Project 1: Update the Radiology FCE

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Course for which the project will be completed
Radiology FCE curriculum development.

Description of proposed project:
The Department of Radiology seeks to update the radiology FCE. We plan to develop a more structured curriculum that educates students on what they need to know to effectively incorporate diagnostic imaging into their clinical practice. Fundamentals of diagnostic imaging, including interpretation of chest x-ray, head CT, and abdominal imaging will be included. Specific aspects of the curriculum will be based on medical student survey data feedback regarding areas for curriculum improvement from a student perspective. The updated elective will emphasize aspects of radiology pertinent to all physicians, including optimizing imaging for given clinical indications, the relative risks/benefits of various radiologic procedures, diagnostic limitations of imaging studies, radiation safety, and basic technical aspects of how examinations are performed. The curriculum will include time on radiology clinical rotations, didactic lectures, independent learning, and small group exercises. The elective can be tailored for students heading into primary care, subspecialties, as well as those interested in careers in radiology.

Outline of student’s role:
The student will work with faculty to develop problem-based learning modules with cases for student work-up. In keeping with the goal of the revised curriculum, the learning modules will emphasize general clinical aspects of radiology, such as ordering the most appropriate examination and addressing patient radiation exposure concerns. The learning modules will be incorporated into the updated curriculum, to be employed as course material for medical student independent learning and for small group exercises and discussions.

Preferred student skills:
Proficiency with PowerPoint

Timeline for required work:
6 - 8 weeks total
Project 2: Enhancing the LiNC Curriculum with Social Determinants of Health

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Course for which the project will be completed
This project cuts across courses; results would be reported to the FOM 1 and FOM 2 Curriculum Committees rather than to one specific course director.

Description of Proposed Project:

Background
In the spirit of the LiNC values, in 2012 UMass students and faculty created the “Enhancing the LiNC Curriculum with Social Determinants of Health” project. This project aims to identify appropriate, relevant opportunities to integrate social determinants of health into preclinical years lecture. While these concepts are introduced in the Foundations of Medicine (FOM) 1 course Determinants of Health, the introduction is brief; students’ review of the full curriculum has concluded that many missed opportunities exist to expand on these concepts in the basic science courses. Reinforcing these concepts is essential, for we know that students’ focus during their medical education tends to narrow rather than expand.

Summer Project
Taking this project to the next level, this summer we aim to emphasize issues related to bias and stereotyping—particularly related to race and ethnicity—as the social determinant of health (SDOH) of primary interest and focus. This new and innovative work will be structured to build on the introductions to race, racism, bias and stereotyping that were introduced to students through DCS in the fall of 2015. In keeping with the student-driven and student-focused approach that has characterized this project since its inception, this summer the student will identify specific lecture topics in which de-identified clinical cases (known to greatly enhance students’ learning) highlight examples of implicit bias and structural racism that affect the clinical interaction. Thus, the SDOH focus—while not exclusively on issues related to bias and race—will seek to highlight and draw attention to them in particular. Given the degree to which we can tend towards defensiveness when learning about these difficult issues, highlighting them in de-identified clinical case examples is likely to help learners expand their understanding in open and non-threatening ways. Additionally, as appropriate, this summer initiative will partner with other summer curriculum development projects to reinforce concepts and ideas.

While this project has made significant strides since its inception, much remains to be accomplished. Highlights of progress to date include: (1) completion of a feedback template using the REDCap data collection system; (2) review by 8 students of 15 relevant lectures from FOM 1 and from FOM 2; (3) analysis of review results and presentations to the Educational Policy Committee; (4) a project presentation by medical students at the AAMC’s NEGEA and Medical Education meetings; (5)
presentations and discussions to several course directors of specific ideas for DOH element inclusion (buttressed with a brief annotated bibliography); and finally (6) review and revision of past recommendations to reflect recent changes in the curriculum. In all instances, faculty have been interested and receptive; in one instance in particular, faculty course leaders elected to include the students’ suggested materials in their practice assessment quizzes.

While this project has benefited greatly from being student initiated and student driven, it has also had to weather the challenges of students having multiple demands on their time and giving way to students’ need to concentrate on mastering course material. This year, momentum has continued due to four first year students having joined the committee and having begun reviewing lectures and engaging with fellow classmates to develop ideas for modifications. Their efforts would benefit greatly from having dedicated time during the summer to advance this initiative to the next level and bring a sharper focus to one of the elements of the determinants of health that other student groups have been advancing through the Race, Power and Privilege workshops. This is particularly timely, as 2016 summer work would coordinate the voices of the several student groups along with—as mentioned earlier—the new introductory focus in DCS on the effects of race, racism, and implicit bias.

The next steps in this project are where the work accomplished to date will bear additional fruit and become the catalyst for change. As in the summers of 2014 and 2015, these steps will include preparing feedback reports for course leaders; creating materials with accompanying annotated bibliographies for slide edits in response to data already collected; and engaging new, interested students in the research.

