

Transforming Inter-professional Education Through Simulation: Going the Extra Mile

Cindy Fenske DNP, RN, CNE, Peggy McLaughlin PhD, RN, Anita Simmons MSN, RN, Betsy Cambridge, BSN, RN

Concordia University Ann Arbor School of Nursing

Purpose

- ❖ Provide opportunities for nursing and justice and public policy (JPP) students to learn from and about each other's programs
- ❖ Expose students to opportunities to work in teams
- ❖ Engage our students in experiences that required the use of effective personal and patient safety strategies

Background

- ❖ Simulation
 - provides a safe, non-threatening environment
 - improves confidence, competence, decision-making ability, and clinical judgment
- ❖ Typical inter-professional education (IPE)
 - involves MD, RN, RT, SW, NP, PA, Pharmacy
 - effective for the development of collaborative, highly functioning health care teams
- ❖ Non-traditional IPE rarely used
- ❖ Typical IPE options not available at CUAA
 - developed a unique partnership with JPP

Methods

- ❖ Four simulations were created to address safety and teamwork with vulnerable populations
 - issues of elder abuse, domestic violence, veterans with PTSD, and patients with brain injuries were addressed
 - created simulations to enhance learning about patient and personal safety, communication skills, collaboration, and role definition
- ❖ Simulations focused on patient-centered care skills specific for Nursing and JPP
- ❖ 27 nursing students and 35 JPP students completed the simulations and the evaluation at the end of the semester

Implications

- ❖ Our initiative holds promise for extending IPE to include non-traditional members of the care team
- ❖ Increasing appreciation and knowledge for different team member roles
- ❖ IPE promotes efficient use of resources as it affords opportunities to share infrastructure, institutional knowledge and viewpoints
- ❖ Future IPE simulations have been planned with additional non-traditional partners
 - Pre-seminary, education, child life specialists, family life



Results

- ❖ 89% indicated that this experience increased their awareness of safety concerns
- ❖ 90-97% agreed they could demonstrate strategies to reduce the risk of harm to self and others
- ❖ 93% acknowledged the unique attributes that members with different professional orientations bring to a team
- ❖ Participation improved inter-disciplinary dialog skills, and heightened appreciation for other perspectives
- ❖ Students commented that they felt more prepared to handle stressful real life situations
- ❖ Student feedback indicated a new appreciation for the importance of safety as a critical aspect of quality care





MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

The decline in attitudes towards physician-nurse collaboration from medical school to residency

Samantha Kempner, MD; Melissa Brackmann, MD; Emily Kobernik, MPH, CPH;
Bethany Skinner, MD; Maya Hammoud, MD; Helen Morgan, MD

Background

- Effective interprofessional collaboration decreases healthcare costs, improves job satisfaction, and improves patient care outcomes.
- What is the impact of clinical exposure on medical students' and residents' attitudes towards physician-nurse collaboration?

Methods

Jefferson Survey of Attitudes Towards Physician Nurse Collaboration

Validated Questionnaire

75% response
18.4% response

Medical Students
OB/GYN clerkship

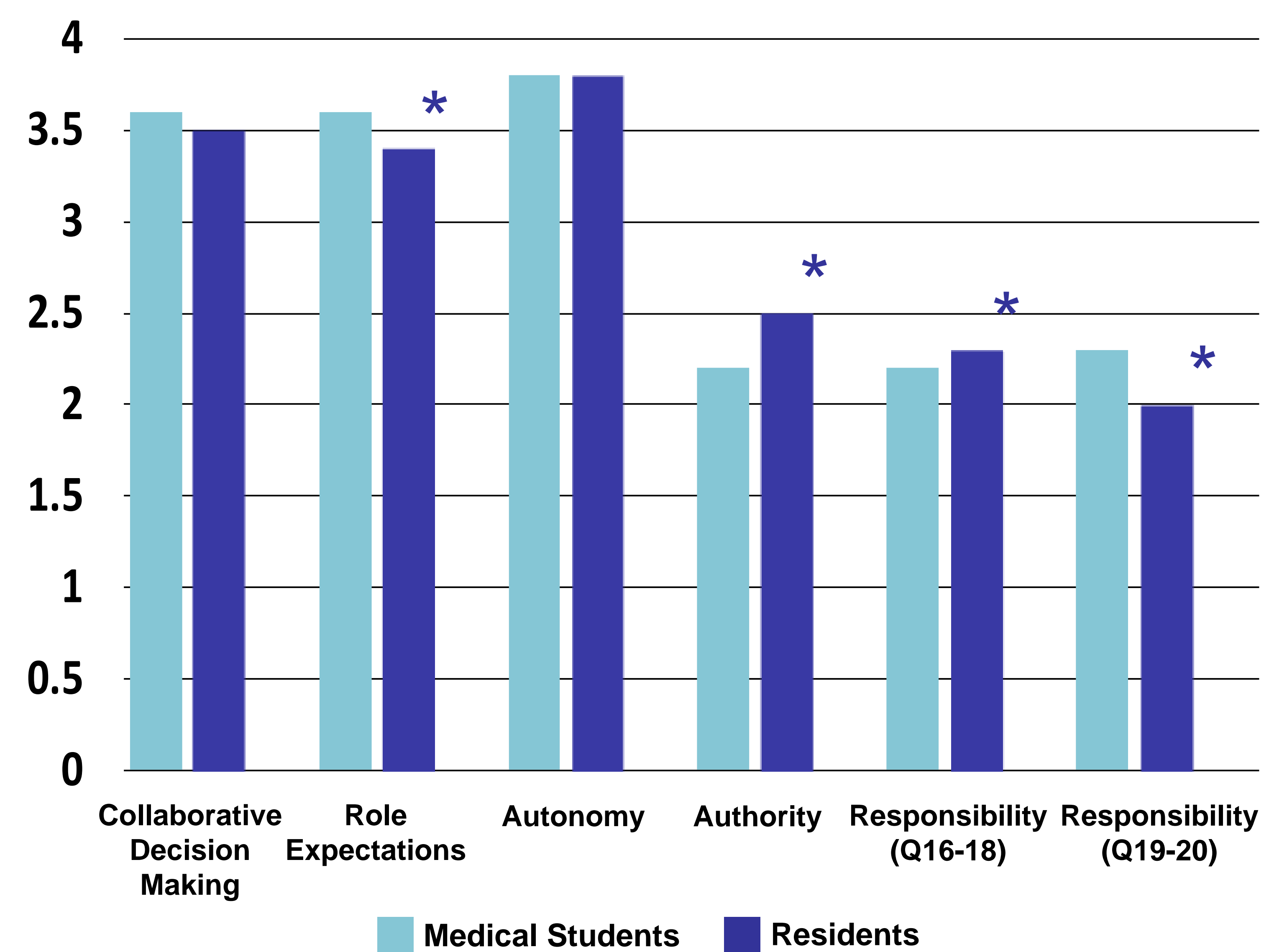
Residents
Surveyed via e-mail
in July

• Scores compared using Student's t-tests

Results

	Jefferson Survey of Attitudes	Students n=129	Residents n=295	p-value
Collaborative Decision Making	1 During their education, medical and nursing students should be involved in teamwork in order to understand their respective roles	3.68 ± 0.56	3.61 ± 0.62	0.25
	2 Interprofessional relationships between physicians and nurses should be included in their educational programs	3.53 ± 0.67	3.56 ± 0.59	0.67
	3 A nurse should be viewed as a collaborator and colleague with a physician rather than his or her assistant	3.78 ± 0.49	3.53 ± 0.70	<.0001
	4 There are many overlapping areas of responsibility between physicians and nurses	3.39 ± 0.70	3.31 ± 0.67	0.28
	5 Physicians should be educated to establish collaborative relationships with nurses	3.71 ± 0.51	3.60 ± 0.62	0.07
	6 Physicians and nurses should contribute to decisions regarding the hospital discharge of patients	3.54 ± 0.61	3.41 ± 0.68	0.05
	7 Nurses should also have responsibility for monitoring the effects of medical treatment	3.59 ± 0.52	3.59 ± 0.58	0.97
Role Expectations	8 Nurses are qualified to assess and respond to psychological aspects of patient's needs	3.50 ± 0.61	3.48 ± 0.63	0.71
	9 Nurses should be involved in making policy decisions affecting their working conditions	3.73 ± 0.51	3.65 ± 0.56	0.19
Autonomy	10 Nurses have special expertise in patient education and psychological counseling	3.45 ± 0.67	3.14 ± 0.84	<.0001
	11 Nurses should clarify a physician's order when they feel that it might have the potential for detrimental effects on the patient	3.84 ± 0.37	3.89 ± 0.32	0.19
Authority	12 Nurses should be involved in making policy decisions affecting their working conditions	3.71 ± 0.49	3.59 ± 0.56	0.05
	13 Nurses should be accountable to patients for the nursing care they provide	3.81 ± 0.43	3.91 ± 0.29	0.03
Responsibility for Patient Monitoring	14 The primary function of the nurse is to carry out the physician's orders	2.02 ± 0.72	2.42 ± 0.81	<.0001
	15 Doctors should be the dominant authority in all health care matters	2.36 ± 0.84	2.65 ± 0.87	0.001
	16 Physicians should be primarily responsible for managing the education and psychological counseling needs of the patient	2.74 ± 0.70	2.48 ± 0.70	0.0008
	17 Nurses want to exert more authority in patient care than they are capable of assuming	1.99 ± 0.65	2.42 ± 0.81	<.0001
Responsibility for Patient Monitoring	18 As nurses become more highly educated, they lose interest in providing bedside care	1.83 ± 0.68	2.12 ± 0.81	0.0002
	19 Patients usually feel more open to talking about their health care concerns with nurses than with physicians	2.61 ± 0.71	2.40 ± 0.74	0.008
	20 Nurses should be permitted to initiate changes in patient care without prior physician approval	1.93 ± 0.70	1.54 ± 0.65	<.0001

Pooled Survey Results By Domain



Conclusion

- Resident physicians' perceptions of the nurse-physician relationship are significantly less favorable than the views of third year medical students.
- Differences particularly pronounced in the areas of **authority and responsibility**.

References

- Hojat M, F. S. (1999). Psychometric properties of an attitude scale measuring physician-nurse collaboration. *Evaluation & The Health Professions*, 208-220.
- Tang C.J., C. S. (2013). Collaboration between hospital physicians and nurses; An integrated literature review. *International Nursing Review*, 60, 291-302.
- Thistlethwaite, J. (2012). Interprofessional education: a review of content, learning and the research agenda. *J. Medical Education*, 46: 58-70.
- Zwarenstein M, G. J. (2009). Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews*.

Background

- ❖ Silos of health care education continue to exist throughout many universities despite a major paradigm shift towards interprofessional care (IPC) (Haggarty and Dalcin, 2014).
- ❖ Further, new healthcare graduates are expected to work collaboratively in medical centers and hospitals providing client focused care.

Objective

- ❖ The goal of these interprofessional faculty was to utilize an already existing community partnership with Meals on Wheels (MOW) to intentionally modify the student experience (same professional vs inter-professional) and determine the impact on student learning.
- ❖ This approach is consistent with the National Academies of Sciences, Engineering, and Medicine (2016) to educate health professionals regarding the social determinants of health, by engaging students through interprofessional projects in and with communities.

