

Faculty Engagement Curricular Renewal Sub-Committee

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Executive Summary

The Faculty Engagement Curricular Renewal Sub-committee was formed to inform the University of Colorado School of Medicine (CUSOM) undergraduate medical program (UME) curriculum reform by advising the Curriculum Reform Steering Committee. Guiding principles for reform were described with three key theme words: **Leadership, Curiosity, and Commitment.**

The main charges for the Faculty Engagement Sub-committee included thoughtful review of the current state of faculty engagement in the undergraduate medical education (UME) curriculum at the CUSOM, review of existing literature, examination of alternative approaches at peer institutions, and development of recommendations to enhance faculty engagement at the CUSOM. Our work included a review of how we address what may seem like simultaneously too many and too few faculty teachers cross the curriculum – too many in the pre-clinical curriculum, too few Foundations of Doctoring Curriculum preceptors for students in primary care specialties, and too few faculty and sites for clinical spots/preceptors for all 184 students in Phase III.

Recommendations were made to enhance continuity in course content and training experiences, patient care, student experience with faculty and peers, and faculty relationships.

We propose **to enhance the existing elements of the UME curriculum that meet continuity goals**, including the Advisory College Program, Problem-Based Learning Groups, and Longitudinal Clerkships. Implementation of these recommendations would require specific attention to developing and supporting true learning communities, facilitated cohorts of students across levels by trained and supported faculty educators. We explored incentive systems to engage departments and faculty educators in the UME educational mission. Proposed changes that are expected to improve continuity and faculty engagement include:

Revised “Pre-Clinical” time (content formerly addressed in Essentials Core) with fewer lecturers with a cadre of “master teachers” who are responsible for majority of course delivery. This would include clear accountability, dedicated faculty development, and support for this select group of teachers. Another goal would be to transition much of content from lecture-based to other active learning strategies and exploration of hybrid educational content.

Foundations of Doctoring Curriculum (lack of FDC preceptors for students in primary care specialties) with a shift from shift away from the current one preceptor: one student model. Possibilities could include transitioning to small groups of 1 preceptor: 2-4 students of differing levels, inclusion of specialty preceptor locations if students were given the opportunity to practice core skills, or a “Clinical Foundations” model with same amount of Foundations time, just over one year rather than two years. For example, this model could include moving communications/physical exam to Problem-Based Learning (PBL) and increasing PBL time.

Advisory College Program (ACP, design as true Learning Communities) integration of delivery of a portion of the UME curriculum into the ACP (e.g. resilience, systems science, humanities, ethics, professional identity formation, hidden curriculum) may assist in creation of true learning communities and could allow delivery of specific pedagogical instruction such as PBL/TBL. A major change would be that these would be run by faculty with dedicated time, extensive faculty development, competitive selection for faculty (Master Facilitators).

Expand Longitudinal Clerkships and Longitudinal Integrated Curriculum sites to meet additional goals such including continuity with faculty, peers, clinical site, and patients.

Purpose of the Faculty Engagement Sub-Committee

Following the successful completion of the LCME review and site visit, the University of Colorado School of Medicine (CUSOM) undergraduate medical program (UME) is embarking on curriculum reform. Guiding principles for reform were established and key values identified using three key theme words: **Leadership, Curiosity, and Commitment**. Ten sub-committees were established with leadership teams and guidance for membership and activities. Subcommittees were engaged in a kick-off retreat and a planned follow-up retreat, with interim research, debate, and decision making.

The main charge for the Faculty Engagement Sub-Committee was ***“how to increase faculty engagement in the CUSOM teaching mission across all four years”*** with an emphasis on continuity of teaching in Phases I and II, engagement in bedside teaching, recruitment of small group facilitators and clinical preceptors, and faculty development as educators. We sought to engage key informants in a thoughtful discussion of how we address what may seem like simultaneously too few and too many faculty teachers, variable course standards, and lack of faculty teacher continuity. The goal for faculty engagement was expected to improve subsequent student engagement, as clinical experiences with continuity in curriculum and supervisors appear to benefit student learning and patient centeredness (Chou CL, 2017).