Student’s Role:
A task of appropriate scale for an 8-week summer period would involve the following:
1. Review/refine data collection instrument to reflect changes in curriculum and ensure focus on bias, stereotyping, racism.
2. Review newly identified high yield lectures to refresh and update suggestions; create slide edit suggestions for these lectures, highlighting potential patient case example material.
3. Review these summaries and suggestions with faculty advisors and OUME leadership for accuracy, relevancy, and appropriateness.
4. With guidance from faculty advisors and other collaborators, identify relevant patient cases for incorporation into suggested changes.
5. Ensure all patient information used for case studies is de-identified.
6. With appropriate input and guidance from faculty course advisors, work with course directors and lecturers to refine and implement suggested changes.
7. Begin crafting a project evaluation plan to define and measure metrics that quantify the inclusion of the SDOH across the curriculum. Potential benchmarks for evaluation include: a pre/post assessment of BWCT cases (2014 vs 2015), pre/post assessment of specific slides used by faculty with whom students met to provide suggested changes, development of specific questions that would be included in students’ evaluations of relevant blocks.
8. Develop ideas for how work will continue to progress during the academic year.

Preferred student skills:
In accordance with the goal of new student engagement in this project, a rising second year medical student with an interest in curriculum development is preferred. Ideally, the student would have a background in social determinants of health and/or pedagogy through past study or volunteer/job experience. In addition, the student would have sufficient research experience to interpret data from REDCap and an ability work with potential collaborators to review and develop specific case studies as
well as faculty advisors to draft course presentation edits. Finally, the student should have an understanding of and interest in the issue of implicit bias and racism and be comfortable presenting suggested changes to course directors.

*Time required for the project:*
8 weeks total
Project 3: Analysis and incorporation of Capstone course feedback

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Course for which the curriculum development fund project will be completed:
Capstone Scholarship & Discovery (CSD) Course

As the first class of medical students completes the required four-year longitudinal course, CSD leadership would like to collect, analyze, and incorporate student feedback to improve both course curricular components and its general mechanics. Current data includes student and advisor comments from student progress reports from their FOM1, FOM2, and CCE years. Formal program and student evaluation data will become available in spring 2016.

Student’s role:
The student will working closely with the CSD leadership team to review data collected from students and faculty regarding course feedback, time on tasks, and project demographics. The student will help to develop plans to analyze these data to both inform ongoing course development and to communicate findings with the larger Scholarly Collaborative community outside of UMMS. The student will help to create and plan implementation for additional tools to ensure thorough and informative data collection from both students and advisors. CSD leadership as well as other faculty will work with the student to help identify areas of particular interest to the student in the context of this project as well as areas of value to the course to maximize benefit to both. The degree of flexibility in this work lends itself to becoming a student’s Capstone project.

Preferred student skills:
Previous students who have contributed in the formal evaluation of the CSD course report they have developed a better understanding of the interconnectedness of various components of medical education as a result of their participation, and have rated the experience very high. They also develop an interest in curriculum development methods and medical education. Participation in this project will be more meaningful if the student has a basic understanding of statistics, scientific methodology (survey techniques), data management (excel), and writing skills. Capability to work both independently and as a member of a team work is essential.

Estimated time required for student to complete the project:
This is an 8-week commitment as outlined above
Project 4: Analysis of program objectives with emphasis on student opportunity to learn about novel concepts

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Course for which the curriculum development fund project will be completed:  
Flexible Clinical Experiences (FCE) Program

Description of proposed project:  
As the FCE Program enters its 5th year, we want to look at how well we are meeting one of our stated goals of providing opportunities in new fields of medicine and novel concepts and systems of care that are not covered in the core curriculum. Specifically, we would like to identify students who have participated in FCEs that meet these criteria to examine the overall impact and value of these types of experiences on their medical education and career choices. In addition to a retrospective look at students’ perceived value of these specific FCEs, we would like to survey past and rising MS3s to identify types of experiences which fit these criteria, that would be valuable to their overall education and that are not currently offered.

In past years, summer students have collected and analyzed program data to identify how well we are meeting our other program goals. Previous research has focused on the role the program plays in career choice for medical students, and this data has helped make meaningful improvements to the program.

Student's Role:  
The student will work with the FCE program staff to fully develop and implement the appropriate survey tools, and to analyze data collected. Project responsibilities will include a literature search to generate a working bibliography for future program evaluation; data collection and organization; regular working meetings with program personnel. At the end of the internship, the student will be expected to compile a report on the findings, and prepare a poster for the summer students retreat.

Preferred student skills (if relevant):  
Previous students who have contributed in the formal evaluation of the FCE program report they have developed a better understanding of the interconnectedness of various components of medical education as a result of their participation, and have rated the experience very high. They also develop an interest in curriculum development methods and medical education. Participation in this project will be more meaningful if the student has a basic understanding of statistics, scientific methodology (survey techniques), data management (excel), and writing skills. Capability to work both independently and as a member of a team work is essential.

Estimated time required for student’s work to complete the project:  
This is an 8-week commitment as outlined above; two consecutive 4-week positions could be redefined for special circumstances.