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


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