

Creating a Longitudinal Integrated Clerkship with Mutual Benefits for an Academic Medical Center and a Community Health System

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Abstract

The longitudinal integrated clerkship is a model of clinical education driven by tenets of social cognitive theory, situated learning, and workplace learning theories, and built on a foundation of continuity between students, patients, clinicians, and a system of care. Principles and goals of this type of clerkship are aligned with primary care principles, including patient-centered care and systems-based practice. Academic medical centers can partner with community health systems around a longitudinal integrated clerkship to provide mutual benefits for both organizations, creating a sustainable model of clinical training that addresses medical education and community health needs.

A successful one-year longitudinal integrated clerkship was created in partnership between an academic medical center and an integrated community health system. Compared with traditional clerkship students, students in this clerkship had better scores on Clinical Performance Examinations, internal medicine examinations, and high perceptions of direct observation of clinical skills.

Advantages for the academic medical center include mitigating the resources required to run a longitudinal integrated clerkship while providing primary care training and addressing core competencies such as systems-based practice, practice-based learning, and interprofessional care. Advantages for the community health system include faculty development, academic appointments, professional satisfaction, and recruitment.

Success factors include continued support and investment from both organizations' leadership, high-quality faculty development, incentives for community-based physician educators, and emphasis on the mutually beneficial relationship for both organizations. Development of a longitudinal integrated clerkship in a community health system can serve as a model for developing and expanding these clerkship options for academic medical centers.

Introduction

Medical student education is in an exciting period of transformation because medical schools are actively working to incorporate modern learning principles into their structure and align the forces affecting delivery of care with educational priorities. Important recent advances in the learning sciences expand the understanding of learning beyond the *acquisition* of knowledge, which is individual in focus (behaviorist, cognitivist,

humanist, and constructivist learning theories),^{1,2} to *participation*, with learning being contextual and embedded in social processes (situated learning, social cognitive theory, workplace learning).^{1,3} Learning is tied to context with the learner joining a community of practice. The novice initially has legitimate peripheral participation in the authentic work of the practice then moves to more central participation with the growth of the skills of the learner and the trust of the com-

munity. The learners' participation over time transforms the community.

The recent study of medical education by the Carnegie Foundation for the Advancement of Teaching in Stanford, CA, included 14 site visits and review of the research on medical education and the learning sciences.³ The study found medical education to have the following characteristics³:

1. inflexible, long, and not learner centered
2. overly focused on the inpatient clinical experience
3. situated in hospitals with marginal capacity to support a teaching mission
4. poor connection between formal knowledge and experiential learning
5. inadequate attention to patient populations and health care systems
6. inadequate opportunities to work with patients longitudinally.

The harm created by the fragmentation of clinical training and the importance of continuity as a vehicle for learning has gained awareness in the medical education community. This fragmentation is a barrier to situated learning in a community of practice.^{4,5}

Four key recommendations emerged from the Carnegie study³: 1) integration of knowledge and experience, 2) habits of inquiry and improvement with a focus on excellence, 3) standardization and individualization (setting outcomes and allowing flexibility in learning), and 4) focus on development of professional values and dispositions (identity formation). Longitudinal clinical experiences were recom-

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mended as a method of integrating formal and experiential knowledge. Such clinical experiences also were recommended as a way of supporting professional identity formation with a commitment to values, dispositions, and aspirations by participation in a community of practice; observation of role models; and coaching, instruction, assessment, and feedback.

Longitudinal integrated clerkships are a curricular structure that incorporates many of the recommendations of the Carnegie report and that are strongly influenced by situated learning, social and cognitive learning theory, and workplace learning. Although longitudinal integrated clerkships are diverse in their structure and contextual characteristics, they all share three foundational elements: 1) medical students participate in the comprehensive care of patients over time, 2) they participate in continuing learning relationships with these patients' clinicians, and 3) they meet most of the year's core clinical competencies, across multiple disciplines simultaneously through these experiences (consensus definition, Consortium of Longitudinal Integrated Clerkships, 2007).⁶ An additional element for some programs is the opportunity to develop a connection between the student and the clerkship host community. Longitudinal integrated clerkship programs have been successfully created in settings that range from remote rural primary care practices to urban academic medical centers.⁶

