The Foundations of Interprofessional Collaboration is a program that was piloted on The University of Kansas Medical Center (KUMC) campus for the first time in January 2014 and came to full fruition in January 2015 in the form of the first ever all-school interprofessional event for first year students. KUMC is an extensive campus comprised of programs including medicine, nursing, pharmacy, lab sciences and various health professions. Each of these professions has continued to grow over the past several years with campus expansions and program additions, however the students have historically been isolated from each other in their clinical and didactic training. The Student Governing Council (SGC) is the interprofessional student governing body on campus that was created to be an interface for students of all programs to connect and discuss campus issues. In order to steer efforts for projects, SGC conducts a comprehensive annual survey to assess student satisfaction. Since 2010, the survey results have demonstrated an increasing interest in enhancing inter-professional student collaboration on campus, which founded the basis for this project.

In an attempt to respond to this campus outcry, student leaders partnered with faculty members and the Director of Interprofessional Education to create a planning committee for the Foundations of Interprofessional Collaboration event. This diverse and involved committee put months of development into a program that was intended to be a required opportunity for all first year students to have the chance to interact with other first year students from other programs on campus in a day devoted to teamwork in clinical and professional activities. The committee used an evidence-based set of teamwork tools known as TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety), which is aimed at optimizing patient outcomes by improving communication and teamwork skills among health care professionals. It includes a comprehensive set of materials and training curriculum to successfully integrate these principles, which were implemented almost a year prior to the first all-school event. Following the original pilot event we found, through yet another survey, that 95% of students who participated believed the project was a useful learning activity, and over 90% thought it should be incorporated as a required activity in the curriculum of all programs campus-wide—which we considered to be a success.

Besides the goal of satisfying the wishes of the students, the ultimate goal of this project is for students to learn how to function in an interprofessional team early in their education, and to carry this knowledge, skill and value into their future practice where they will improve patient-centered care and outcomes. The project gained support from several state grant-funding institutions as well as the Health Resources and Service Administration, and from the Student Governing Council itself. It has continued to grow in importance in discussions of education curriculum, and the program is beginning to attract national attention to our institution for its success. As the President of the Student Governing Council and a previous member of the original planning committee, I am quite proud of what this project has become thanks to student innovation and the supportive faculty on our campus. We are currently developing more events to be implemented in 2nd and 3rd year programs to create a longitudinal experience for students throughout their education. I would love to share our success with other programs, as I believe this project has a broad application and could be tailored to suit any campus where learners are present from various professions. I believe my institution is a national leader in this sector and by spreading our strategies we can empower students to jumpstart a new program.
**Project Name:** PRISM: Promoting Inner-City Youth in Science and Medicine  

**Medical School:** Northwestern Feinberg School of Medicine  

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Medical schools, and Medical Scientist Training Programs (MSTPs) in particular, face several challenges that directly impact the success of their students. One is preparing students to educate patients and the community about medical and science topics. Constant exposure to teaching opportunities is critical for the development of effective physicians. An equally important concern is diversity. A lack of under-represented minorities and women across the board in science and medicine becomes even more stark in MSTPs. Cultivating a pool of minority students interested in science and medicine is critical to increasing the eventual diversity of applicants to medical schools and MSTPs. Programs across the country are addressing these challenges; while initial efforts offer some progress, creative solutions are necessary.

With these concerns in mind, Northwestern MSTP (NUMSTP) students created PRISM (Promoting Inner-City Youth in Science and Medicine) in 2012. PRISM is a mentoring program that pairs research-phase MSTP students with Chicago Public School (CPS) students, exposing high schoolers to science and medicine topics and careers. The program alternates between clinical material, laboratory experiments, student research, and career immersion experiences, each showing students different aspects of careers in science and medicine. These sessions occur as a bimonthly after-school program at Chicago's Pedersen-McCormick Boys & Girls Club throughout the school year. Curriculum is all designed in-house by MSTP students. PRISM is funded exclusively by the NUMSTP.

PRISM provides opportunities for NUMSTP students to practice medical education skills either through mentorship or curriculum writing. The sessions require mentors to teach skills from patient interviews to disease pathophysiology, while curriculum construction entails in-depth discussion of medical and science topics. PRISM promotes diversity in STEM fields by virtue of its student population, drawn from our partner Boys and Girls Club and the greater CPS population. PRISM students are almost exclusively from underserved communities, ~80% would be considered URM applicants by medical schools, and 60% are women. By exposing these students to a wide range of opportunities in science and medicine, we hope to encourage them towards further pursuit of STEM careers, perhaps including eventual medical or MSTP training.