We sought plans to encourage broader faculty participation in the educational mission of the CUSOM and associated faculty engagement with an emphasis on relationships over time while battling larger class sizes and clinical and research pressures on faculty. We sought plans to narrow the band of faculty teachers and educators in didactic and pre-clinical material as over time the offerings, while acceptable as stand-alone content, lack coordination, expectations, and quality.

The Sub-Committee sought to develop new expectations of additional educational training for teachers, consistency in style of presented material, clear signposts for how to prepare students for United States Medical Licensing Examinations (USMLE) exams while infusing new knowledge that may not be immediately important for those exams. We believe a smaller cadre of pre-clinical educators will assist to facilitate a renewed effort to integrate curriculum across topics and years so as to eliminate unnecessary duplication and also fill gaps.

We also explored ways to leverage the multiple schools at the CU-Anschutz Medical Campus and explore additional campus resources to support the training of our teachers and educators. Many of these issues were identified using student interviews and course evaluations and were further explored with our student subcommittee members.

Current State of Faculty Engagement, Summarized:

- Essentials Core: Too many different faculty (n = 1,962) with consequent overlaps and gaps; cycle of low attendance-low motivation to improve lecture-lack of continuity-low accountability for teachers and students leading to less faculty and student engagement. Inconsistent guidance on relation of graded course content with broader curriculum content and with USMLE Step 1 preparation.
- Foundations of Doctoring Curriculum (FDC): Too few preceptors due to increased clinical pressures; increased class sizes yield gaps with lack of FDC preceptors for all students in primary care specialties.
- Phase III: Too few clinical spots/preceptors for students (not enough sites for all 184 students)
- Incentives for Teaching: Increased work-work conflict creates financial and clinical productivity disincentives for teaching (2015-16 LEAP Cohort). Faculty with primary teaching roles must have a clear pathway to promotion and tenure (clear pathway for educational leaders is currently robust).

Faculty Engagement Key Themes and Principles

Continuity was an additional organizing principle for Faculty Engagement. We specifically were motivated by what appears to be a positive ***cascade from working more longitudinally and building ongoing relationships*** between preceptors, educators, and students:

- Continuity with patients leading to patient-centeredness and authentic doctoring roles
- Continuity with faculty leading to improved feedback, mentorship, coaching and role modeling for students as well as the ability to more accurately measure achievement of competence
- Continuity will increase student and faculty engagement with the curriculum and satisfaction related to longitudinal relationships with students for faculty
- Continuity with health care setting/system and community leading to a deeper understanding of health care systems and minimization of wasted curricular time on orientation during the clerkship phase

The Faculty Engagement Sub-Committee explored a number of reforms that will promote continuity with a goals of achieving the benefits described above. A preview of recommendations that are designed to promote these goals are: (1) reducing the number of Phase 1 and 2 teachers, standardizing course content and assessments and addressing Step Exam content; (2) Building learning communities, defined as longitudinal cohorts of students and faculty throughout 4 years of medical school will be paired with longitudinal facilitators (including coaching, review of progress, goal setting, and delivery of curriculum); and (3)

increased emphasis in the pre-clerkship phase on clinical skills and patient care using longitudinal preceptors and small student learning communities.

Review of Best Practices and Compelling Alternative Approaches

Faculty Engagement Sub-Committee reviewed other faculty engagement models in greater depth by gathering content and interviewing key informants in other UME programs. These sites and key elements explored follow:

1. University of California San Francisco

- a. “Bridges Curriculum and Coaching Model” curricula focusing on humanistic medicine, communication skills, systems science, professional identity formation (0.2 FTE/coach, each coach responsible for two cohorts so 0.1FTE/cohort). Each cohort is six students.