The principles of longitudinal integrated clerkships closely mirror those of primary care^{7,8} and are based on patient-centered care and longitudinal relationships with faculty preceptors and patients in acute and chronic care settings.⁹⁻¹¹ In 2005, the University of California, San Francisco (UCSF) began incorporating aspects of continuity with patients, peers, preceptors, and a medical system into students' core clerkship training, and the university successfully launched a one-year longitudinal integrated clerkship at its academic medical center in 2007.¹¹ Currently, 20% of the medical school class participates in a longitudinal integrated clerkship program, with another 30% of medical students participating in hybrid clerkship programs that include continuity with peers, faculty, and health systems.

The literature reports numerous documented benefits of longitudinal integrated clerkships. Continuity with faculty preceptors in these clerkships provides increased opportunities for observation and feedback on clinical skills,^{5,11} and continuity with a health care system provides opportunities to better understand systems-based practice.^{11,12} Continuity with patients allows students to form deeper relationships and to contribute in meaningful ways to patient care.¹² Students participating in longitudinal integrated clerkships do not experience the erosion of patient-centered values that is well-documented during medical school, and they are less subject to the negative effects of the "hidden curriculum."^{9,13} The *hidden curriculum* is defined as the "set of influences that function at the level of the organizational structure and culture" and has been posited as a key factor in the degradation of student values during medical training.¹⁴ Students in longitudinal integrated clerkships report that their participation in the clerkship inspires commitment, advocacy, and idealism.¹² Finally, students in longitudinal integrated clerkships have more continuity with patients and spend more time independently performing patient care

in a physicianlike role compared with students in traditional block rotations.^{15,16} However, longitudinal integrated clerkships can be faculty and resource intensive.^{11,17} One strategy for an academic medical center to expand placements in longitudinal integrated clerkships is to partner with a community health system because there are advantages for both organizations (symbiosis).

Symbiosis is defined as a mutually beneficial partnership between persons, organizations, or concepts of different kinds.¹⁸ In this spirit, UCSF approached Kaiser Permanente (KP) to develop a joint longitudinal integrated clerkship. Founded in 1945, KP is the nation's largest not-for-profit Health Plan, serving more than 8.8 million members. The mission of KP is to provide high-quality, affordable health care services and to improve the health of its members and the communities it serves. The KP model is based on the delivery of complete, integrated care orchestrated by the primary care physician and specifically focused on disease prevention, early intervention, and chronic disease management. These KP principles mirror the principles of longitudinal integrated clerkships, which emphasize the importance of continuity between the clinician and the patient

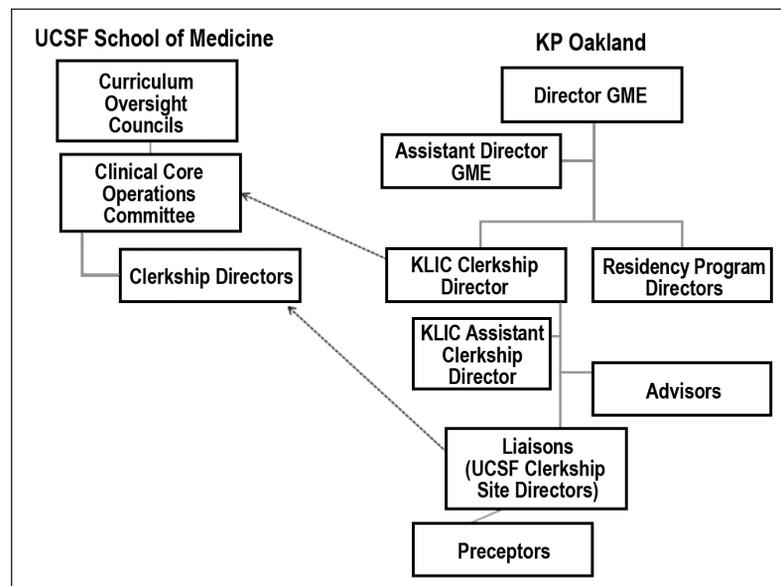


Figure 1. Organizational structure of curriculum oversight for the Kaiser Longitudinal Integrated Clerkship (KLIC).

