer preconceptions than those within it, and, in medical education, students have started to lead the way towards integrating team-based education into their training experience. One example of learner-based leadership is the Crimson Care Collaborative (CCC) clinic in family medicine, a student-faculty collaborative that teaches exclusively in multidisciplinary teams. The CCC is a volunteer, student-run clinic for health professions students designed to complement the traditional core curriculum of their training programs.

The clinic is housed within the Union Square Family Health Center (USFH), an award-winning patient-centered medical home at the Cambridge Health Alliance, an affiliate of Harvard Medical School. USFH was recognized by the Robert Wood Johnson Foundation as one of the top 30 primary care ambulatory sites in the US in 2012 [24]. It is known nationally and internationally for its model of team-based care and its long-standing excellence in providing clinical care for a challenging, multilingual safety net patient population. Interprofessional clinical teams are the lingua franca at USFH, so when the CCC approached the site to integrate health professions students, the shared vision became a reality. While we celebrate the national and international renown of USFH's achievements, it's important to note that it was not this renown that was key to the

success of clinical learners in the CCC. Rather, what was key was the collaborative spirit with which the fully integrated, high-functioning teams at USFH shared and extended their intellectual framework; this kind of collaborative spirit can and should be modeled widely.

Goals. From the outset, the CCC clinical experience was designed as an interprofessional student initiative. The founding team consisted of both medical and nurse practitioner (NP) students, establishing a norm of collaboration and mutual respect from the start. The participation of students from multiple professional schools also allowed the students to anticipate and problem-solve around logistical barriers to student coordination and participation. A core goal of the clinic is to provide actual patient care experiences for interprofessional teams, as opposed to using standardized patients in simulated clinical experiences or discussing hypothetical patients. By creating circumstances in which the care of an actual patient is at stake, students become much more invested in the work being addressed by the team. An additional core goal is to design teams with members of all disciplines in both learner and teacher roles, flattening the hierarchy between professions. Although there has been a move towards earlier clinical exposure for learners in many training programs [25, 26], the addition of a curriculum that explicitly addresses team training and skill acquisition would go a long way to preparing current learners for the health care environment within which they will eventually practice.

Team members and team dynamic. The basic structure of the clinic involves pairs of students, one "senior" (at the end of her training) and one "junior" (at the start of her training), interviewing patients together and then presenting the case to the faculty member. This arrangement allows students to share their profession-specific knowledge and skills with each other in the evaluation and management of patients, which greatly expands the learning opportunities for each student and builds trust in the clinical capabilities of other professions. The two CCC faculty leaders are a physician and a physician assistant. From an educational standpoint, however, the roles of learner and teacher are fluid among patients, staff, students, and faculty leaders. Medical students, nurse practitioner students, and physician assistant students at different stages in their training teach each other about physiology or physical exam tips. Patients are routinely asked to instruct the students in their perception of health and philosophy of care. Medical assistants, medical receptionists, and nurses have roles on the teams, and learners shadow them to glean their expertise and knowledge as part of the clinical experience. Team members have diverse patient-based knowledge that they share with students who shadow them. In our experience, nonclinician team members have a deep well of experience in guiding patients through care. Receptionists, for example, have extensive knowledge of family systems since they see who arrives with whom and when. Students benefit enormously from what they learn through these informal networks and will likely be well positioned to use them in practice eventually. At the end

of the clinic session, knowledge is drawn from all participants as the night's patients are reviewed in case-based format. This fully integrated, interprofessional team-based learning model has proven effective for patients and learners alike; student volunteer retention, student satisfaction scores, and patient satisfaction surveys have all ranked the experience highly.

Description of a CCC clinical encounter. Student teams begin their clinical experience by reviewing the patients to be seen. The clinic has a rotating "senior director" who assigns patients to each team and provides a brief written clinical summary of each patient. This process allows the students to review the cases in detail, read about any diagnoses or conditions with which they are less familiar, and learn how to integrate population health into the visit. Students' and medical assistants' previsit review of a patient's prevention needs is a standard part of the workflow at Union Square. Together, the students and medical assistant arrive at a plan to complete any prevention measures permitted by the patient during the visit. Students then interview and examine the patient in their "senior-junior" pairs and present the case to the faculty member. Union Square has over 90 percent clinical continuity of care within teams (excluding students), so faculty can frequently elaborate during the student presentation, providing details of the patient's life story, family, community, and culture. Faculty and students then complete the interview and exam of the patient together and make a shared plan with the patient and/or the family.

