

## **MUSC Institutional data**

IPE data collected over the past several years since our APTR project(s) suggest outstanding Institutional success and numerous accomplishments in interprofessional education (IPE). One area representing major growth was the development of several University-wide course offerings through the Office of Interprofessional Initiatives. These course include:

- IP 710 Transforming Healthcare
- IP 700 Caring for the Community
- IP 707 Addressing Childhood Obesity – Jr. Doctors of Health
- IP 722 Medical Mission/International Health
- IP 724 Introduction to Public Health with Global Context
- IP 732 Topics in the History of the Health Sciences
- IP 736 Introduction to Ultrasound
- IP 740 Clinical Breast Care: Diagnosis and Management of Breast Diseases
- IP 744 Study of Autism and Neurodevelopmental Disabilities II
- IP 746 Community Engagement: Strategies for Success
- IP 750 Medical Humanities Research
- IP 752 Independent Studies

Altogether, these courses have reached over 4,800 students at MUSC and the IP710 course is the University's first interprofessional **required** course for students in the College of Medicine, College of Pharmacy, College of Dental Medicine, College of Health Professions and the College of Nursing. Additionally, MUSC has implemented a University-wide Interprofessional Day wherein students from **all 6 Colleges** come together to attend presentations, keynote addresses and interactive break-out sessions altogether. MUSC developed the Presidential Scholars program which brings together students from different Colleges to work together as interprofessional groups on community and service-learning projects. MUSC students also form small interprofessional groups to compete in the National CLARION competition which involves critical thinking and collaborative problem solving to address significant public health concerns.

Data from the 2011-2014 AAMC survey of graduating seniors ( $n \sim 160$  each year) suggest that MUSC has excelled nationally in providing required interprofessional extracurricular opportunities to students. Since 2011, 95% or more MUSC students answered yes to the question "Have you participated in

Figure 2. AAMC survey results from MUSC versus all other medical schools.

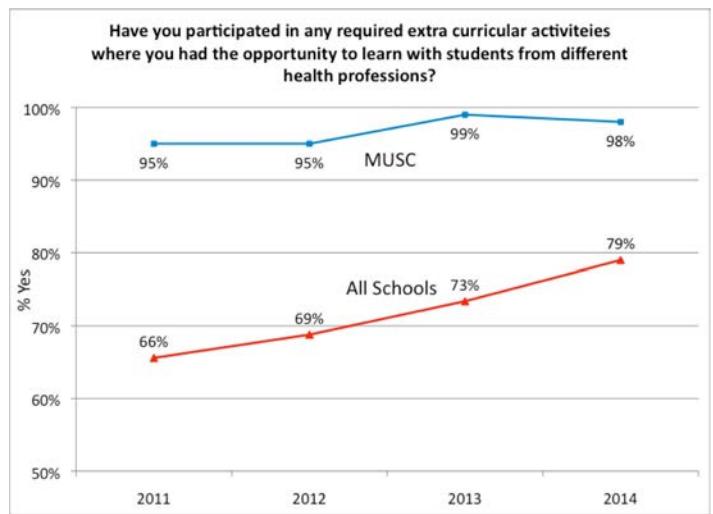
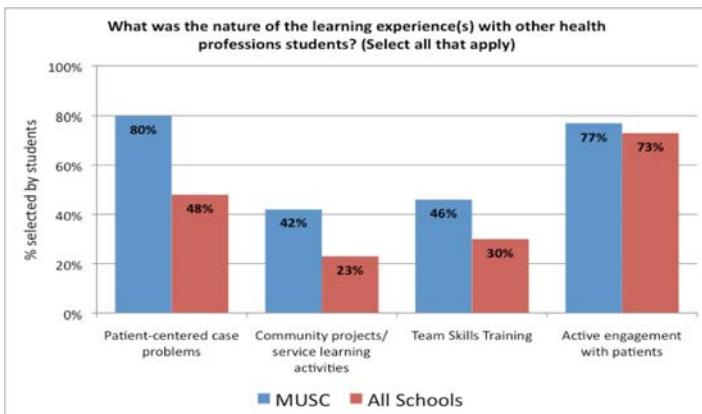


Figure 3. AAMC survey results from MUSC versus all other medical schools on the nature of IP learning activity