GME = graduate medical education; KP Oakland = Kaiser Permanente Oakland Medical Center; UCSF = University of California, San Francisco.

Table 1. Example of weekly student schedule for longitudinal integrated clerkship

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Morning	ER	Psychiatry clinic	KLIC KLASS ^a	Neurology clinic	Family Medicine clinic	Surgery OR day	
Lunch	ER	Conferences	Conferences	Conferences	Conferences	Surgery OR day	
Afternoon	ER	OB-GYN clinic	Medicine clinic	Independent learning	Independent learning	Surgery OR day	
Evening				Reflection session ^b			

^a A weekly didactic seminar with lectures from each discipline and interdisciplinary lectures.

^b A faculty-facilitated monthly session where students reflect upon topics such as challenging patients, transitions of care, and medical errors.

ER = emergency room; KLIC = Kaiser Longitudinal Integrated Clerkship; OB-GYN = obstetrics and gynecology; OR = operating room; blanks = free time.

as well as the care of the whole patient across care settings (inpatient, ambulatory) and across different disciplines.

Methods

In 2009, Longitudinal Integrated Clerkship Directors from UCSF met with multiple KP sites, with the introduction and support of the KP Regional Graduate Medical Education Director, who had an interest in collaborating on such a model. Simultaneously, UCSF Longitudinal Integrated Clerkship Directors met with educational deans, curricular oversight committees, and all participating Clerkship Directors to present and vet this new clerkship proposal. In 2010, KP Oakland Medical Center in Oakland, CA (KP Oakland), was selected as the location for the clerkship because of its commitment from leadership and its prior successful track record with graduate medical education (teaching first- through fourth-year medical students both from UCSF and other institutions).

KP hired a Clerkship Director at 40% full-time employment (FTE), appointed an Assistant Clerkship Director at 10% FTE, and hired a full-time clerkship administrator. In addition, KP began to recruit liaisons and preceptors from each department. The organizational relationship between UCSF and KP Oakland is seen in Figure 1.

Clerkship Design and Student Experience

The Kaiser Longitudinal Integrated Clerkship (KLIC) was launched at KP Oakland in April 2011 and uses the same model as the longitudinal integrated clerkship at UCSF.¹¹ Eight students simultaneously complete eight primarily ambulatory core clerkship rotations (anesthesia, family medicine, internal medicine, neurology,

obstetrics and gynecology, pediatrics, psychiatry, and surgery) along with experiences in emergency medicine and the surgical subspecialties. They also complete short inpatient experiences in surgery, medicine, and obstetrics and gynecology, and “mini-immersions” of four to five days in pediatrics and neurology. A one-week sample schedule is shown in Table 1.

Students are paired with 1 preceptor in each discipline, attending each clinic approximately once every other week. They establish a panel of 50 to 75 patients and have independent learning time (usually 2 afternoons per week) to follow their panel patients to clinic visits, surgeries, and deliveries or to engage in independent learning based on core competencies they are expected to meet for each discipline. In a given morning in an outpatient clinic, a student will see 2 or 3 patients. The most common pattern is after obtaining consent from the patient, the student will do the interview and brief examination alone, then return to the preceptor to present the patient’s case and discuss his or her findings, initial assessment, and care plan. The student and preceptor then return together to reexamine the patient and confirm the plan. Students have full access to the electronic health record and document a medical student note in the patient’s chart. Students also participate in a weekly didactic seminar with lectures from each discipline and interdisciplinary lectures, modeled off the curriculum of the UCSF Longitudinal Integrated Clerkship but taught locally by KP physicians.¹⁹ In addition, there are simulation sessions and a Health Systems and Leadership Curriculum that includes a quality-improvement project.

Clerkship Administration and Faculty Oversight

The KLIC Clerkship Director and Assistant Director report to the clerkship

steering committee at UCSF. They are responsible for meeting UCSF School of Medicine requirements and act as a link between UCSF and KP. The discipline-specific Clerkship Directors oversee all grading and evaluation of the overall KLIC experience, individual specialty experience, student evaluation, preceptor evaluation, and curriculum evaluation. They also design, with the KLIC administrator, the student schedules and didactic curriculum.