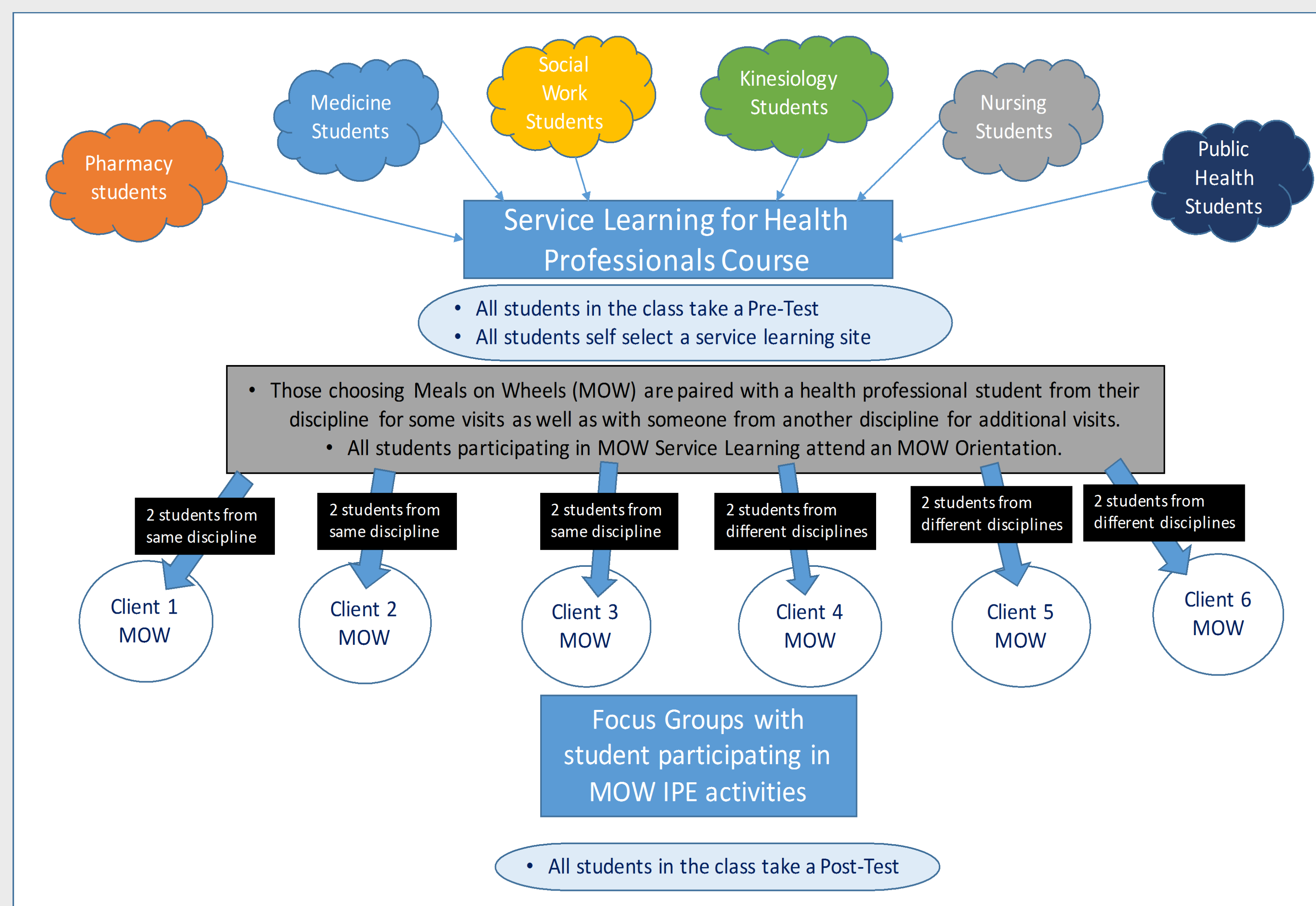
IPE Course/Activity

- Service Learning for Health Professionals was expanded to include Medicine, Pharmacy, Public Health, Nursing, Social Work and Kinesiology.
- ❖ This course is a 2-credit course for both undergraduate and professional students. 72 students were enrolled in the course.
 - ❖ 12-13 students had their service learning at MOW.

Impact of Interprofessional Education in a Community Setting on Student Attitudes and Learning: A Pilot Study

Amber Dallwig MSN¹, Joseph House MD², Karen Farris PhD³, Leslie Smith DPT⁴, Tazin Daniels PhD⁵

1 School of Nursing, 2 Medical School, 3 College of Pharmacy, 4 School of Health Professional and Studies (Flint), 5 Center for Research on Learning and Teaching; University of Michigan



Results

Table 1. Demographic Characteristics (n=47)

Variable	Percent
Age (years)	
20-22	36.2
23-25	42.6
>25	14.9
Gender	
Female	70.2
Male	23.4
Race	
White/Caucasian	57.4
Asian/Pacific Islander	25.5
Other	10.6
Program	
Pharmacy	48.9
Kinesiology	21.3
Nursing	10.6
Other	12.8
Years of Education	
1-2	19.1
3-4	53.2
5-7	14.9

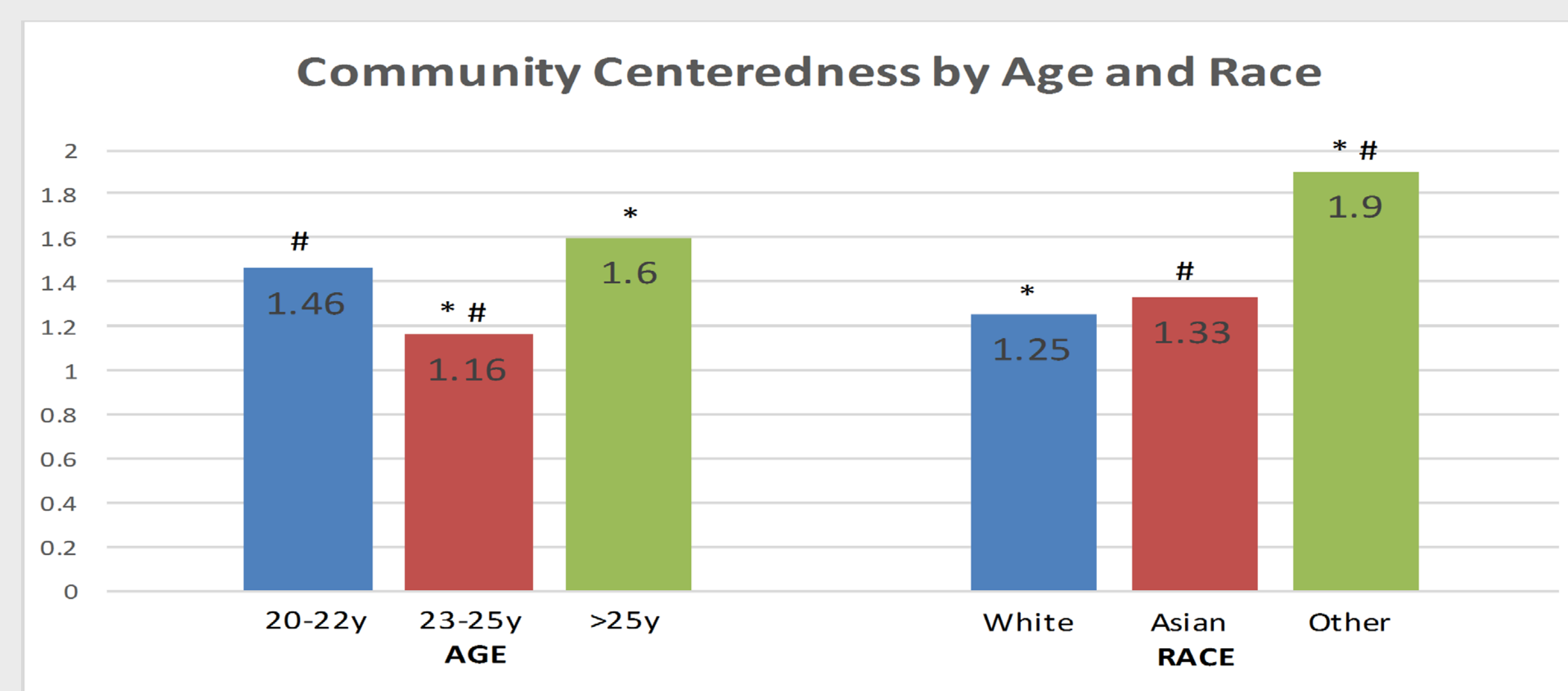


Table 2. Average Scores for the IPAS Subscales

Variable	Mean	SD
Teamwork Roles and Responsibilities	1.68	0.33
Patient-centeredness	1.16	0.35
Interprofessional Biases	2.02	0.69
Diversity and Ethics	1.18	0.33
Community Connectedness	1.34	0.46

This material is based upon work supported by the University of Michigan's Center for Interprofessional Education, which was funded through the U-M Transforming Learning for a Third Century (TLTC) grants program. Additional project support was provided by the Center for Research on Learning and Teaching and the Interprofessional Leadership Fellows program.

Method (Figure)

- ❖ **Design.** A mixed method approach with pre- and post-experiment and a focus group
- ❖ **Participants.** All students enrolled in the course were asked to participate in the surveys. A cohort of students provided their service learning at MOW and were asked to participate in additional study activities.
- ❖ **Intervention.** Students assigned to MOW conducted up to 6 intraprofessional nutritional assessments and up to 6 interprofessional nutritional assessments.
- ❖ **Data collection.** All students (n=72) were asked to complete the Inter-professional Attitude Scale (IPAS) at the beginning and end of the semester. The IPAS focuses on core competencies (Norris et al., 2015).
- ❖ Students performed nutritional assessments for MOW clients.
- ❖ IRB was exempt status.

Results (to date)

- ❖ 65% of students (47 of 72) completed the baseline survey. The majority were between 23-25 years old, and 70% were female (Table 1). Almost half were student pharmacists.
- ❖ IPAS average scores were positive, and patient-centeredness and diversity/equity showed the strongest (lowest) agreement (Table 2).
- ❖ The community connectedness subscale varied by age and race, where respondents between 23 to 25 had more positive (lower) attitudes and Other race had less positive (higher) attitudes (Figure).

References

- Haggarty, D., & Dalcin, D. (2014). Student-run clinics in Canada: An innovative method of delivering interprofessional education. *Journal of Interprofessional Care*, 28(6), 570-572.
- Interprofessional Education Collaborative. (2016). *Core competencies for interprofessional collaborative practice: 2016 update*. Washington, DC: Interprofessional Education Collaborative.
- National Academies of Sciences, Engineering, and Medicine. (2016). *A framework for educating health professionals to address the social determinants of health*. Washington, DC: The National Academies Press.
- Norris, J., Carpenter, M. J. G., Eaton, M. J., Guo, J. W., Lassche, M. M., Pett, M. A., & Blumenthal, D. K. (2015). Development and Construct Validation of the Interprofessional Attitudes Scale. *Academic Medicine: Journal of the Association of American Medical Colleges*, 90(10), 1394-1400.

Register Now for Winter 2017

Service Learning for Health Professionals
Pharmacy 503/Social Work 573/Public Health 503
Wednesdays 3:00-5:00pm at the School of Dentistry

2 Credits
8 Interactive class sessions
20 Hours of direct community service



- Credit for community service
- Meaningful dialogue
- Interprofessional perspectives

For more information go to:
pharmacy.umich.edu/service

Nursing students' oral health-related education, knowledge and behavioral intentions: Comparing dental and nursing students' attitudes

L. Liu, D. Raghavan; Mentor: Marita R. Inglehart & C Darling-Fisher
University of Michigan - School of Dentistry, Ann Arbor, MI



ABSTRACT

Objectives: The objectives were to analyze junior and senior nursing students' (a) oral health-related educational experiences, (b) knowledge and (c) behavioral intentions, and (d) to compare the value that dental students vs. nursing students place on having nursing students well educated, knowledgeable and skilled in oral health-related care.

Methods: Data were collected from 146 junior and 64 senior nursing students and from 100 first year dental students.

Results: Two thirds of the nursing students had learned about patients' oral health and one third about pediatric patients' oral health. While the majority of nursing students had learned about how medications affect oral health and about dental care providers, very low percentages had learned about any additional oral health-related issues. While nearly all nursing students were knowledgeable about the relationships between medications, medical treatments and oral health, very small percentages indicated that they knew how to examine or diagnose any oral health-related problems. However, their intentions to include oral health-related behavior in their future professional lives were on average quite positive. A comparison of the importance ratings of nursing and dental students showed that dental students considered it as more important than nursing students for nursing students to learn about oral health issues in clinical settings, about the relationships between oral and systemic health, about being able to recognize abnormal intraoral pathologies, and how to collaborate with dental care providers.

Conclusions: Nursing students do not receive a strong oral health-related education and therefore are not sufficiently knowledgeable and skilled to engage in oral health-related interprofessional care. However, the nursing students are interested in such activities and dental students value the nursing students' collaboration highly.