PRISM represents a cooperative effort between the NUMSTP, the Pedersen-McCormick Boys & Girls Club, Northwestern's Science in Society initiative, and a number of administrators and science educators from CPS. Response from the Chicago educational community has been encouraging, with CPS teachers from across the city sending science-minded students to the program, and student participation increasing each year. Although the program is still in its infancy, several PRISM graduates have already gone on to study STEM subjects at four-year universities. PRISM has also been immensely popular with NUMSTP students, with curriculum contributors and mentors increasing in number each year and a 90% mentor retention year over year. One out of every five NUMSTP students has participated in PRISM at some point over the past 3 years. While PRISM is young, these metrics point to a strong program and an approach that should generalize to other programs located in urban environments.
The University of Michigan Medical School (UMMS) strives to provide students with opportunities to develop clinical skills as early as possible. In recent years, preclinical students have expressed a desire to gain more meaningful clinical exposure. The Clinical Reasoning Elective (CRE) emerged from this need for earlier and more thorough exposure to a real clinical environment, beyond the current training with standardized patients. The CRE allows students to work with patients in the Emergency Department or inpatient setting to improve clinical skills, verbal presentations to supervisors, and diagnostic reasoning. UMMS students have also expressed a desire for more formal mentoring. The CRE pairs students up with a faculty mentor for approximately one year, creating the opportunity to form long-term relationships with a clinician, with whom they can further develop clinical skills and reasoning.

In the spring of 2014, CRE student coordinators recruited faculty from the Emergency Department (both adult and pediatric), internal medicine, and pediatrics. Pairs of students were matched with faculty based on their preferences and worked with their mentors bimonthly for 3-4 hour shifts. The program was explicitly designed to be distinct fromshadowing, with a goal for students to engage directly with patients in order to practice, improve, and gain feedback on their clinical skills, without the performance pressure felt by students in clinical years. Students completed histories and physicals on patients who presented with symptoms related to the organ systems the students were currently learning (or had learned previously). They also presented to their mentors, received feedback, and engaged in diagnostic discussions. Additionally, students had the opportunity to participate in clinical reasoning seminars to work through differential diagnoses with attending physicians.

The CRE has several objectives, which help foster the ultimate goal of creating well-rounded and insightful physicians who are thoroughly prepared to care for patients in residency. First, the CRE creates an opportunity for early exposure to a real clinical environment. This exposure goes beyond shadowing and allows students to develop crucial skills, such as completing a thorough and relevant history and physical exam, thinking through differential diagnoses, and communicating with patients. Another important objective is to provide long-term mentors to students, who can serve as role models, resources, and clinical educators. The CRE also fills an instructional gap that is present in the current UMMS curriculum, by allowing students to have meaningful, unscripted experiences that go far beyond simply watching experienced physicians interact with patients.

Over 90 preclinical students were involved in the program and over 42 physicians were engaged as mentors. The majority of students (97% of those who completed a closing survey) reported that the CRE provided them with opportunities to improve clinical skills, increased their comfort with patients, and helped them feel more prepared for their clinical years. The majority of students also indicated that the elective provided a learning experience they would not have gained through other aspects of the standard curriculum. Finally, 86% felt that the elective provided them with a mentor that helped them with their clinical/professional trajectory.
Project Name: More than Educating Future Teachers; A Novel MedEd Elective at UMMSM

Medical School: University of Miami Miller School of Medicine

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Each year, over eighteen thousand senior medical students take the next step in medical education and become interns. With this transformation much is expected: building differentials, clinical reasoning, providing sound patient care, but also to become medical educators. Despite this last expectation, the vast majority receive no formal training in adult learning principles, educational theories, or educational methods and have very limited exposure to teaching prior to graduating medical school. This has popularized the creation of medical education experiences, programs, and curricula at many medical schools across the nation.

Another fundamental mission of academic institutions is the pursuit of a more robust curriculum. Every year thousands of surveys are submitted by students and dissected by administrators with the goal of optimizing each class, perfecting every course, and providing professors with individual feedback. It is typical to enlist one or two student(s), as academic liaisons, to assist with curriculum improvement but less typical that the general student body are involved in shaping their education and the school's curriculum for years to come.

The University of Miami Miller School of Medicine (UMMSM) has created a novel longitudinal fourth year medical education elective that addresses both these deficiencies. In the course, students interested in medical education, not only better learn how to become educators, but how to reform education.

In the course, enrolled students begin the academic year by attending five seminars. These cover the history of medical education, principles of adult learning and educational theories, small group facilitation, clinical and bedside teaching, running teaching rounds, writing learning objectives, designing exam questions, provision of effective feedback, mentoring students with difficulties, and principles of educational research. Following the seminars students have two mandates. First, students must get in front of the classroom and engage in at least 15 teaching sessions to gain teaching experience. Second, the course culminates in a capstone educational project that improves the existing curriculum.