Innovative patient visit formats. Family visits are a frequent part of care at Union Square, and students have been enthusiastic participants in these experiences. A family visit occurs when multiple family members are seen during the same time slot on a schedule, often as a means to overcome access or scheduling issues for the family. Family medicine provides the flexibility to see patients of all ages within families, and immigrant families at Union Square embrace this model as a familiar mode of care. Union Square has also done group visits on weight loss and diabetes chronic care management as part of the CCC experience.

The Future of Interprofessional Team-Based Care

Innovative team-based ambulatory care models have been implemented across the United States and many involve learners from across the educational spectrum [1]. In our experience, students are eager to learn how to deliver real-time patient care within a team-based model that emphasizes mutual respect, collaboration, and empowerment. By infusing team-based care into the learning process, we create models of psychologically safe and clinically effective environments for teams in primary care. This fundamentally nonhierarchical structure allows all the team members to learn from each other. In this way, we create teams that are greater than the sum of their parts.

Moving to truly team-based interprofessional care on a large scale in the United States will require cultural shifts in how clinicians view themselves, their colleagues, and their work, as truly effective team-based care requires flattened hierarchies in which each team member is considered equally valuable, rather than physician-centered models with other staff playing supporting roles. Sustainable transformation and culture change will be nearly impossible without changing how we train new clinicians and providing learning environments where teams are the norm. Partnerships of teaching institutions with existing team-based practices and systems will strengthen this model of care and more rapidly move the dominant culture of medicine toward a more sustainable interprofessional framework.

References

1. Centers for Medicare and Medicaid Services. Transforming clinical practice initiative. https://innovation.cms.gov/initiatives/Transforming-Clinical-Practices/. Updated June 14, 2016. Accessed March 6, 2016.
2. Edwards ST, Bitton A, Hong J, Landon BE. Patient-centered medical home initiatives expanded in 2009-13: providers, patients, and payment incentives increased. *Health Aff (Millwood)*. 2014;33(10):1823-1831.
3. Ackroyd SA, Wexler DJ. Effectiveness of diabetes interventions in the patient-centered medical home. *Curr Diab Rep*. 2014;14(3):471. doi:10.1007/s11892-013-0471-z.
4. Coventry P, Lovell K, Dickens C, et al. Integrated primary care for patients with mental and physical multimorbidity: cluster randomised controlled trial of collaborative care for patients with depression comorbid with diabetes or cardiovascular disease. *BMJ*. 2015;350:h638. http://www.bmj.com/content/350/bmj.h638. Accessed June 17, 2016.
5. Jiao FF, Fung CS, Wong CK, et al. Effects of the Multidisciplinary Risk Assessment and Management Program for Patients with Diabetes Mellitus (RAMP-DM) on biomedical outcomes, observed cardiovascular events and cardiovascular risks in primary care: a longitudinal comparative study. *Cardiovasc Diabetol*. 2014;13:127. http://cardiab.biomedcentral.com/articles/10.1186/s12933-014-0127-6. Accessed June 17, 2016.
6. Reiss-Brennan B. Mental health integration: normalizing team care. *J Prim Care Community Health*. 2014;5(1):55-60.
7. Richardson LP, Ludman E, McCauley E, et al. Collaborative care for adolescents with depression in primary care: a randomized clinical trial. *JAMA*. 2014;312(8):809-816.
8. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Arch Intern Med*. 2006;166(21):2314-2321.