INTRODUCTION

The first U.S. Surgeon General Report on Oral Health drew attention to the fact that there are patient populations in the U.S. such as patients from socio-economically disadvantaged and/or minority backgrounds and children who experience severe challenges when seeking oral health care services (1). Engaging nurses and medical professionals in oral health-related care could offer opportunities for increasing prevention of oral disease and even access to preventive services such as applying fluoride varnish and dental sealants (2). In addition, nurses also are on the frontline for care for hospitalized patients and could therefore assure that these patients receive the oral health screenings they may need before surgeries as well as engage in optimal oral health promotion while being hospitalized (3). This study therefore explores nurses' oral health-related educational experiences, knowledge, behavior and dental students' thoughts concerning oral health-related education for nurses.

AIMS

The objectives were to analyze junior and senior nursing students'

- oral health-related educational experiences,
- knowledge and
- behavioral intentions, and
- to compare the value that dental students vs. nursing students place on having nursing students well educated, knowledgeable and skilled in oral health-related care.



METHODS

IRB approval was obtained from the IRB for the Behavioral and Health Sciences at the University of Michigan.

Respondents: Data were collected from 146 junior and 64 senior nursing students and from 100 first year dental students (see Table 1).

Procedure: The students either responded to paper-pencil surveys or to web-based surveys.

Table 1: Overview of the background characteristics

Background characteristics	Nursing students	Dental students
Number of students	210	100
Year in program:	N3: 146 N4: 64	D1: 100
Gender:		
- Male	5%	65%
- Female	95%	35%
Age:		
- Mean	21.59	24.24
- SD	3.172	2.767
- Range	19-48	20-35

RESULTS

The **first objective** was to analyze junior and senior nursing students' oral health-related educational experiences. Table 2 shows that two thirds of the nursing students had learned about patients' oral health and one third about pediatric patients' oral health. While the majority of nursing students had learned about how medications affect oral health and about dental care providers, very low percentages had learned about any additional oral health-related issues.

Table 2: Nursing students' education about oral health during their undergraduate nursing education

Did you learn about:	%Yes	# hours: Mean Range
- patients' oral health?	68%	1.10 0-40
- pediatric patients' oral health?	32%	0.60 0-40
- oral health care for hospitalized pediatric patients?	25%	0.25 0-10
- how medications may affect oral health?	57%	0.69 0-10
- how different treatment/interventions affect children's oral health?	26%	0.47 0-8
- how to assess oral health of hospitalized children?	26%	0.22 0-8
- how to promote good oral health of hospitalized children?	28%	0.23 0-8
- how to clean children's teeth?	21%	0.16 0-8
- when to seek dental care for children who undergo procedures requiring dental clearance?	13%	0.05 0-4
- when to refer children to dental professionals?	12%	0.04 0-4
Did you receive education/information from dental care providers?	41%	n/a

The **third objective** was to analyze junior and senior nursing students' oral health-related behavioral intentions. Table 4 shows that their thoughts about including oral health-related issues in their future professional lives were on average quite positive.

Table 4: Nursing students' oral health-related behavioral intentions

Thoughts about professional future in my life	1	2	3	4	5	Mean
I would like to work with pediatric patients.	9%	8%	19%	20%	44%	3.84
I intend to provide oral health education for adult patients.	6%	12%	31%	33%	17%	3.43
I intend to provide oral health education for children and parents.	5%	7%	21%	43%	25%	3.76
I will assure that I identify patients with oral health issues.	1%	3%	26%	45%	25%	3.90
I will provide oral hygiene services for hospitalized patients.	2%	3%	21%	44%	31%	4.01
I will make sure that pts with poor oral health will be referred to dentists.	1%	1%	17%	44%	38%	4.17
I will attend CE courses about oral health issues.	5%	14%	41%	27%	13%	3.30

Legend: Answers ranged from 1 = disagree strongly to 5 = agree strongly.

The **fourth objective** was to compare the value that dental students vs. nursing students place on having nursing students well educated, knowledgeable and skilled in oral health-related care. Table 5 shows a comparison of the importance ratings by nursing and dental students. This provides evidence that dental students considered it as more important than nursing students that nursing students learn about oral health issues in clinical settings, about the relationships between oral and systemic health, about being able to recognize abnormal intraoral pathologies, and how to collaborate with dental care providers.

The **second objective** was to analyze nursing students' oral health-related knowledge. Table 3 shows that while nearly all nursing students were knowledgeable about the relationships between medications, medical treatments, and oral health, very small percentages indicated that they knew how to examine or diagnose oral health-related problems.

Table 3: Nursing students' knowledge related responses

Knowledge questions:	Frequency of "Yes"	Percentage
Age when pediatric patients see dentist: Correct response (<=1)	33	17%
Can medical conditions affect pediatric patients' oral health?	206	100%
Can medications affect pediatric patients' oral health?	207	100%
Can medical tx affect pediatric patients' oral health?	207	100%
Can pediatric patients' oral health affect their systemic health?	205	99%
Is it recommended to brush baby teeth?	158	78%
Is using a foam swab to clean a patient's mouth effective?	116	56%
Is it necessary to refer a pediatric patient if oral health problems are observed?	203	99%
Is it important to give oral health instruction to caregivers of hospitalized pediatric patients?	205	99%
Do you have sufficient knowledge to perform/provide:		
- Oral exams	22	11%
- Fluoride Varnish Application	13	6%
- Oral Hygiene Procedures	42	20%
Can you diagnose:		
- Dental Caries	19	9%
- Gingivitis	28	14%
- Mucositis	20	8%
- Intraoral viral infections	6	3%
- Intraoral fungal infection	27	13%

Table 5: Comparison of nursing vs. Dental students' attitudinal responses

It is important that nurses	Who?	1	2	3	4	5	Mean
- learn about oral health in nursing school.	Dental	1%	1%	12%	28%	58%	4.40
	Nursing	1%	2%	10%	49%	38%	4.25
- learn about oral health in clinical settings.	Dental	0%	0%	11%	28%	61%	4.49
	Nursing	0%	3%	7%	52%	38%	4.25
- learn about oral health in continuing education.	Dental	0%	2%	13%	42%	42%	4.25
	Nursing	1%	3%	15%	50%	32%	4.09
- know about the relationship between oral and systemic health.	Dental	0%	0%	7%	25%	68%	4.61
	Nursing	1%	1%	6%	41%	51%	4.41
- know about how medical conditions affect children's oral health.	Dental	0%	1%	5%	30%	64%	4.57
	Nursing	1%	2%	6%	47%	45%	4.34
- know about how medications affect children's oral health.	Dental	0%	1%	8%	32%	59%	4.48
	Nursing	1%	2%	7%	44%	46%	4.35
- know about how medical treatments / interventions affect children's oral health.	Dental	0%	0%	7%	36%	57%	4.50
	Nursing	1%	1%	7%	46%	45%	4.35
- know the signs and symptoms of dental disease in children.	Dental	2%	6%	33%	58%	100%	4.48
	Nursing	1%	2%	11%	38%	48%	4.34
Can perform/provide:							
- Oral exams	Dental	3%	10%	22%	33%	31%	3.80
	Nursing	2%	11%	29%	33%	24%	3.72
- Oral hygiene procedures	Dental	9%	18%	25%	22%	25%	3.36
	Nursing	2%	7%	24%	36%	31%	3.94
- Oral health education	Dental	4%	6%	14%	30%	46%	4.07
	Nursing	1%	6%	22%	40%	31%	3.99
Can recognize:							
- Dental caries	Dental	5%	16%	23%	27%	28%	3.58
	Nursing	3%	13%	26%	31%	27%	3.66
- Gingivitis	Dental	4%	10%	17%	32%	36%	3.87
	Nursing	2%	12%	24%	33%	29%	3.77
- Abnormal intraoral pathologies	Dental	4%	6%	13%	29%	48%	4.10
	Nursing	1%	10%	23%	36%	30%	3.84
- perform oral hygiene in hospitalized pediatric patients.	Dental	7%	15%	24%	29%	26%	3.50
	Nursing	0%	3%	11%	38%	49%	4.33
- collaborate with dental care providers.	Dental	1%	1%	10%	30%	58%	4.42
	Nursing	1%	3%	17%	37%	42%	4.18
- use an oral assessment guide.	Dental	2%	4%	13%	42%	39%	4.11
	Nursing	2%	2%	20%	39%	38%	4.09
- perform an oral assessment with every patient.	Dental	4%	10%	24%	32%	39%	3.73
	Nursing	2%	7%	21%	38%	32%	3.91

DISCUSSION

Given that substantial percentages of U.S. citizens are still not receiving the oral health care services they need, an increase in oral health-related interprofessional care (IPC) is required. Assuring that nursing students will be better educated about oral health-related care for their patients could increase nurses' involvement in ensuring that their hospitalized patients engage in oral hygiene efforts and are screened for oral disease that could compromise their care. The fact that dental students' attitudes concerning nursing students' oral health-related education were rather positive is a promising starting point for future IPC.

CONCLUSIONS

Nursing students do not receive a strong oral health-related education and therefore are not sufficiently knowledgeable and skilled to engage in oral health-related interprofessional care. However, they are interested in such activities and dental students value the nursing students' collaboration highly. Educational efforts are needed to prepare nurses optimally for IPC with dental care providers.

REFERENCES

- U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.
- Czarnecki GA, Klooster SJ, Boynton JR, Inglehart MR. Nursing and Dental Students' and Pediatric Dentistry Residents' Responses to Experiences with Interprofessional Education. J Dent Educ 2014;78(9):1301-12.
- Nicopoulos M, Brennan MT, Kent ML, Brickhouse TH, Rogers MK, Fox PC, Lockhart PB. Oral health needs and barriers to dental care in hospitalized children. Spec Care Dentist 2007;27(5):206-11.

ACKNOWLEDGEMENT

We want to thank the faculty members for allowing us to distribute the surveys at the end of their classes to the students and all the students who participated in the surveys.

Interprofessional Education Seminar And Clinical Experience at a Medical Student Run Free Clinic

Jolene R. Bostwick, PharmD, BCPS, BCPP; Diana Ellis, DDS; Marilyn S. Filter, PhD, CNM, MS, RN
Emily Ginier, MLIS; Thomas Templin, PhD; Gina Shereda, PhD.



Background

There is currently a potential gap within our health science curricula: students within health professions are educated in silos. There is a need to bring students together to engage in interprofessional education and Collaboration (IPEC) activity whereby they address healthcare issues collaboratively and explore the opportunities.

Project Goal: Students will demonstrate a readiness and effectiveness in engaging as an interprofessional team.

Objectives

1. To demonstrate IPEC competencies
2. To partner with an established student run medical clinic
3. To increase collaboration between health science professions through clinical service provided to patients
4. To improve patient care experiences
5. To address gap within health science science curricula
6. To connect clinic experience with semester-long seminar course

Objectives for students enrolled based on the four domains of IPEC competencies :

1. To learn more about the concept of interprofessional communication
2. To enhance understanding of the needs of underserved populations
3. To develop team building and communication skills
4. To develop assessment skill when working with the underserved in a multidisciplinary team



Course goals:

Prepare students to practice interprofessionally

Improve the collaboration between professions at the student-run clinic underserved populations.

Course Description

A 2 credit interprofessional education (IPE) seminar/clinical will be offered in the fall of 2017. Students from Kinesiology, Pharmacy, Dentistry, and Nursing may enrolled in the course.

Students will be introduced to interprofessional education and collaboration and be prepared to interact with students and professionals in various healthcare professions at the Medical School Student Run free clinic in Pinckney, Michigan.

Students will attend supervised clinics throughout the semester

IPEC Core Competencies

Values and Ethics	Work with individuals of other professions to maintain a climate of mutual respect and shared values
Roles and Responsibilities	Use the knowledge of one's own role and those of other professions to appropriately assess and address the healthcare needs of the patients and populations served
Interprofessional Communication	Communication with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease
Team and Teamwork	Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient/population-centered care that is safe, timely, efficient, effective and equitable

Discussion

Potential Benefits:

Students will experience and work in IPE groups.

Students will gain an appreciation for interprofessional collaboration, especially surrounding the roles of various disciplines.