2. Vanderbilt University

- a. Portfolio Coaches (0.1 FTE *estimate* to coach 12 students—longitudinal coaching across all four years with frequent portfolio review and meetings to discuss
- b. Small Group Facilitators (0.1 FTE *estimate* to facilitate CBL/PBL sessions 8-10am on M/W/F throughout year one)
- c. Master Clinical Teachers (0.1 FTE *estimate* to perform direct observation and feedback of clerkship students—these faculty are specialty based and perform 1-3 direct observed H&P per clerkship block per student)
- d. College Mentors (0.3 FTE, provide career counseling, wellness support and 1-2x/week teaching within the Learning Communities courses that span all four years—topics include cognition, ethics, leadership; non-curricular activities can also include night/weekend availability)
- e. Above FTE support is in addition to course directors, who also have FTE support

3. University of Washington

- a. Fundamental Clinical Skills Program (five full-time and 25 quarter-time dedicated faculty – total 11.25 FTE)

4. Other: Consideration of non-physician teachers explored the role of basic science educators and inspiration of partnerships with clinical teachers in the model of the Colorado Clinical Translational Sciences Institute (CCTSI) TL1 program and the Skaggs School of Pharmacy and Pharmaceutical Sciences Integrated basic and clinical curriculum.

Maintain and Enhance Existing Programs That Meet Faculty Engagement Goals

1. **Advisory College Program (ACP) Advisors:** In the current system, faculty apply for these roles and are assigned to student groups for a period of multiple years with dedicated FTE support (0.1FTE/faculty advisory). This allows for longitudinal relationships with students however close mentoring and coaching is difficult given the number of

students assigned to each faculty member and little dedicated curricular time to ACP events and activities.

2. **Essentials Core:** Several blocks within the Essentials Core currently provide exemplary continuity, with one faculty member leading the teaching of an entire section of the block, or an entire topic across blocks (e.g., Human Body Block with small cadre of dedicated faculty for lecture, small group, and dissection lab; Dr. Thomas French with pharmacology; Dr. JJ Cohen with immunology). This strength should be expanded upon, which is possible if a smaller cadre of dedicated master medical educators is cultivated and supported.
3. **Problem-Based Learning (PBL):** Faculty facilitators within the PBL curriculum facilitate student groups consisting of members with common ACP assignments. Longitudinal faculty assignments create strong opportunities for content continuity, mentorship, and advising.
4. **Longitudinal Clerkships (LICs) and Clinical Experiences:** The Denver Health LIC, the Colorado Springs Branch LIC, and the Veterans Administration VAST clinical experience are well established longitudinal training programs to which students apply, have small and capped enrollment, and are extremely well-liked by students, faculty preceptors, and sites.

Recommendations

Overall, we recommend changes to decrease the absolute number of teachers in the pre-clinical setting while simultaneously increasing teacher/learner continuity, and the opportunity for longitudinal relationships. In the clinical setting, we recommend implementing pilots and curriculum that facilitate *longitudinal relationships* between preceptors, educators, students, and patients.

Changes recommended by our committee should be considered within the context of recommendations made by other committees. Additionally, we favor piloting curriculum that will mostly likely impact larger numbers of learners rather than that which will be elective.

Essential

1. **“Pre-Clinical” Curriculum (Revised content formerly addressed in Essentials Core)**
 - a. We recommend fewer lecturers with a cadre of “core lecturers” who are responsible for majority of course delivery
 - i. Recommend removal of lecturers with poor evaluation reports that span multiple years and/or lecturers with previous difficulty meeting deadlines for learning objective and material submission to course directors
 - ii. Need extensive faculty development for existing teachers to assist in quality and standardization in terms of teaching and assessment
 - iii. Clear accountability and support for teachers and preceptors at the CUSOM and the departmental level

- iv. Transition much of content from lecture-based to other active learning strategies, explore hybrid educational content with excellent outcomes
- b. We recommend elevation of the standards for course directors, creating a culture of “master educators” that elevates standards for courses, encourages innovation, and embeds succession planning.
 - i. Must have formal educational training with degree or certification (minimum such as the Teaching Scholars Program or other professional society teaching scholars program). There will be a “grandfather” term for 3 years after which this will be enforced prospectively in UME.
 - ii. Recommend continuing director and co-director dyad for core courses
 - iii. Recommend clear outlines of the progression through which a faculty member can grow into higher levels of responsibility and scope in the UME program (ex. transition from “core lecturer” to “master educator.”)