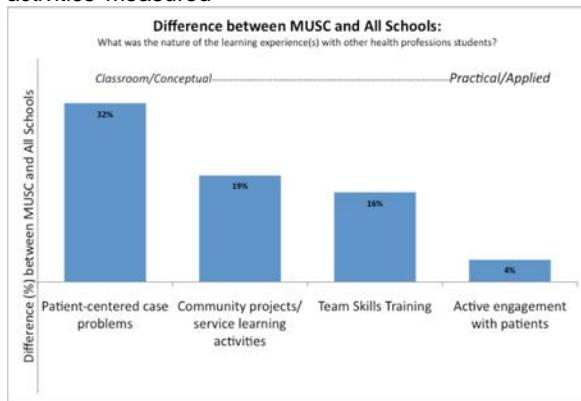


any required extra curricular activities where you had the opportunity to learn with students from different health professions?" While other schools in the AAMC have been improving on this item over time, MUSC is still a clear leader.

When we examine the specific nature of the learning

experiences shared between different health professions, MUSC offers substantially more opportunity than other AAMC schools for shared learning around patient-centered case problems and community projects/service learning activities (see Figure 3). However as the content shifts to the more applied arena such as team-skills training and active engagement with patients, our margin begins to shrink. In fact, examination of the

Figure 4. Absolute difference between MUSC and all other AAMC schools in percent of students responding positively to each of the four interprofessional learning activities measured



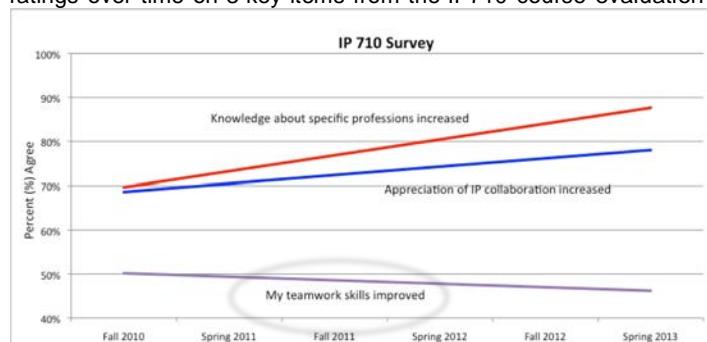
professions”, and their “appreciation of IP collaboration”. However, the more applied element “teamwork skills” is consistently poorly rated and on the decline. This further supports the notion that there is an institutional need to improve student learning in the applied arena of interprofessional teamwork skills (see Figure 5).

To examine the impact of clinical training on interprofessional learning, the Readiness for Interprofessional Learning Scale (RIPLS) was administered to all medical and pharmacy students in 2011 prior to their clinical rotations (i.e., after the majority of classroom/lectures were completed), and immediately following them (i.e., after students had opportunities to put their coursework into practice; n=~200). We hypothesized that factors from the RIPLS pertaining to “teamwork and collaboration” and to “IP roles and responsibilities” would increase after completion of their clinical education activities because they would have the opportunity to learn about interprofessional collaboration in action. However, our data suggest that the impact of the clinical rotations on IP teamwork, collaboration, roles and responsibilities were virtually unchanged pre- to post- clinical training (see Figure 6).

absolute margins between MUSC and all other AAMC schools when organized on a continuum from “classroom/conceptual” to “practical/applied”, an area of opportunity emerges for MUSC students to get more experience in the application of interprofessional teamwork (see Figure 4).

A similar trend emerges when we examine trends in student ratings of the required IP710 course (n=~400 per semester). Over time, we observe upward trends in student ratings of their “knowledge about specific

Figure 5. Least-square regression trend-lines of student survey ratings over time on 3 key items from the IP710 course evaluation



This underwhelming finding again suggests again that MUSC has an opportunity to improve student learning in the application of IP teamwork and collaboration.

From 2012 to 2014, MUSC and the Medical Center, in conjunction with Press-Ganey, administered an employee satisfaction survey. One of the items of interest used was “In relation to the work I do, the quality of interprofessional teamwork is good.” When we divide the respondents into three categories representing the continuum from classroom to clinical (total n=~5000), a familiar trend emerges. We see a high degree of favorable responses to the interprofessional teamwork item among employees in the academic/classroom/non-clinical areas, but as we move to the integrated academic/clinical and to the purely clinical service-delivery areas, the favorable-response-rate declines (see Figure 7). These findings support the notion that interprofessional teamwork has begun to infiltrate and impact the academic domains of the Institution but that there is work to do when it comes to the application of teamwork in the clinical settings at MUSC.