Through the seminar and experiential portions, students will be able to directly apply and discuss what they have learned in each setting.

Patients will gain increased coordinated and comprehensive care for improved health outcomes.

Potential Risks:

It can a challenge to achieve acceptance and buy-in from medical professionals who manage the clinic.

It can be difficult to receive buy-in, commitment, and interest from students to working in this clinic, which is off campus.

Acceptance from patients who are currently receiving care from medical students may have concerns about working with professionals who are in healthcare fields other than medicine.

Student Outcomes

- Reflections journal
- Group presentation of case presentation in PowerPoint format
- Executive summary for clinic
- Group posters for presentation at the UofM IPEC conference





The Innovative use of a Paging Simulation to Assess Professionalism and Communication competencies

Carrie BELL MD, Emma LAWRENCE MD, Holly POWERS CNM, Joanne BAILEY CNM, Helen MORGAN MD

Department of Obstetrics and Gynecology, University of Michigan Health System, Ann Arbor, Michigan

BACKGROUND

The Milestones are the knowledge, skills, attitudes, and other attributes for the six ACGME Competencies organized in a developmental framework from less to more advanced. In Obstetrics and Gynecology, Level One is the level expected of an incoming intern.

Medical schools currently are struggling to create individual curricula to meet the Milestones Level One requirements. Simulated pages have been used to prepare fourth year medical students for patient care responsibilities. Communication and professionalism competencies additionally present assessment challenges at the undergraduate medical education level.

STUDY DESIGN

Fourth year medical students enrolled in a four week resident preparation course for OB/GYN. The paging curriculum was a portion of this course. All students participated in 2015 and 2016. Certified Nurse Midwives (CNM) completed a one hour training session prior to initiating and directing the simulation. Each CNM simulated the role of a floor nurse. A standard page was sent. The time from when a page was sent to when it was returned was recorded. The CNM next gave a standard sentence or two. Subsequently, she and the student completed the simulation. Upon conclusion of each case, the CNM assessed level one communication competencies for each student using a 100mm visual analogue scale and rated global effectiveness in communication using a 1-10 scale. Finally, gave the student immediate feedback on clinical care and communication. (Fig:2)

LIMITATIONS

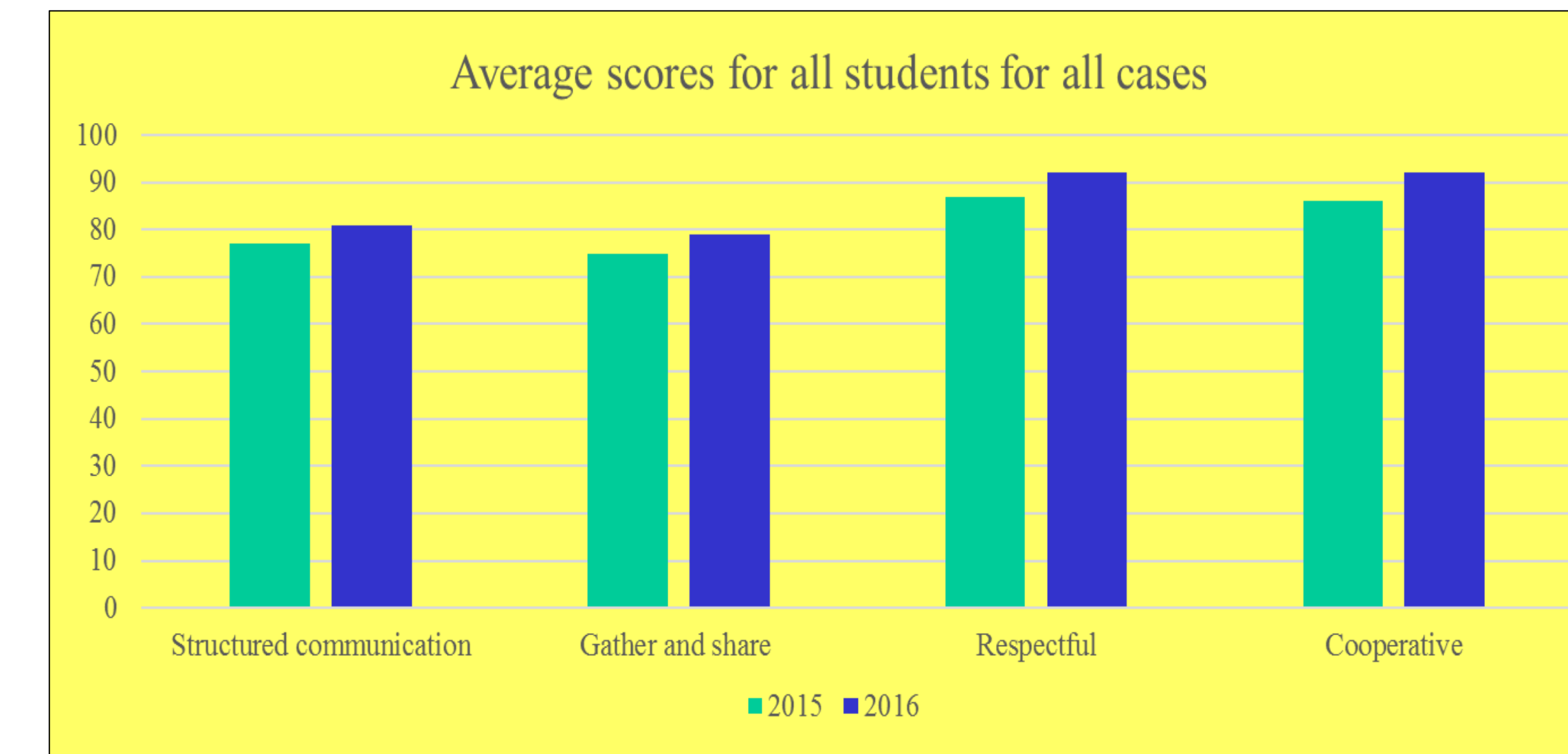
There are several limitations to the study. The sample size spans two years and is small. Also, annually, portions of the simulation and curriculum are changed, including the cases, the student didactic sessions, and CNM training sessions. This makes comparisons across years challenging.

CONCLUSIONS

Despite the limitations, this paging simulation explores the possibility that a paging based curriculum can assess Professionalism and Communication level one competencies for medical students entering residency in Obstetrics and Gynecology. An opportunity exists to improve structured conversation and gathering/sharing information over the telephone through simulations such as these. Lastly, this structure allows for immediate feedback on clinical care and communication

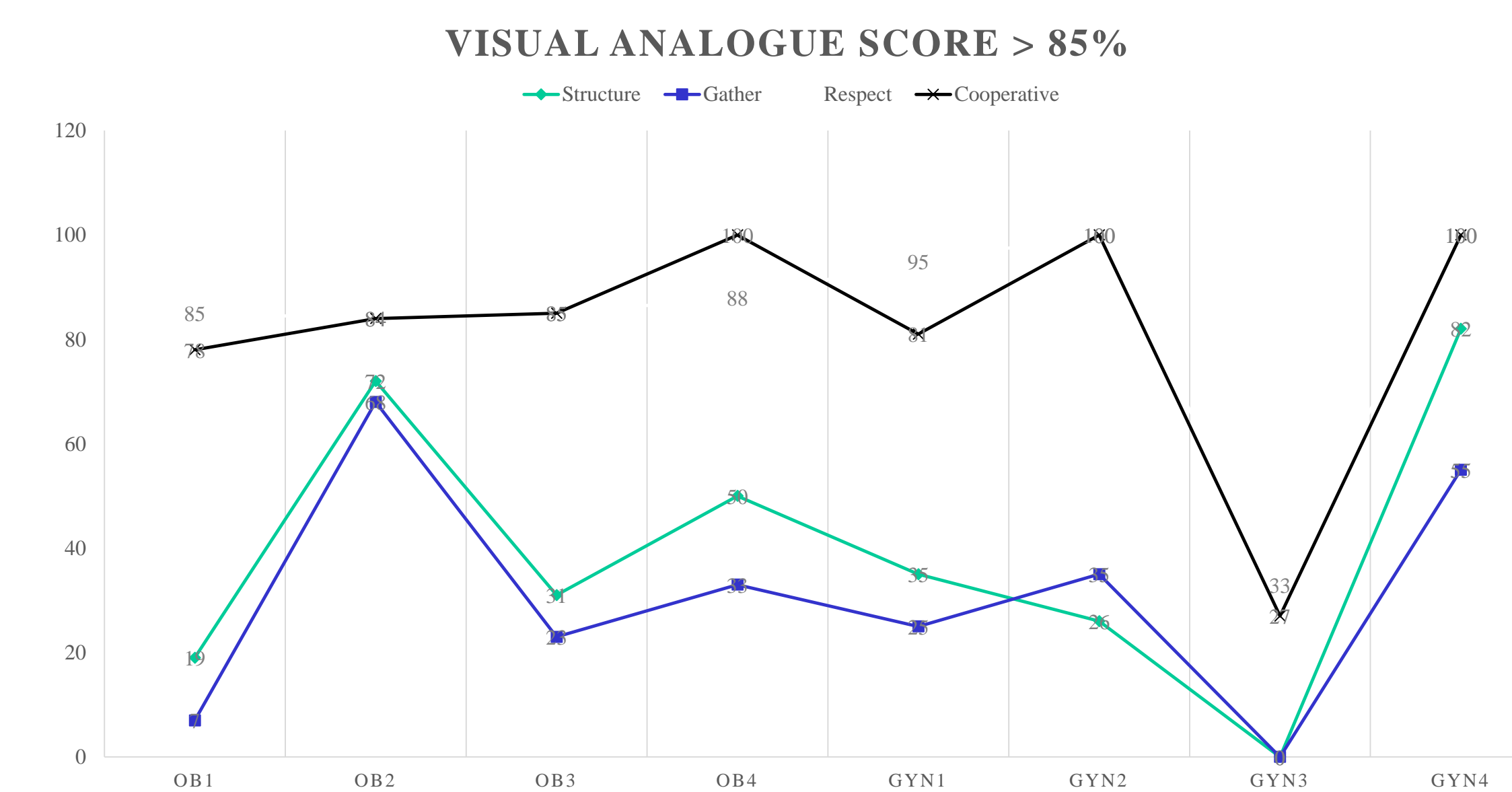
REFERENCES

The Obstetrics and Gynecology Milestones Project. Available at <http://acgme-nas.org/milestones.html>. Accessed Jan 19,2014.
Santen, S, Rademacher N, Heron S, Khandelwal, S, Hauff, S, Hopson L. How competent are emergency medicine Interns for Level 1 Milestones: Who is responsible? Acad Emerg Med. 2013; 20: 736-739
Schwind, C, Boehler M, Markwell, S, Williams R, Brenner M. Use of simulated pages to prepare medical students for internship and improve patient safety. Acad Med. 2011; 86 (1): 77-84.
Blum NJ, Lieu TA. AJDC 146:July 1992: 806-808.
Katz MH, Schroeder SA. NEJM. Dec 1988 319 (24):1585-1589
J Grad Med Educ. 2011 Dec; 3(4): 481-486.
on treatment use for perinatal depression. J Womens Health 2006; 15:1195.



Graph 2: Average score for Milestones for all cases

The mean score for ‘respectful when communicating’ and ‘cooperative when communicating’ was 87 and 86% respectively. Assessment of ‘structured when communicating’ had a mean of 77% and ‘able to gather and share information’ 75%. The overall mean score for global effectiveness of communication during the scenario was 9. (Graph 2)



Graph 3: Number of students evaluated above the 85th centile on the visual analogue score in the competencies.

Six cases (four obstetrical and two gynecology) were the same both years. The two eliminated cases were included (GYN 3 and 4). Graph 3 depicts that for some of the cases, 100% of the students are respectful and cooperative when communicating during the simulation. However, fewer students are able to communicate in a structured manner over the phone, gathering and sharing information for the same cases.

A simulated paging curriculum provides an opportunity to assess and supply feedback on the level one milestone of Professionalism and Communication competencies for medical students matching into OBGYN residencies.