The Clerkship Directors oversee a liaison in each department, who also serves as the Clerkship Site Director for UCSF and the lead for each specialty’s preceptors. At KP Oakland, these liaisons are given a small amount of FTE for their position. The Clerkship Directors and liaisons meet monthly as a team to review student progress, to discuss faculty development efforts, and to continuously improve the clerkship experience.

Clerkship students are assigned to an advisor, a KP physician who is not their direct preceptor. The advisor helps monitor the students’ quarterly progress, provides feedback on individual learning plans that the students are asked to complete, helps intervene and problem solve, and advocates on the students’ behalf to program leadership.

Clerkship Preceptors

Preceptors undergo an orientation at the start of each year as well as ongoing faculty development on topics such as clinical teaching, time-efficient teaching, and writing evaluations. The number of clinic half days vary for each specialty depending on the number of weeks the clerkships traditionally span at UCSF, and range from 16 half days with psychiatry preceptors to 27 half days with internal medicine preceptors. Surgical specialties see their students both in clinic and in the operating room.

[These] students perceived better direct observation of clinical skills than did traditional students.

Preceptors are recruited on the basis of their interest in clinical teaching as well as their ability to meet their clinical demands. Preceptors are generally given some release time from their clinic (average, 30 to 45 minutes), which is supported by their department.

Evaluation

Students are evaluated quarterly in the same manner as for the UCSF Longitudinal Integrated Clerkship, in which a student's preceptors complete an online competency-based evaluation and are asked to participate in a quarterly evaluation meeting in which their shared student's progress is discussed.¹¹ Students evaluate their preceptors quarterly and submit midyear and end-of-year evaluations on each specialty and the overall KLIC experience. These evaluations are completed through UCSF's online evaluation system. Student performance on Clinical Performance Examinations, an examination for each discipline (from UCSF), and national board scores are also tracked by UCSF. Final grades are compiled by the KP liaison and submitted to the UCSF Clerkship Director, who submits the final clerkship grade.

Data Analysis

With assistance from UCSF's Office of Medical Education, we examined demographics of the KLIC students from 2011 through 2013 (N = 12) and the students who completed traditional clerkships from 2011 through 2013 (N = 181) to determine, with a χ^2 and Fisher exact test, whether there were statistically significant differences regarding their sex. Using analysis of variance (ANOVA) tests, we also examined the students' US Medical Licensing Examination (USMLE) Step 1 scores (completed before entry into the third year), and their USMLE Step 2 scores and Clinical Performance Examination scores in the domains of data gathering and communication skills. Both the USMLE Step 2 and Clinical Performance Examinations were performed after the completion of the clerkship year.

Using ANOVA tests, we then compared the mean scores of the end-of-year summary evaluations by the KLIC students from 2011 through 2013 with the mean scores of the end-of-clerkship evaluations from the traditional students. We

examined perceptions of overall quality of faculty clinical teaching, quality of formal teaching, adequacy of direct observation and feedback, perceived achievement of course objectives, and rating of the clerkship as a whole. We also report in further detail the results of specific components of the KLIC experience. This survey has no comparison survey with the traditional students, because it pertains to the unique aspects of KLIC. Using ANOVA tests, we compared the end-of-clerkship examination scores and the percentage of students given honors in each clerkship between KLIC students and traditional students. Last, we report residency matriculation for the KLIC graduates of 2011 and 2012.

Results

Twelve of 16 students completed the KLIC experience. For personal or academic reasons, 4 KLIC students did

not complete the clerkship year. There were no significant differences in sex between the 2 groups using Fisher exact test (traditional clerkship male-to-female ratio = 86:95, KLIC ratio = 2:10, $p = 0.069$).

Step 1 scores before entering the third year did not differ between KLIC and traditional clerkship students, nor did the Step 2 Clinical Knowledge scores, taken after the completion of the clerkship year. The Clinical Performance Exam scores demonstrated significantly higher performance by the KLIC students in the domain of data gathering (Table 2).

In end-of-year UCSF clerkship evaluations, the perceptions of KLIC students did not differ significantly from the traditional students, except that KLIC students perceived better direct observation of clinical skills than did traditional students (Table 3).