9. Day J, Scammon DL, Kim J, et al. Quality, satisfaction, and financial efficiency associated with elements of primary care practice transformation: preliminary findings. *Ann Fam Med*. 2013;11(suppl 1):S50-S59.
10. Ip EJ, Shah BM, Yu J, Chan J, Nguyen LT, Bhatt DC. Enhancing diabetes care by adding a pharmacist to the primary care team. *Am J Health Syst Pharm*. 2013;70(10):877-886.
11. Agius M, Murphy CL, Zaman R. Does shared care help in the treatment of depression? *Psychiatr Danub*. 2010;22(suppl 1):S18-S22.
12. Fokkens AS, Wiegersma PA, Beltman FW, Reijneveld SA. Structured primary care for type 2 diabetes has positive effects on clinical outcomes. *J Eval Clin Pract*. 2011;17(6):1083-1088.
13. Greiner AC, Knebel E, eds; Institute of Medicine Committee on the Health Professions Education Summitt. *Health Professions Education: A Bridge to Quality*. Washington, DC: National Academies Press; 2003.
14. Cooley WC, McAllister JW, Sherrieb K, Kuhlthau K. Improved outcomes associated with medical home implementation in pediatric primary care. *Pediatrics*. 2009;124(1):358-364.
15. Mukamel DB, Temkin-Greener H, Delavan R, et al. Team performance and risk-adjusted health outcomes in the Program of All-Inclusive Care for the Elderly (PACE). *Gerontologist*. 2006;46(2):227-237.
16. Nembhard IM, Edmondson AC. Making it safe: the effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *J Organ Behav*. 2006;27(7):941-966.
17. Wegman R. Leading teams when the time is right: finding the best moments to act. *J Organ Dyn*. 2009. 38(3);192-203.
18. Pollack S. When health care transformation fails. *Health Affairs Blog*. April 27, 2015. http://healthaffairs.org/blog/2015/04/27/when-health-care-transformation-fails/. Accessed June 8, 2016.
19. Chen C, Petterson S, Phillips R, Bazemore A, Mullan F. Spending patterns in region of residency training and subsequent expenditures for care provided by practicing physicians for Medicare beneficiaries. *JAMA*. 2014;312(22):2385-2393.
20. King M, Essick C, Bearman P, Ross JS. Medical school gift restriction policies and physician prescribing of newly marketed psychotropic medications: difference-in-differences analysis. *BMJ*. 2013;346:f264. http://www.bmj.com/content/346/bmj.f264. Accessed June 17, 2016.
21. Aston SJ, Rheault W, Arenson C, et al. Interprofessional education: a review and analysis of programs from three academic health centers. *Acad Med.* 2012;87(7):949-955.
22. Association of American Medical Colleges. Longitudinal care programs in medical school. https://www.aamc.org/download/49136/data/longitudinalcareresults.pdf. Accessed July 29, 2016.

23. Mahood SC. Medical education: beware the hidden curriculum. *Can Fam Physician*. 2011;57(9):983-985.
24. Orchard C. Union Square Family Health Center gets national recognition. *Somerville Patch*. November 30, 2012. Accessed July23, 2016.
25. Abramovitch H, Shenkman L, Schlank E, Shoham S, Borkan J. A tale of two exposures: a comparison of two approaches to early clinical exposure. *Educ Health (Abingdon)*. 2002;15(3):386-390.
26. Tokarski C. Early Clinical experience for med students could boost student learning, people skills. *Medscape*. October 13, 2004. Accessed July 26, 2016.

Kirsten Meisinger, MD, is a clinical instructor at Harvard Medical School in Boston and a family medicine physician at the Cambridge Health Alliance in Cambridge, Massachusetts, where she is also incoming medical staff president and medical director of the Union Square site, a patient-centered medical home. She graduated from Case Western Reserve University School of Medicine and completed a residency in family medicine at Greater Lawrence Family Health.

Diana Wohler, MD, is a family medicine resident physician at Memorial Hospital of Rhode Island, an affiliate of the Warren Alpert Medical School at Brown University in Providence, Rhode Island. She is a graduate of Harvard Medical School.

Related in the *AMA Journal of Ethics*
Decentering the Doctor: The Critical Value of a Patient Care Collective, September 2016
Interprofessional Clinical Ethics Education: The Promise of Cross-Disciplinary Problem-Based Learning, September 2016
Interprofessional Training: Not Optional in Good Medical Education, September 2016
New Forces Shaping the Patient-Physician Relationship, March 2009
Prioritizing Cross-Disciplinary Teaching and Learning and Patient Safety in Hospital-Based Environments, September 2016
Resisting Outdated Models of Pedagogical Domination and Subordination in Health Professions Education, September 2016
Teamwork in Health Care: Maximizing Collective Intelligence via Inclusive Collaboration and Open Communication, September 2016

ISSN 2376-6980