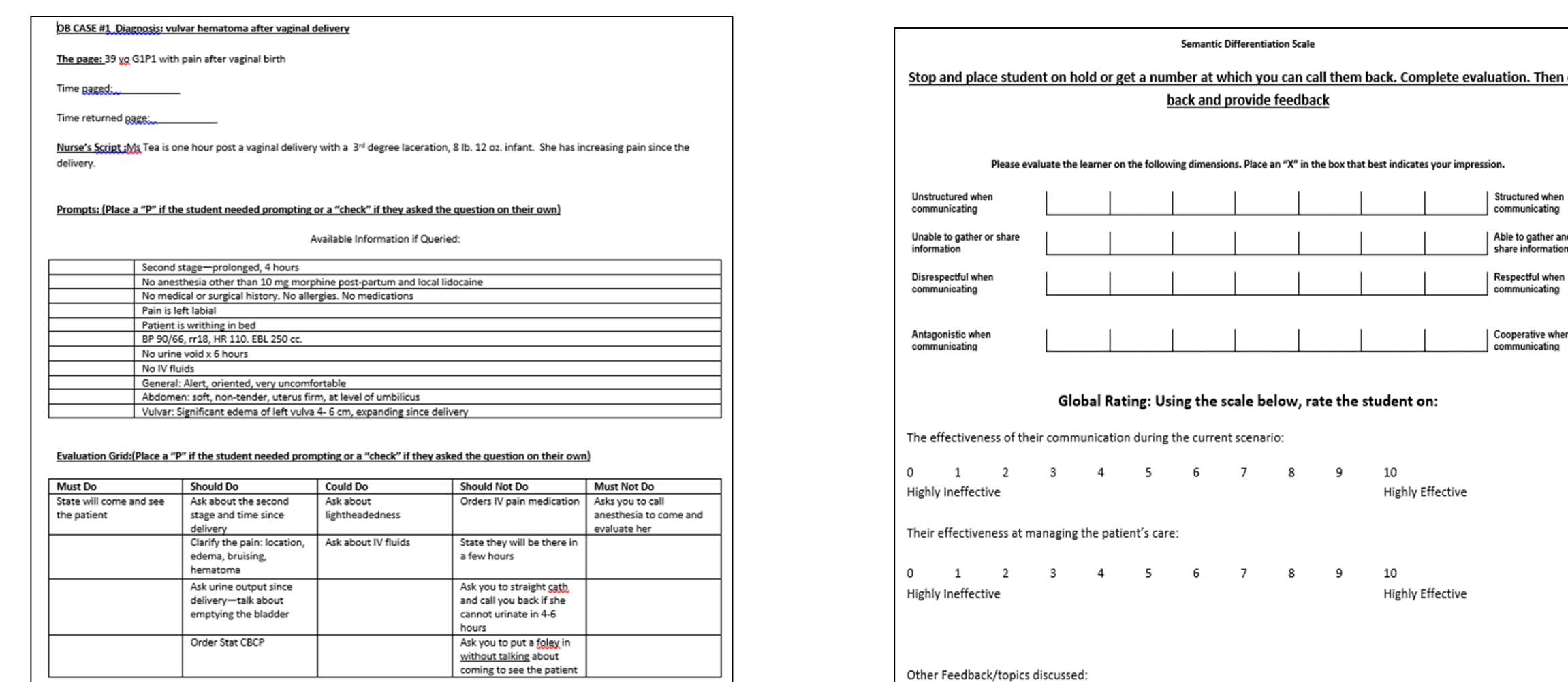
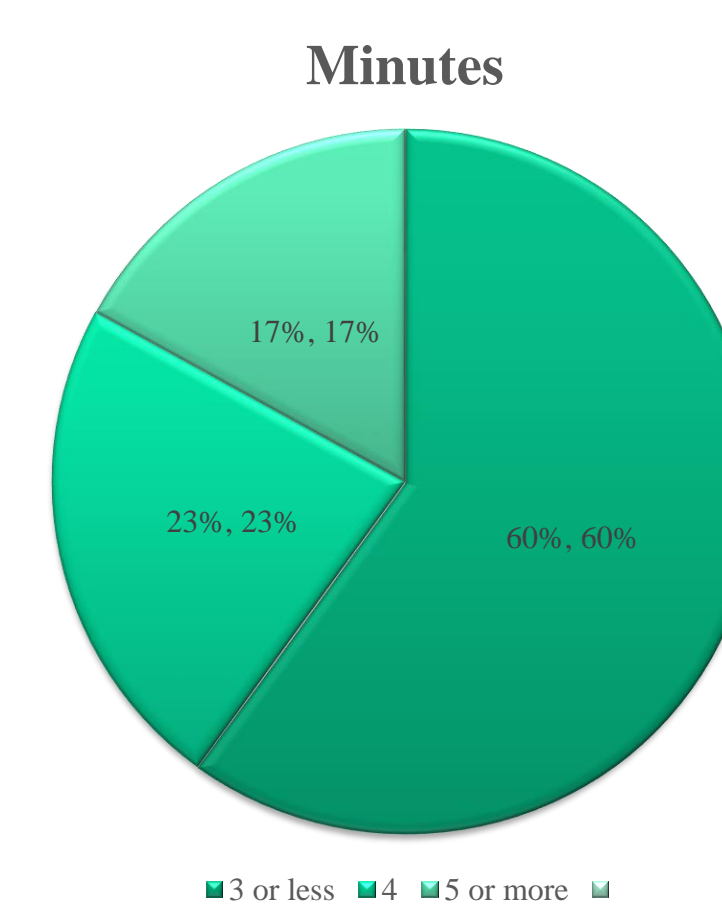


Fig 2: Obstetrical case 1: Vulvar Hematoma

RESULTS

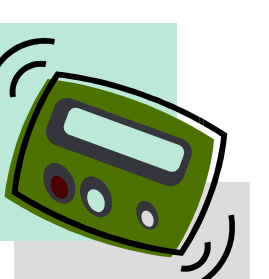
Sixteen students participated in 2015 and 11 in 2016. Complete data for 2015 was 104 cases (128 total cases with 24 incomplete forms). All cases were complete for 2016. Professionalism was evaluated via responsiveness to a page. The students are given instructions during a one hour orientation to the paging curriculum of the four week course in which they are asked to stop whatever activity they are doing to answer a page. A response time within five minutes occurred for 83% of the 171 pages sent. 60% of pages were returned in under 3 minutes. (Graph 1)



Graph 1: Response times

OBJECTIVE

- Improve preparedness of our medical students for residency
- Use a paging curriculum to assess professionalism and interpersonal and communication milestones



Incorporating Social Justice Grand Rounds into an Existing Pharmacy Ethics Course

Gundy Sweet, PharmD, Daniel Fischer, LMSW, David Fulkerson, LLMSW

Background

National recommendations, accreditation bodies, and U-M initiatives have resulted in a movement to incorporate interprofessional education (IPE) into health-science curricula.

The goal of expanding the educational background of health-science students is to improve the triple aim of healthcare:

- Improve the patient experience
- Improve population health
- Reduce cost of care

Implementing meaningful IPE experiences can be challenging due to infrastructure barriers including time, resources, and logistics.

Methods

Pharmacy Ethics Course

- Fall term, required course for all third year pharmacy students
- Goal: To understand and apply ethical principles to challenging, real-world clinical dilemmas
- Topic-based discussions that bring evidence-based medicine, ethical principles and clinical dilemmas into the classroom

Social Justice Grand Rounds (SJGR)

- Structured event at Michigan Medicine that formally unites social work constituents including MSW students, field instructors, faculty, and staff social workers
- Goal: To address social injustice through an actual case illustrative of injustice in health care
- Educational session provided by MSW student doing field work at Michigan Medicine
- Typical format includes SW student presentation of a clinical case that highlights a relevant social justice issue affecting clinical practice
- The presentation is followed by a expert panel discussion and audience discussion

Creating the IPE Event

- SJGR was incorporated into the pharmacy ethics course in November 2016
- Participation was required for all 3rd year pharmacy students and for MSW students doing field work at Michigan Medicine
- Faculty outlined learning objectives and defined the structure to ensure there was intentional time where students would interact with each other
- Social work faculty had the lead for SJGR and pharmacy faculty had the lead for defining learning objectives and assignments

Assessment

Anonymous survey to provide feedback on the value of the IPE experience

Post-class reflection to identify:

- Take-away message from the session
- Change in approach to care as a result of participating in this IPE event

Educational Program: Transgender Care

Program objectives:

- Identify factors that optimize care provided to transgender people
- Discuss ways in which interprofessional collaboration can influence overall patient care

Assignments prior to SJGR:

- Pework readings designed to guide learning and familiarize students with LGBTQ terminology
- Voluntary, anonymous survey sent to all students 3 weeks in advance allowing them to ask any questions they have on the topic
- Survey responses used to guide interprofessional panel discussion points during SJGR session

SJGR session:

- Students met in small interprofessional groups (2 Rx/1SW) for 30 minute discussion to explore each discipline's role and perspective on the topic
- Two discussion prompts were provided to guide the discussion

Purpose

Faculty from pharmacy and social work combined two existing activities (didactic pharmacy ethics course and social justice grand rounds) as a means of creating a meaningful IPE experience that brought student learners together in a real-world setting.

Results

Demographics

151 attendees present at SJGR

- 78 pharmacy and 29 social work students
- 44 licensed social workers

Overall Impressions

All students reported increased awareness of healthcare needs of LGBTQ people pre vs post ($p < 0.001$; NSD between student cohorts)

*Percentages indicate Agree/Strongly Agree

Survey Questions	Pharmacy Students*	SW Students*
Increased understanding of LGBTQ care	93.6%	89.3%
Increased understanding of health disparities	96.2%	100%
Increased appreciation for actions to create a welcoming environment	92.3%	96.4%
Improved understanding of other discipline's perspective	91%	92.9%
IPE nature of event enhanced learning	91%	86.2%
Greater appreciation for importance of IP teamwork and communication	91%	93.1%

Conclusions

Combining two existing activities was an effective way of incorporating IPE.

Students from both cohorts saw value in the program, learning about the topic and about each other's disciplines.

This program will continue in the 2017/18 academic year with consideration given to expanding to other disciplines.



The Shark Tank – Medical Innovation Program

Adish Parikh¹; Seth Klapman¹; Patrick Li¹; Ali Arastu¹; Jessa Miller¹; Neal Al-Attar¹; Owen Brown¹; Mark Cohen, MD²
 University of Michigan Medical School¹, University of Michigan Department of Surgery²

BACKGROUND

Medical education has traditionally focused on teaching basic sciences and clinical applications through didactic lectures. Although this plays an integral role in students' education, training students to become physician leaders to address tomorrow's macroscopic healthcare problems is lacking. With growing inefficiencies in healthcare, our future physicians must work with individuals across campus and the health system to create innovative solutions. The Medical Innovation Group (MIG) was founded to address the gap in education. For the first time, MIG, along with the Surgery Interest Group (SCRUBS), created an innovation incubator that culminated in a pitch competition for the University of Michigan Medical School student body.