Table 2. Comparison of US Medical Licensing Examination Steps 1 and 2 and Clinical Performance — Examinator scores between Kaiser Longitudinal Integrated Clerkship (KLIC) (N = 12) and traditional students (N = 181)

Examination	Student	Mean score	SD	p value
US Medical Licensing Examination				
Step 1 Clinical Knowledge	KLIC 1 and 2	227.7	16.6	0.739
	Traditional	225.3	23.9	
Step 2 Clinical Knowledge	KLIC 1 and 2	239.6	18.7	0.901
	Traditional	238.85	19.9	
Clinical Performance Examination				
Data gathering skills	KLIC	67.85	4.7	0.027 ^a
	Traditional	63.97	5.89	
Communication skills	KLIC	91.73	4.68	0.071
	Traditional	88.87	5.34	

^a Significant difference between KLIC students and traditional students. SD = standard deviation.

Table 3. Comparison of end-of-year University of California, San Francisco clerkship evaluations between Kaiser Longitudinal Integrated Clerkship (KLIC) students and traditional students, 2011-2013^a

Evaluation parameter	KLIC students (N = 12), mean (SD)	Traditional students (N = 181), mean (SD)	p value
Overall quality of faculty clinical teaching	4.29 (0.35)	4.35 (0.41)	0.627
Quality of formal teaching	4.20 (0.44)	4.12 (0.46)	0.551
Adequacy of direct observation of your clinical skills	4.22 (0.55)	3.91 (0.50)	0.039 ^b
Adequacy of feedback on your performance	3.88 (0.57)	3.91 (0.50)	0.857
Your achievement of course objectives	4.21 (0.52)	4.27 (0.44)	0.654
Clerkship as a whole	4.15 (0.49)	4.28 (0.40)	0.295

^a Five-point scale: 1 = poor and 5 = excellent.

^b Significant difference between KLIC students and traditional students. SD = standard deviation.

Year-end evaluations of the KLIC are demonstrated in Table 4. Table 5 reports the percentage of honors received by KLIC and traditional students in each clerkship, which were not significantly different in χ^2 tests. Examination scores were also compared using χ^2 tests, and KLIC students received significantly higher internal medicine examination scores than did traditional students (KLIC student mean = 85.33, SD = 8.88 vs traditional student mean = 78.24, SD = 8.80). Family and community medicine was the most common choice for residency (4 students), followed by emergency medicine (2 students), psy-

chiatry (2 students), internal medicine (1 student), and pathology (1 student). Two students are currently taking a year off before applying to residency.

Discussion

We have created a successful longitudinal integrated clerkship partnership between a community medical center (KP) and an academic medical center (UCSF). On the basis of our experience and the literature, this symbiotic partnership has benefits for students, patients, clinicians, and both organizations (Table 6). Advantages for UCSF

include mitigating the resources required to integrate continuity into clinical training, providing primary care training, and addressing core competencies such as systems-based practice, practice-based learning, and interprofessional care. This partnership also provides an opportunity to begin clinical placements at KP in the preclerkship years as UCSF moves toward incorporating clinical and systems continuity for medical students across the four-year curriculum, to engage students in systems-based practice and to integrate undergraduate and graduate medical education along a competency-based advancement continuum. Advantages for KP include faculty development and academic appointments, professional satisfaction, exposing students to an integrated primary care delivery system, and recruitment of future physicians. An overarching vision for both organizations is to create a sustainable approach for medical education to address the future health care needs of the US.

Our results are similar to outcomes published on the UCSF-based longitudinal integrated clerkships.¹¹ The KLIC students and traditional students perceive their clerkships to be equivalent, with the exception that KLIC students perceive more direct observation, likely secondary to the ongoing relationships they have with their preceptors.²⁰ The percentage of honors given to KLIC students and traditional clerkship students did not differ significantly, and examination performance was equivalent with the exception of the internal medicine examination, on which KLIC students performed significantly better than their peers did. Reasons for this difference are uncertain.

Participation in KLIC may allow for improved data gathering in clinical encounters, based on the KLIC students' Clinical Performance Exam scores, possibly because students spend more time in the workplace seeing patients compared with traditional students¹⁶ and are able to hone their interview skills given this increased amount of patient interaction. Clinical Performance Exam cases are also all ambulatory-based cases, and traditional students spend much less time in ambulatory settings.