While these results do not directly represent student perspectives per se, these findings are of great importance insofar as they speak to the nature of the clinical learning environment as it pertains to its capacity to support and facilitate teamwork among students.

Lastly, in order to determine the impact of interprofessional education at MUSC on patient satisfaction with clinical services, we examined data from our Avatar Patient

Satisfaction Survey from 2010-2014 (n=414). We focused on one specific item, “There was good teamwork among the doctors, nurses, therapists, and other staff who cared for me.” Data suggest a relatively stable trend over time with a mean score of 90.75 out of 100. While, this seems to suggest reasonably positive perceptions of teamwork by patients, when all of the items from the Patient Satisfaction Survey are rank-ordered from best (MUSC’s highest scoring items) to worst (areas that patients were highly dissatisfied with), the interprofessional

Figure 6. Least-square regression trend-lines of student survey ratings over time on 3 key items from the IP710 course evaluation

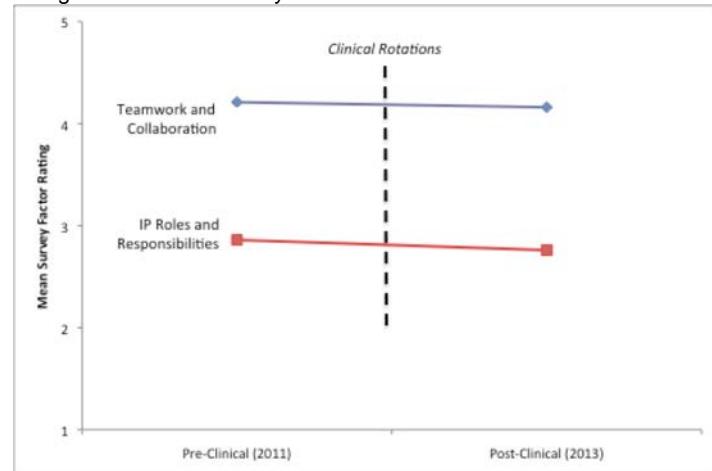
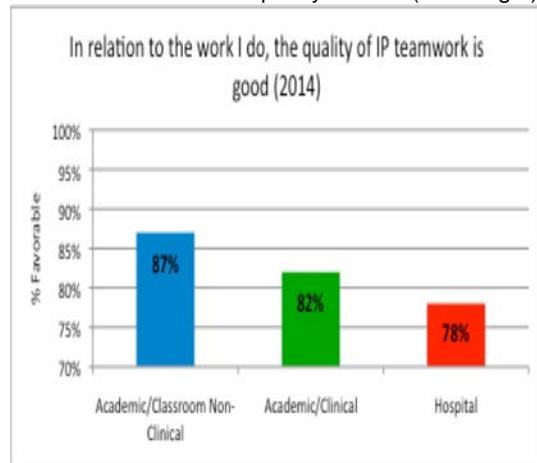


Figure 7. Employee satisfaction results in reference to interprofessional teamwork organized from purely academic/classroom to purely clinical (left to right)



teamwork item falls into the 35<sup>th</sup> percentile. Teamwork is in the bottom half of all of the things patients see as strengths of clinical services offered by MUSC. When considering the University's emphasis on developing interprofessional educational initiatives, it is disappointing that these efforts are not yet having a positive impact on the community we serve.

**Overall,** we have successfully established a rich academic environment for exposing students to interprofessional concepts and ideas at MUSC, and student ratings of their educational experiences suggest excellent knowledge about, and appreciation for interprofessional concepts. However, opportunities exist for the development of applied teamwork skills and real-world interprofessional clinical and research experiences as our data suggests that we fall short of adequately transitioning IP concepts from classroom to clinic. From the faculty and staff perspective, perceptions regarding the application of interprofessional teamwork concepts appear strong in academic/classroom settings, but there is a relative weakness in interprofessional applications in the clinical arena. And, despite our interprofessional classroom and academic efforts, patients do not view the services they receive at MUSC to be especially strong with respect to coordinated, interprofessional, team-based care concepts.