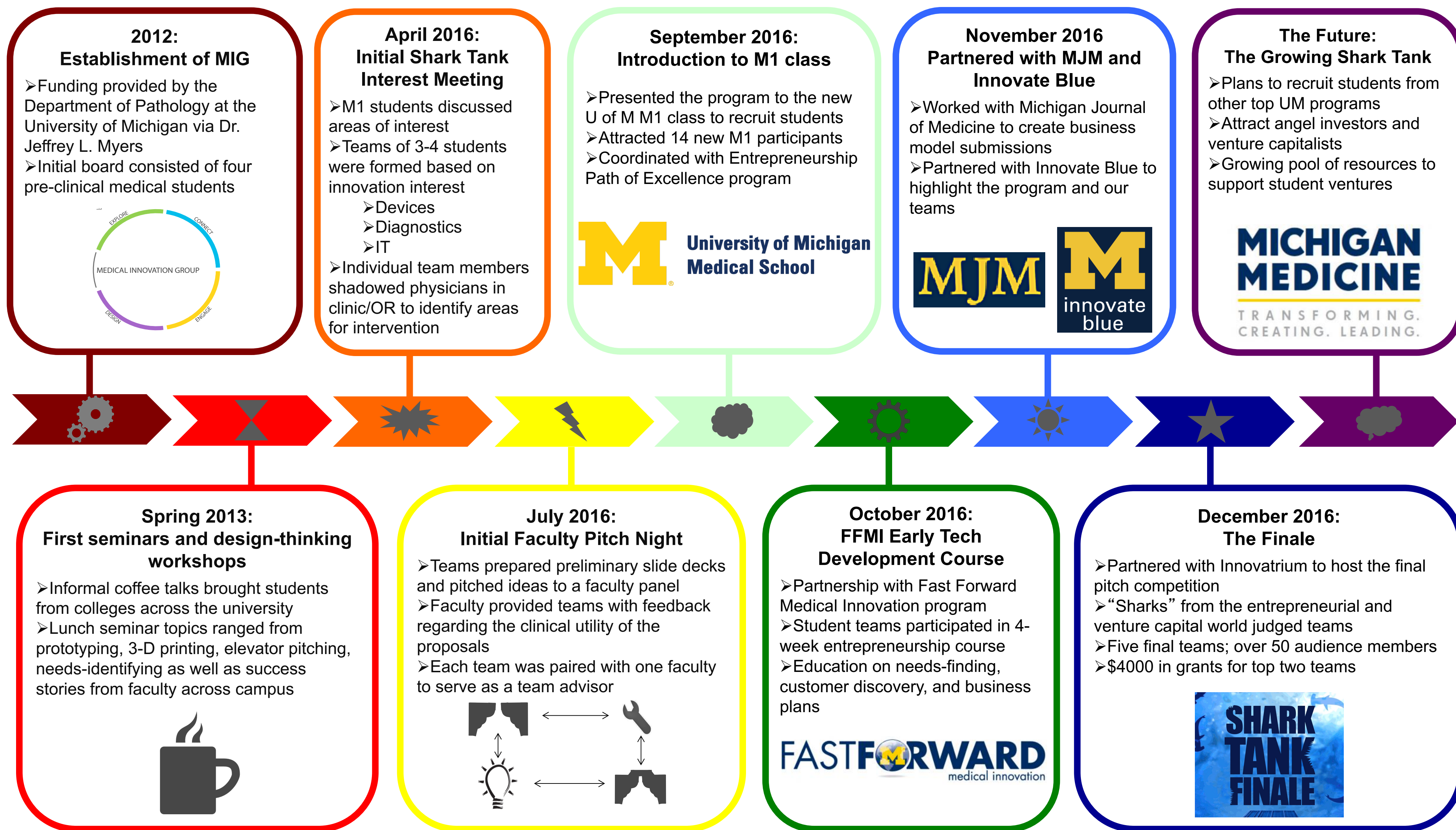
The shark tank program was funded by supported by the University of Michigan Medical School, the Department of Pathology, and Department of Surgery.



CONCLUSIONS

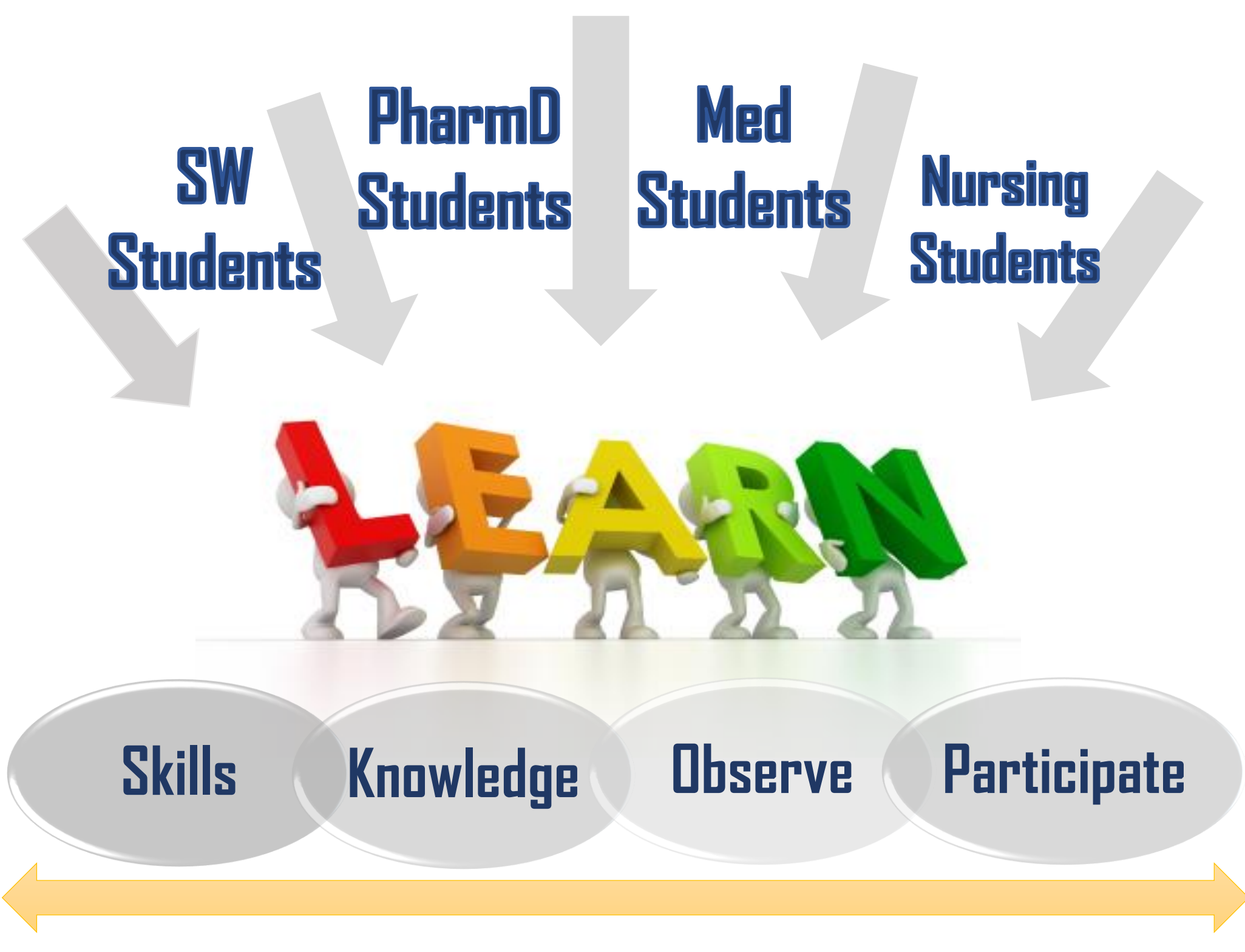
Nine teams of 34 medical students were created. Teams developed innovative ideas to address modern healthcare problems. Projects ranged from medical devices to social networks. Along the way, we made strong partnerships with several entrepreneurial programs across the UM community. We were able to create a 7-month student incubator program, which led to the Shark Tank Finale- an opportunity for teams to publically compete for a chance to win \$4,000 in grants to further develop their innovations.

METHODS

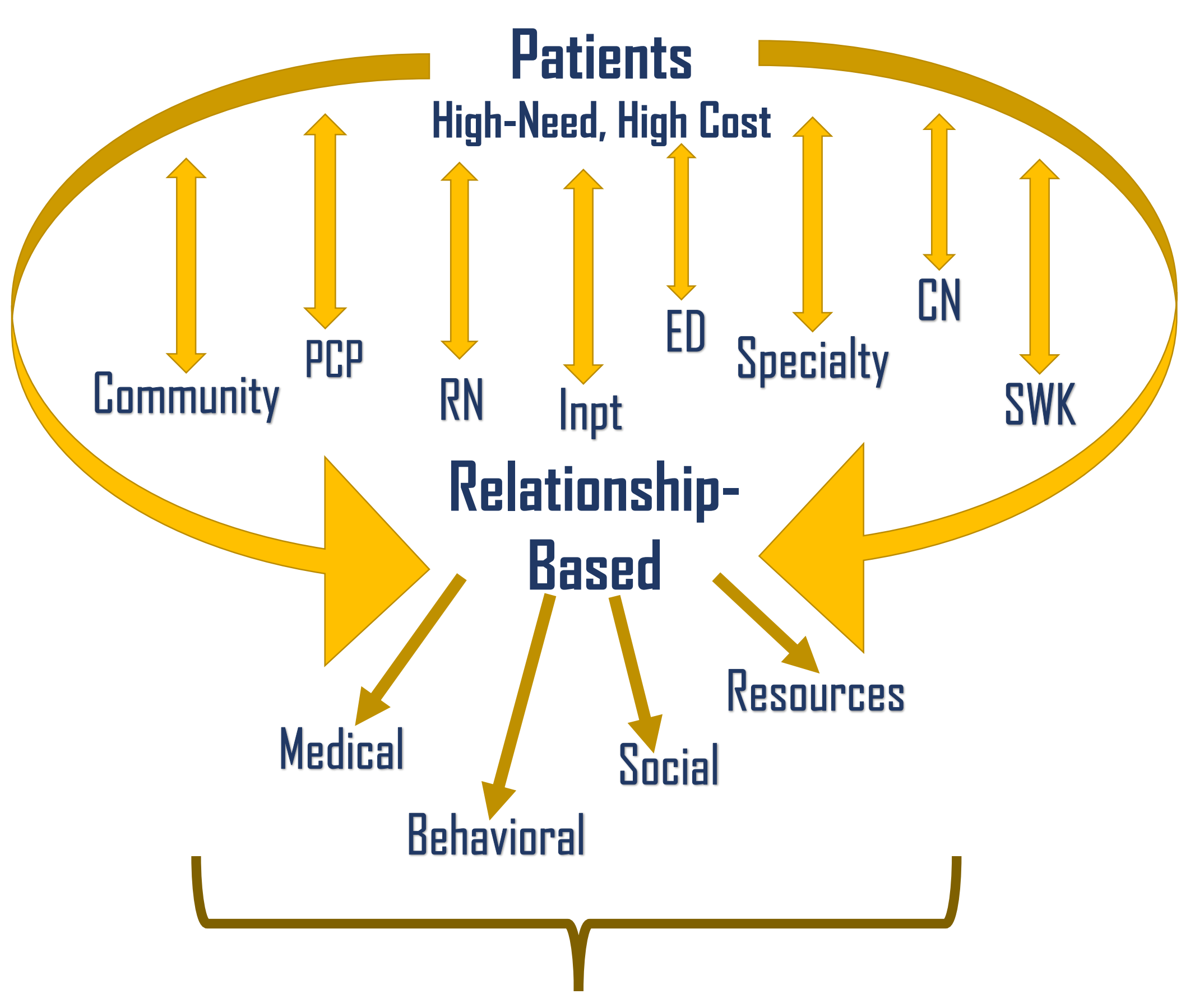


Complex Care Management Program Professional Education in Practice

Dr. Heather Rye, LMSW, Brent C. Williams



COMPLEX CARE MANAGEMENT PROGRAM TEAM



MISSION

Promote the total well-being of vulnerable person while reducing avoidable healthcare costs.

Design by K. Reid



Factors from Surgery Clerkship that Influence Surgical Career Choice

Curtis Heisel, Kristian M. Black, Ari D. Schuman,
Chrystina James M.P.H., Catherine Gilbert, Rishindra Reddy M.D.



University of Michigan
Medical School

Introduction

- Medical students often worry over what aspects of their experiences—those with mentors, in clerkships, and elsewhere—might help them match most effectively in their field of choice.
- For students interested in General Surgery and surgical subspecialties, previous authors have identified factors like early mentorship, increased time in the operating room, relationships with residents and faculty, and personality type as associated with the choice of a surgical career.[1-3]
- Students who perform better in a clerkship, as evaluated by clinical skills or clerkship grade, tend to go into that field, including surgery.[4,5]
- Given the importance of the clerkship grades, the factors that can affect them—most prominently clinical performance and shelf exam score—must be considered.
- Using data from the five years of students who passed through the Surgery and Internal Medicine clerkships at the University of Michigan Medical school, we sought to assess what factors (including preclinical mentorship, grades, shelf score, and clerkship timing) are associated with choosing a career in General Surgery or a surgical subspecialty.
- In addition, we investigated how timing, shelf score, and mentorship affected the clerkship grades themselves, and what factors were associated with a match at a highly-regarded residency program in a surgical specialty.