Challenges to creating a community-based longitudinal integrated clerkship include cost and coordinating a clerkship

Table 4. Year-end evaluations of Kaiser Longitudinal Integrated Clerkship (KLIC), 2011-2013 (N = 12)^a

On a scale of 1-5, rate your satisfaction with:	Mean (SD)
Preceptorships overall	4.33 (0.78)
Faculty teaching quality overall	4.17 (0.58)
Family medicine teaching quality	4.33 (0.78)
Medicine teaching quality	4.75 (0.45)
Neurology teaching quality	3.75 (1.14)
Obstetrics and gynecology teaching quality	4.42 (0.51)
Pediatrics teaching quality	4.33 (0.65)
Psychiatry teaching quality	4.00 (1.04)
Surgery teaching quality	3.75 (0.75)
Anesthesia teaching quality	4.50 (0.67)
Emergency medicine teaching quality	4.33 (0.65)
KLIC Advisor Program	4.00 (1.03)
Patient cohort experience	4.25 (0.87)
Emergency room sessions	4.42 (0.90)
Obstetric inpatient 1-week immersion	4.17 (1.03)
Internal medicine inpatient 2-week immersion	4.75 (0.45)
KLIC surgery inpatient 2-week immersion	4.00 (0.85)
Direct observation of clinical skills	4.17 (0.94)
Feedback	4.25 (0.75)
KLIC program overall	4.50 (0.52)

^a Five-point scale: 1 = poor and 5 = excellent.
SD = standard deviation.

Table 5. Percentage of clerkship honors for Kaiser Longitudinal Integrated Clerkship (KLIC) (N = 12) and traditional students who completed each clerkship in 2011-2013

Specialty	KLIC students with honors, %	Traditional students with honors, %	p value
Family medicine (N = 178)	41.7	25.1	0.116
Internal medicine (N = 178)	41.7	33.3	0.542
Neurology (N = 175)	25.0	30.3	0.699
Obstetrics and gynecology (N = 261)	33.3	36.8	0.967
Pediatrics (N = 253)	25.0	33.3	0.966
Psychiatry (N = 226)	33.3	29.6	0.744
Surgery (N = 248)	41.7	28.2	0.372

program off-site from the academic medical center. First, the cost of a longitudinal integrated clerkship is high if absorbed by the community health system, both in terms of supporting the clerkship leadership and in terms of productivity. Faculty time is required not only at the Program Director and program administrator lev-

els but also for leadership roles in each department and for faculty release time for teaching and assessment. Developing faculty can also be costly, especially in a system unfamiliar with teaching, requiring intensive foundational elements of clinical teaching and assessment. Fortunately, our community health system had a tradition

of undergraduate and graduate clinical education, allowing us to focus more on longitudinal teaching and assessment. Second, communication and coordination with the Clerkship Directors, administrators, and medical school educational leadership need to be active and ongoing. Ensuring that changes in the traditional

Table 6. Mutual benefits for University of California, San Francisco (UCSF) School of Medicine and Kaiser Permanente (KP) Oakland Medical Center