Students work closely with the course facilitators to create a curriculum improvement project. It begins with the student choosing an area of interest and navigating existing course feedback to identify areas of need within the existing curriculum. The student's project can vary considerably from revising the existing educational platform, altering they way the curriculum may be taught for a particular theme, or the creation of entirely new content. Some examples of the projects students in the inaugural class have undertaken include: the inception and implementation of multiple Team Based Learning (TBL) exercises to replace traditional lectures across several clerkships that received poor reviews from students, a video-based lecture series created for incorporation into the pediatrics clerkship, and several Problem Based Learning (PBL) sessions from the first and second year curriculum have been revisited and reshaped, including the sessions themselves as well as the tutor-guide for facilitators.

Thus far, this new and unique medical education elective at UMMSM has been well received. It gives students a solid foundation in medical education and allows them to hone these skills throughout the year. Entrance and exit surveys are being collected to demonstrate student’s interest in medical education and the improvement projects will be evaluated by students to come in future years through routine survey analysis. This elective was devised by students, is driven by students, and following the principles of the class, to be improved by students. It is to be expected that each year new gains and changes to the curriculum will occur. This is the ultimate in receiving and utilizing student feedback in applicable manner as an experience in medical education.
**Project Name:** A model for effective student engagement in curricular transformation  
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**Session description:** Medical students across the country are involved in a multitude of exciting approaches to medical training; this session will highlight student innovations in medical education. The OSR invites all reps to apply with unique and successful programming at your schools; five students are selected to present. Past presentations have included events and training with other academic disciplines, curricular tracks in rural and academic medicine, extracurricular involvement with patient care, and new approaches to student mentoring and career counseling.

**Background:** Many institutions are transforming their undergraduate medical curricula. However, the breadth and depth of student engagement in these transformations varies widely by institution, jeopardizing the creation of learner-centered curricula. Moreover, “best practices” for student involvement in curricular reform have not been detailed. This session will describe a model for developing broad, effective student engagement during a robust curricular transformation.

**Description of the Innovation:** The University of Michigan Medical School (UMMS) is undergoing a multiyear curriculum transformation. From the very start, students dialogued with faculty leadership to codify the role of students in the transformation effort. The initial objective was to provide a mechanism for effective student input. We developed a model where students are equal participants in the curricular leadership and are vertically integrated at all levels of the strategic planning apparatus, including “boots on the ground” workgroups and oversight committees. Students from all four years, as well as dual degree learners, are engaged in every workgroup, providing both pre-clinical and clinical perspectives. Finally, a fully student-led “Student Advisory Committee” liaises between the student/faculty leadership and the wider student body, facilitating dissemination, idea generation, and broad buy-in, and ensuring continuity of student representation across academic years. These student efforts are unfunded, voluntary, and largely benefit future students—in short, selfless service critical for advancing our profession.

**Outcomes and Impact:** The realized outcomes of this effort have far exceeded our initial objectives. Nearly 1 in 7 students at UMMS – excited by the opportunity to partner with faculty leadership and shape our institution’s future – submitted essays applying for positions. After a student-led selection process, approximately 30 medical students were selected. Besides providing invaluable input through their day-to-day work on committees, these students are in fact leading many efforts. Students have conducted multiple school-wide surveys and focus groups that have characterized strengths and weaknesses of the curricular transformation, thereby promoting a more learner-centric curriculum. Student leaders have also held town halls and created pilot programs, such as leadership training sessions and case discussions.

Genuine student involvement has had other unanticipated positive outcomes. Student leaders have helped rally our educational community behind the proposed changes, speaking compellingly at community-wide curricular retreats. Student leaders also serve as ambassadors to prospective applicants, whom they advise frankly and sincerely. Moreover, the model is a springboard for student leaders’ professional growth, a “laboratory” for developing inter-professional skills and habits of leadership—core missions of the new UMMS curriculum. Finally, our student leadership model has been recognized nationally and was recently featured in AMA’s news publication, “AMA Wire.”
Plan for AAMC Session: We will describe a model for effective student engagement in curriculum transformations, focusing on elements transferable to other institutions: broad student inclusion, vertical integration with complementary student/faculty roles, and student-only advisory committees. We will highlight the positive outcomes of student participation, while also exploring challenges and pitfalls. We hope to generate more discussion in the medical education community of “best practices” for student engagement in curricular transformation and to inspire greater student involvement at other institutions.