2. Advisory College Program

- a. Recommend integration of UME curriculum into the ACP to form true learning communities (e.g. resilience, systems science, humanities, ethics, professional identity formation, and hidden curriculum)
 - i. Use learning communities for delivery of specific pedagogical instruction such as PBL and/or team-based learning.
 - ii. Increase FTE for ACP faculty (1/2 day per week average, additional time designated for individual student coaching, *estimated* 0.15 FTE per faculty, total 2.4 FTE)
 - iii. Encourage and incentivize activity occurrence both outside of and within regularly scheduled school activities (McKenchnie DGJ, 2018)

3. Foundations of Doctoring Curriculum

- a. Shift from 1 preceptor: 1 student model. Other possibilities could be:
 - i. 1 preceptor: 2-4 students of differing levels
 - 1. Cohort of students assigned to a clinical site rather than a preceptor (ex. Denver Health LIC students assigned to Denver Health Medical Center outpatient clinics). This could increase longitudinal relationships with patients, give students more authentic roles in primary care clinics, and create opportunities for patient safety and quality improvement projects in the pre-clinical curriculum
 - ii. “Clinical Foundations” model with same amount of Foundations of Doctoring Curriculum time, just over 1 year rather than 2. In this model, consider moving communications and/or physical exam to PBL and having more PBL time. Phase IV students could be trained to facilitate pre-clinical student groups
 - iii. Consider allowance for students to precept with sub-specialty faculty if they are able to consistently allow for teaching, observation, and assessment of core clinical skills.

Suggested

1. Longitudinal Clinical Experiences

- a. Expand to new LIC sites. Consider additional sites such as Children's Hospital Colorado, existing and new rural sites, Kaiser, or comprehensive care clinics that provide multi-specialty care for unique populations.
- b. Would need additional LIC directors with dedicated FTE support for educational leaders

2. Incentivize Changes with Aligned Monetary and Non-monetary compensation

- a. Explore standardized cost share for departments with CUSOM for facilitating UME activities.
- b. Consider creation of an EVU system to give credit for UME activity with special attention to faculty teachers who often tradeoff clinical RVU for teaching time or a standard expectation for clinical offset/credit in order to engage with the UME program.
- c. Enhance asynchronous professional development tools from the AME (webinars, interactive on-line modules podcasts) for UME teachers and educators.
- d. Faculty with primary teaching roles must have a clear pathway to promotion and tenure. Current promotions and tenure guidelines may need to be modified to support this change, and the SOM must ensure that all basic and clinical departments appropriately interpret and consistently apply the revised guidelines for promotion and tenure of teaching-intensive faculty.

Suggested Outcome Measures/Evaluations

Possible outcome measures and evaluation may include:

1. Evaluation of Students

- a. Academic performance (grades, USMLE on-time test taking and pass rate)
- b. Academic Engagement (participation in course and small group offerings)
- c. Frequent assessment of knowledge, skills, or attitudes by longitudinal faculty related to curriculum content
- d. Frequent formative assessment of knowledge, skills, or attitudes by peers at longitudinal sites related to communication skills, professionalism, and team work.

2. Evaluation of Faculty

- a. Formal peer teaching evaluations program for pre-clinical teaching and for clinical precepting, with teachers in any given block/course observing each other for formative feedback and for ongoing familiarity with integration and continuity of related curriculum

- b. Formal focus group program designed and supported at end of each content unit (semester, block) once a minimum number of students or time have accrued to learn directly from recent participants about effectiveness
- c. Goal that within a period of time such as by the next LCME review that all core lecturers have some kind of advanced credentialing as educators.

Pilot Ideas and Next Steps

Many of our recommendations were derived from consultation with other curricular sub-committees, and the ability to enact some of our recommendations will rely on the extent and timing of fundamental curricular changes. Immediate steps that can be considered are assessment changes described above such as peer review, introduction of new instructional design elements including hybrid offerings, and exploration of formal teaching development needs in partnership with the Academy of Medical Educators.

Next steps from the CUSOM perspective include conducting cost analysis of expected impact of supporting a cadre of “core lecturers,” increased longitudinal facilitators, and expansion of LIC educational leadership. The CUSOM will have to also explore the feasibility for a “clinical offset” for teaching with departmental leaders to minimize the tension between clinical demands and the educational mission.