Benefits	UCSF	KP Oakland Medical Center
Resources	<p>Expands LIC placements for third-year medical students</p> <p>Provides increased clinical placements for core disciplines that are at maximal capacity</p> <p>Provides opportunities by decompressing traditional clerkship rotations</p> <p>Having fewer students in traditional clerkships potentially enhances these experiences:</p> <ul style="list-style-type: none"> • Students can have a more authentic role • Decreases burden on clinical services • Frees up resources to improve learning experiences based on pedagogy <p>Increases pool of clinical placements that may facilitate earlier longitudinal clinical experiences in preclerkship years</p> <p>Models to create additional LIC sites at other KP locations</p> <p>Creates economy of scale: schedules and didactics done once yearly, can be exported to other LIC and hybrid clerkship sites</p>	<p>Faculty development for KP staff</p> <p>Faculty appointments for KP physicians</p> <p>Student presence fosters learning environment for students, staff, and patients</p> <p>Economy of scale: schedules and didactics done once yearly, can be exported to other KP sites</p>
Propagation of longitudinal principles	<p>Creates sustainable model of clinical training that incorporates LIC principles</p> <p>Informs curricular change at UCSF and beyond</p>	<p>Opportunity to participate in clerkship program whose structure is aligned with structure of KP's health care system</p>
Innovation	<p>Creates opportunity to explore continuity across the continuum of medical education (undergraduate and GME)</p>	<p>Creation of novel health systems and leadership program, which may be adaptable to other settings and other levels of learners (residents, preclinical students, etc)</p> <p>Opportunity to create longitudinal curriculum or extend LIC principles across undergraduate medical education, GME, and CME.</p>
Primary care principles	<p>Creates opportunity for UCSF medical students to work with primary care physicians and specialists who are not subspecialized</p>	<p>Students exposed to functional model of primary care delivery</p> <p>Influence specialty selection in a manner that will benefit society</p>
Addressing core competencies	<p>Creates opportunity to work in an integrated health care system and address core competencies that may be harder to model in an academic medical center:</p> <ul style="list-style-type: none"> • Systems-based practice • Practice-based learning • Interdisciplinary team-based care • Physician leadership • Population/chronic conditions management 	<p>Opportunity to train physician workforce who understand and to begin to develop competencies essential in an integrated health care system:</p> <ul style="list-style-type: none"> • Systems-based practice • Practice-based learning • Interdisciplinary team-based care • Physician leadership • Population/chronic conditions management
Benefit of teaching/collaboration	<p>Creates opportunity for clinicians, faculty, and educators from both institutions to work together and learn from each other</p>	<p>Opportunity for clinicians, faculty, and educators from both institutions to work together and to learn from each other</p> <p>Professional satisfaction from teaching for KP attending physicians</p>
Workforce issues	<p>Addresses a UCSF mandate to train physicians who can address the health care needs of California</p>	<p>Number of students who choose KP residency programs and staff positions increased</p> <p>Number of physicians who appreciate and can disseminate KP values such as integrated health care, patient-centered care, preventive care, etc increased</p> <p>Number of primary care physicians increased</p>

CME = continuing medical education; GME = graduate medical education; LIC = longitudinal integrated clerkship.

... students spend more time in the workplace seeing patients ... and are able to hone their interview skills given this increased amount of patient interaction.

clerkship curriculum are translated to community sites is an ongoing need for both traditional and longitudinal integrated clerkships. Working with a struggling student can be a challenge to any longitudinal integrated clerkship program, and close coordination with the leadership at the academic medical center is critical in these situations, especially in a distributed setting.

Establishment of KLIC was made possible through the support and funding from both local and regional KP leadership, as well as support of UCSF educational leaders and Clerkship Directors. Contributions from experienced administrators and an on-site Clerkship Director, as well as experienced medical student preceptors, also ensured success. Close collaboration and communication with UCSF Clerkship Directors and governing bodies was necessary. End-of-year clerkship evaluations by students demonstrated high student satisfaction with preceptorships and didactics and a strong sense of community among those involved in KLIC. A new undergraduate medical education committee was created to focus on medical student education at KP Oakland.

Expanding the relationship between a community health system and an academic medical center requires faculty development and dissemination of a culture committed to high-quality teaching and assessment. The UCSF faculty development seminars are open to KP physicians. KP appointed a physician lead to collaborate with UCSF, organize quarterly faculty development workshops on-site at KP, and serve on the UCSF Faculty Development Committee. A KP physician participates in a yearlong UCSF faculty development program in medical education. Additionally, UCSF is working to streamline the process of obtaining volunteer clinical faculty status for KLIC faculty, providing an incentive to community physician educators.

As academic medical centers strive to apply the principles of longitudinal integrated clerkships across the continuum of medical education, we anticipate continued engagement with community hospitals and health systems, particularly

KP, as a nationwide health care organization. Such partnerships could focus on longitudinal clinical experiences in the first few years of medical school, third-year longitudinal integrated clerkships, and systems-based practice/population health experiences and curricula in a functional primary care system. Factors critical to the success of these partnerships include continued support and investment from community and academic medical center leadership, improvement and organization of faculty development, provision of incentives for community-based physician educators, and emphasis on the mutually beneficial relationship for both medical centers. Our early experience with the UCSF-KLIC program is one of a sustainable, mutually beneficial partnership that translates current educational principles into practice and has the potential to inform and transform the delivery of health care in the US. ♦

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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