Materials and Methods

- We reviewed grading, residency placement, and mentorship data for all students who passed through the Surgery and Internal Medicine clerkships at a single allopathic medical school from 2010-2015.
- For each student, data collected included grade on each clerkship (Honors, High Pass, Pass, Fail), shelf score in the clerkship, the time of year in which the clerkship was taken, the academic year in which the clerkship was taken, a history of mentorship by a member of the surgical faculty, and residency matriculation information.
- The residency matriculation information on each student included the specialty into which the student matched and the specific program to which each student matched.
- Specific residency programs were cross-referenced with Doximity, a physician social media website with residency rankings, to determine the program's relative rank.
- Chi-square testing, Student's t-test, logistic regression, and ordered logistic regression were used to analyze the data.
- Data was analyzed by considering groups of students—groups included students who matched into general surgery, students who matched into a surgical subspecialty (excluding Ophthalmology and Obstetrics and Gynecology), students who matched into any surgical field (including Ophthalmology and Obstetrics and Gynecology), and students who matched into any non-surgical field.

Results



Table 1: Factors Associated with Clerkship Grade

Factors	Surgery			Internal Medicine		
	OR	95% CI	P-value	OR	95% CI	P-value
Surgery Shelf Score	1.14	1.12-1.16	<0.0001	1.00	0.98-1.02	0.997
IM Shelf Score	1.09	1.07-1.11	<0.0001	1.08	1.05-1.10	<0.0001
Surgery After Internal Medicine	1.07	0.82-1.40	0.596	0.97	0.74-1.27	0.843
Presence of Surgery Mentorship	0.86	0.59-1.25	0.436	0.85	0.59-1.23	0.388

Table 2: Factors Associated with Matching into a Surgical Specialty

Factor	General Surgery			Surgical Subspecialty			All Surgical Specialties		
	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
IM: High Pass	2.3	1.19-4.45	0.013	1.14	0.69-1.91	0.598	1.08	0.75-1.57	0.665
IM: Honors	2.07	0.97-4.41	0.058	1.15	0.63-2.08	0.642	1.14	0.73-1.78	0.552
Surgery: High Pass	2	0.83-4.79	0.12	2.3	1.13-4.67	0.022	1.93	1.24-2.24	0.004
Surgery: Honors	4.17	1.77-9.80	0.001	3.39	1.56-7.37	0.002	3.76	2.24-6.32	<0.001
Surgery after IM	0.85	0.49-1.49	0.59	1.34	0.86-2.09	0.191	1.13	0.82-1.55	0.466
Surgery Mentorship	1.02	0.48-2.15	0.953	1.46	0.83-2.55	0.189	1.11	0.72-1.71	0.629
IM Shelf Score	1	0.96-1.04	0.942	1	0.97-1.03	0.901	0.98	0.95-1.00	0.096
Surgery Shelf Score	1.02	0.99-1.06	0.143	1.02	0.99-1.05	0.158	1.01	0.99-1.04	0.408

Table 3: Factors Associated with Matching to Highly Ranked Surgical Residency

Factor	Doximity Top 20 Residency			Home Institution		
	OR	95% CI	P-value	OR	95% CI	P-value
Surgery specialty*	0.83	0.47-1.45	0.519	0.66	0.33-1.33	0.25
Surgery subspecialty	0.63	0.41-0.96	0.034	0.87	0.52-1.44	0.598
IM High Pass	0.97	0.70-1.35	0.878	0.72	0.48-1.07	0.105
IM Honors	1.42	0.95-2.11	0.084	1.06	0.67-1.66	0.807
Surgery High Pass	1.49	1.04-2.12	0.029	0.96	0.62-1.47	0.855
Surgery Honors	1.98	1.33-2.95	0.001	0.98	0.57-1.66	0.94
Surgery After IM	3.16	2.33-4.31	<0.0001			
Mentorship	1	0.67-1.50	0.996	1.22	0.78-1.89	0.38
IM Shelf	1.22	0.78-1.89	0.38	0.98	0.95-1.00	0.124
Surgery Shelf	0.98	0.95-1.00	0.124	1.03	1.01-1.06	0.013

Discussion

- This study of five years of students in Surgery and Internal Medicine clerkships at an allopathic U.S. medical school shows that students who matched into surgical fields did disproportionately well in their Surgery clerkship.
- The strongest measurable factor affecting grade in Surgery and Internal Medicine clerkship was shelf score.
- Students interested in Surgery and surgical subspecialties were distributed evenly across the year.
- There was no significant variance in grades in Surgery or Internal Medicine based on timing of clerkship.
- The largest limitation to this dataset is the lack of information on clinical evaluations. We also did not analyze demographic factors like gender, age, or ethnicity, which have been shown to be predictors of clerkship grades.

Conclusion

- This study has shown that students are more likely to match into General Surgery or a surgical subspecialty if they receive higher grades in Surgery and Internal Medicine.
- Students with higher Surgery grades are more likely to match into a highly-regarded residency program in their field of choice.
- Order of clerkship and presence of preclinical mentorship were not associated with higher grades or with a higher chance of matching into General Surgery or another surgical field.
- While mentorship may often guide students towards a surgical career, this study indicates that preclinical surgical mentorship is not necessary to match into a surgical field.
- Overall, this study demonstrates that students who do well in Surgery and Internal Medicine are competitive candidates for the Match in surgical specialties, and students are able to alter their path during their clinical clerkships and successfully choose a new career.

References

- [1] Berger AP et al. Choosing surgery as a career: Early results of a longitudinal study of medical students. *Surgery*. Feb 2017.
- [2] Schmidt LE et al. Factors influencing US medical students' decision to pursue surgery. *J Surg Res*. 2016;203(1):64-74.
- [3] Pointer DT et al. Choosing Surgery: Identifying Factors Leading to Increased General Surgery Matriculation Rate. *Am Surg*. 2017;83(3):290-295.
- [4] Saguil A et al. The association between specialty match and third-year clerkship performance. *Mil Med*. 2012;177(9 Suppl):47-52.
- [5] Daly SC et al. Higher clinical performance during a surgical clerkship is independently associated with matriculation of medical students into general surgery. *Am J Surg*.



Multidisciplinary Clinical Nutrition Elective



Jill R. Cherry-Bukowiec MD, MS, PNS, FACS, FCCM¹
 Theresa Han-Markey MS, RD,² Grace Heymsfield, BS,²
 Michael D. Kraft, Pharm.D., BCNSP³
 University of Michigan, Ann Arbor, MI

(1. Department of Surgery, School of Medicine, 2. School of Public Health 3. School of Pharmacy)

Background

- Interprofessional education is becoming a required component for most health professional training.
- Clinical nutrition education in US medical schools, residencies, and fellowships has been considered inadequate to meet the needs of the trainees and the public.
- We developed a pilot multidisciplinary (and subsequently interdisciplinary) nutrition elective which would leverage local, multidisciplinary expertise in nutrition through a short immersion elective to meet the needs of our trainees.
- To our knowledge, this pilot project was the first of its kind in creating a multidisciplinary learning approach mimicking real world practice in clinical nutrition at the University of Michigan

Objectives & Description

- The elective consists of 4 types of discipline trainees: Surgical Critical Care Fellows, M4 students, Pharmacy Residents and/or students, and Master's Degree prepared Dietetic Interns and/or students.
- The objectives for the project are as follows:
 1. Diagnose common nutrition issues in hospitalized patients.
 2. Formulate nutrition therapy plans.
 3. Experience new and cutting edge research and clinical nutrition treatment environments.
 4. Collaborate and work within a multidisciplinary team.

Week 1 Sample Schedule:

Day/Time	Monday	Tuesday	Wednesday	Thursday	Friday
A.M.	Orientation	Clinical Rounds	Clinical Rounds	Clinical Rounds	Clinical Rounds
Lunch	Nutrition Advisory Committee Meeting	Journal Club		Nutrition Supplements	
P.M.	Body composition lecture	TPN lecture	Lecture: Complications	Lecture: EN access	Visit Lab: Morphomics
	Visit MCRU: Body composition	TPN: practice Cases	Visit: Procedure Lines placement: IR radiology	Observe procedures: PEGS	

- Each elective lasts 2-4 weeks

Results

- The third and fourth session blocks of this elective course is currently being completed
- 2 fellows, 6 dietetic interns, 1 MPH student, 1 PharmD resident and 3 M4 students completed the first three blocks



- Feedback was uniformly positive about the educational experience
- 100% of trainees would recommend this course to others
- Participation on rounds in the TBICU added an additional valuable dimension to the educational experience of learning about critical care and team dynamics

Lessons Learned

- Multiple health disciplines can benefit from a focused multidisciplinary elective in clinical nutrition
- Team training is an effective strategy for applying medical knowledge within critically-ill patient scenarios
- Practicing and debriefing about teamwork can be a mechanism for improved team dynamics and patient care

Next Steps

- We plan to formalize the rotation and expand the program to allow more students to experience the elective.
- We also plan to present the results at national meetings and publish the results in nationally recognized peer reviewed journals.



Interdisciplinary Team Training within the TBICU: A Pilot Study



Jacob Gillen MD, Anna Krzak PA-C, Sarah Taylor MS RN ACNS-BC, Jill Cherry-Bukowiec MD, MS

Department of Surgery, University of Michigan, Ann Arbor, MI

Background

- Interdisciplinary team training is increasingly recognized as a valuable strategy to improve teamwork and patient care within health systems, and facilitates interprofessional education opportunities
- This educational structure is especially valuable in preparing to care for critically-ill patients in high-stakes situations
- Our project used an interdisciplinary team training format with simulated patient scenarios to educate members of the Trauma Burn Intensive Care Unit (TBICU) staff
- We hypothesized that these training sessions would educate staff on the management of critically ill patients, improve team dynamics, and improve the teamwork culture within the TBICU

Methods

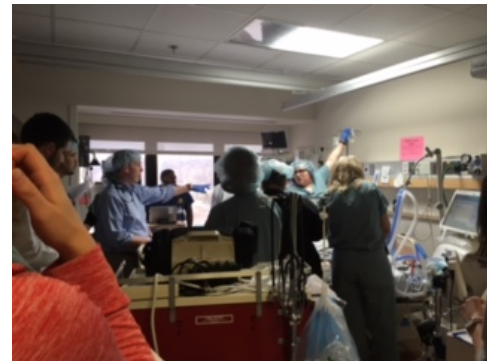
- Two simulated patient scenarios were created based on actual patient events within the TBICU
- After the scenarios were written, they were programmed to be run on a simulation mannequin “Sim Man” in conjunction with the University of Michigan Simulation Center



- TBICU staff, including nurses, physicians, respiratory therapists, pharmacists, and ICU technicians were recruited to participate in the pilot study and divided into interdisciplinary teams
- Each team performed two patient scenarios, debriefing after each scenario
- The scenarios were run in an empty patient room within the TBICU
- Participants were surveyed after each scenario using the Team Emergency Assessment Measure, a well validated survey of teamwork while caring for critical patients
- Additionally, an observer not involved in the scenario evaluated each team using the same survey

Results

- The pilot study involved 17 participants divided into two separate teams (8-9 participants per team)



- Feedback was uniformly positive about the educational experience
- After debriefing the first scenario, overall teamwork scores trended towards improvement in the second scenario (8.61 vs 9.00, $p=0.37$)
- Performing the pilot study within the TBICU uncovered several items for improvement within the unit
 - For example, angiocaths used to dart a chest for tension pneumothorax were out of stock

Lessons Learned

- Team training is an effective strategy for applying medical knowledge within critically-ill patient scenarios
- Practicing and debriefing about teamwork can be a mechanism for improved team dynamics and patient care
- Simulated patient encounters is a valuable strategy to identify areas for improvement in patient safety on the unit

Next Steps

- We will build off the lessons learned from this pilot study as we continue future team training sessions using these two scenarios with additional TBICU staff
- Eventually we hope to expand this project design to other Intensive Care Units within the University of Michigan, and create a template program that can be adopted by ICU's at other institutions

Project Funded by the University of Michigan CME Innovation Grant, the Department of Surgery, and supported by UMHS Nursing



Education about Eating Disorders: Dental Students' Perceptions and Practice of Interprofessional Care

Katherine M. Frimenko; Mentors: CA Murdoch-Kinch & MR Inglehart
University of Michigan School of Dentistry, Ann Arbor, MI



ABSTRACT

Objectives: The objectives were to assess dental students' (a) didactic and (b) clinical interprofessional education (IPE) and eating disorders (ED) education and (c) perceived preparedness to communicate with patients and other professionals about ED, and to examine (d) how extent of educational experiences and perceived preparedness correlate with IPC and ED-related responses.

Methods: Anonymous survey data were collected from 596 dental students from 22 U.S. dental schools about the amount of IPE and ED didactic and clinical education and their preparedness and intentions for IPC and treating patients with ED.

Results: Overall, ED- and IPC-related clinical education was not evaluated positively, with first year students (D1) reporting the least and fourth year students (D4) the most educational experiences. While the students did not feel well-prepared to talk with patients about mental health/ED, they felt better prepared for IPC-related communication. All students had positive attitudes related to dental professionals' ED-related responsibilities and related IPC considerations. The more education students reported, the more prepared they felt and the more positive their attitudes were. The more experiences with family members in mental health/other health professions students had, the better prepared they felt to communicate with patients and providers from other disciplines about EDs.

Conclusions: IPE specifically on ED and communication may be necessary to increase the likelihood of dentists to participate in IPC for patients with ED.

AIMS

The objectives were to assess dental students'

- (a) didactic IPE and ED education
- (b) clinical IPE and ED education and
- (c) perceived preparedness to communicate with patients and other professionals about ED, and
- (d) examine how communication preparedness, educational experiences and attitudes correlate with IPC and ED responses.



UC Davis IPE

METHODS

This research was exempt from IRB oversight.

Respondents: Data were collected from 596 students from 22 U.S. dental schools.

Procedure: The data were collected with anonymous web-based surveys.

Table 1: Overview of the background characteristics

Background characteristics	Frequencies N=596	Percentage
Gender:		
- male	295	50%
- female	298	50%
Ethnicity / race:		
- European Americans	416	71%
- Asian Americans	82	14%
- Other	81	14%
Age	Mean (SD): 26.67 (3.08)	Range: 23 to 43
Educational characteristics		
Number of dental schools	22	100%
Year in program:		
- D1	109	18%
- D2	164	28%
- D3	183	31%
- D4	158	27%
Prior to dental school, I		
volunteered/worked in:		
- Dentistry	432	74%
- Medicine	134	23%
- Mental health	10	2%
- Other healthcare setting	16	3%
I have a family member who is a		
- oral healthcare provider	169	29%
- mental healthcare provider	31	6%
- other healthcare provider	47	8%

Legend: 1 Totals greater than 100% are due to rounding of decimals.

RESULTS

The first and second objectives were to assess students' IPE and ED didactic and clinical educational experiences. Table 2 shows that mean scores of didactic and clinical ED and IPE varied according to year. D4 students reported the highest amount of clinical education on general health-related issues (2.51; $p < .001$), and D3s reported the highest quantity of didactic education about ED (2.09; $p < .001$).

Table 2: Educational experience responses in classroom and clinical settings by year in dental school

Classroom based education about ED ¹	D1	D2	D3	D4	Total ²
Classroom-based education about ED index (Cronbach alpha = .877)	1.53	1.76	2.09	1.97	1.87
Classroom based IPE ¹					
Classroom-based IPE Index (Cronbach alpha = .787)	1.50	1.54	1.87	2.18	1.78
Clinic based education - introductory issues ¹	D1	D2	D3	D4	Total ²
Introductory clinical education Index (Cronbach alpha = .872)	1.13	1.61	2.36	2.51	1.98
Clinic based education - ED and IPC issues ¹					
ED and IPC related education Index (Cronbach alpha = .870)	1.08	1.16	1.42	1.59	1.33

Legend:

1 The answers ranged from 1 = Not at all to 5 = Very much.

2 Note: The means of students in the 4 years of the curriculum differed at $p < .001$.

3 The answers ranged from 1 = Never to 3 = Often.

The third objective was to assess students' perceived preparedness for communication. Table 3 shows that students' preparedness for communication with patients and other providers increased throughout dental school. Within a class, students reported greater preparedness to discuss general and health issues than topics about mental health.

Table 3: Responses related to preparedness to communicate with patients and healthcare professionals from other disciplines

How prepared do you feel to talk with a patient about ¹	D1	D2	D3	D4	Total ²
- his/her oral health?	3.27	4.31	3.65	4.67	4.38***
- his/her systemic health?	3.10	3.65	4.02	4.35	3.83***
- his/her diet?	3.29	3.93	4.22	4.53	4.00***
- referring him/her to another healthcare discipline?	3.00	3.31	3.69	3.96	3.52***
Patient communication preparedness Index (alpha = .878)	3.16	3.80	4.15	4.37	3.92***
How prepared do you feel to talk with a patient about ¹	D1	D2	D3	D4	Total ²
- his/her mental health?	2.68	2.67	3.18	3.38	2.99***
- clinical findings suggestive of an eating disorder?	2.53	2.98	3.48	3.46	3.16***
- general treatment options for eating disorders?	2.48	2.44	2.91	2.82	2.68***
Patient mental health communication preparedness Index (Cronbach alpha = .828)	2.56	2.70	3.19	3.21	2.94***
How prepared do you feel to talk with a healthcare professional from another discipline about ¹	D1	D2	D3	D4	Total ²
- a patient's oral health?	3.08	4.14	4.47	4.73	4.19***
- a patient's systemic health?	2.81	3.47	3.84	4.17	3.63***
- a patient's mental health?	2.64	2.88	3.21	3.36	3.05***
- a patient's diet?	3.03	3.74	4.12	4.26	3.80***
- a multidisciplinary treatment plan?	2.73	3.09	3.52	3.50	3.35***
- oral effects of eating disorders?	2.63	3.48	3.95	4.07	3.61***
IPC communication preparedness Index (Cronbach alpha = .921)	2.83	3.48	3.85	4.07	3.61***

Legend: 1 The answers ranged from 1 = Not at all to 5 = Very much.

2 Note: *** = $p < .001$.

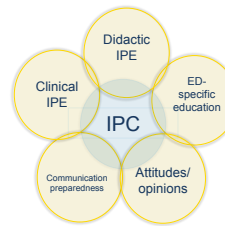
The fourth objective was to assess the relationship between IPC- and ED-related responses and communication preparedness, educational experiences, and attitudes. Table 4 shows these correlations. Increased extent of educational experiences positively correlated with communication preparedness.

Table 4: Correlations between students' preparedness to communicate, their educational experiences, and ED/IPC-related attitudes/perceptions

Preparedness to communicate: How prepared do you feel to talk with	Patients about oral & general health	Patients about mental health	Providers from other disciplines
- patients about oral and general health	1	0.68***	0.80***
- patients about mental health	0.68***	1	0.66***
- providers from other disciplines	0.80***	0.66***	1
Educational Indices			
Classroom-based ED-related educational experiences	0.41***	0.53***	0.45***
Classroom-based IPE-related educational experiences	0.32***	0.35***	0.37***
Clinic-based patient health-related experiences	0.55***	0.37***	0.48***
Attitudinal Indices			
Students' assessment of ED as health-related concerns	0.24***	0.19***	0.26***
Dental professionals' ED related responsibilities	0.15***	0.32***	0.16***
Student perception about other healthcare professionals' investment in patient health	0.14***	0.23***	0.20***
Student self-reported likelihood to engage in IPC-related care	0.37***	0.40***	0.37***

Legend: Note: *** = $p < .001$

Figure 1: Overview of IPC related components



DISCUSSION

The results showed that although average reported amounts of IPE and ED education were somewhat low, as quantity of such educational experiences increased, students felt better prepared to discuss oral, general, and mental health issues with patients and to communicate interprofessionally. Students' attitudes about ED, dental involvement, and IPC were positively correlated with communication preparedness, but these correlations were lower than those between educational indices and preparedness. As students' preparedness to communicate with patients and in IPC increased, intention to engage in IPC increased. Overall, this may suggest that knowledge and understanding of health issues are important; helping students feel prepared to communicate with this knowledge may be key to actualizing IPC for ED.

CONCLUSIONS

Given that IPE and ED education correlate with more positive IPC perceptions, dental school curricula can promote IPC by providing students with more, rich IPE. IPE specifically about ED may be necessary to increase the likelihood that dentists will participate in IPC for patients with ED. Moreover, providing students with opportunities to develop skills and confidence in communication may be especially important to improve IPC for ED. Additional studies to determine which experiences would most help students to develop communication skills may help improve education to promote IPC.

REFERENCES

1. Aranha, AC, Eduardo P, Cordas, TA. "Eating Disorders. Part I: Psychiatric diagnosis and dental implications." *J Contemp Dent Pract*. 9:6 (2008): 73-81. Web.
2. Aranha, AC, Eduardo P, Cordas, TA. "Eating Disorders. Part II: Clinical Strategies for Dental Treatment." *J Contemp Dent Pract*. 9:7 (2008): 89-98. Web.
3. DeBate, RD, and Tedesco, LA. "Increasing dentists' capacity for secondary prevention of eating disorders: identification of training, network, and professional contingencies." *J Dent Educ*. 70:10 (2006): 1066-75. Web.
4. Johansson AK, Nohrlet E, Johansson A, Norring C, Tegnellberg A. "Dentists and eating disorders-knowledge, attitudes, management and experience." *Swed Dent J*. 33:1 (2009): 1-9. Web.

ACKNOWLEDGEMENTS

We would like to thank the University of Michigan School of Dentistry Pathways program and the Department of Periodontics and Oral Medicine for their support of this research and the academic deans of the U.S. dental schools who facilitated the web-based survey distribution. We also want to thank all study participants for taking time to respond to our survey.



Teaching Motivational Interviewing in an Interactive Interprofessional Format: A Pilot Workshop Series

Dan DeSena, LMSW, DMA; Elizabeth K. Kuzma, DNP FNP-BC; Jolene R. Bostwick, PharmD, BCPS, BCPP; Nasuh Malas, MD, MPH; Marita R. Inglehart Dr. Phil. Habil., David C. Belmonte, MD, MS; Amy Yorke, PT, PhD, NCS; Danielle Furgeson, RDH, MS, DHSc; Ken Resnicow, PhD; Dani Koel, MA



M | INTERPROFESSIONAL EDUCATION

Background

Interprofessional care is critical to the future of health care.¹ IPE involves groups of students from at least two disciplines learning together and interacting with each other.² Efforts to understand how to implement IPE effectively at the University of Michigan are in its infancy. However, IPE efforts and innovation are growing. In early Winter term of 2016, the Michigan Center for Interprofessional Education charged a group of faculty to develop an IPE effort centered on Motivational Interviewing (MI). The workgroup who developed the pilot IPE-MI workshop series consisted of faculty from UM across health disciplines (Dental Hygiene, Dentistry, Medicine, Nursing, Pharmacy, Physical Therapy (UM Flint), Public Health, and Social Work).

Project Goals

The goals for the pilot were to evaluate (1) the feasibility of teaching MI in an IPE format and (2) the ability to maintain quality of MI content while (3) meeting the IPE objectives.

Actions, Methods of Intervention

- The faculty group worked together to design, plan, and implement the workshop, which would be held in two 3-hour blocks one week apart early in the Winter Term, 2017.
- The workshop series was an optional experience offered to a maximum of 12 students from health science schools across all of the University's campuses.
- Marketing materials were sent and shared with students from each school by respective faculty to elicit interest. Interested students completed a brief survey to indicate their level of experience with IPE and MI.
- Students had mandatory pre-requisite readings to ensure a shared MI background prior to the two, 3-hour workshop sessions.
- Learning objectives for the workshops included:
 - (1) Learning across disciplines about the use of MI with a variety of patients and problem areas.
 - (2) Working with individuals from other professions to foster a climate of mutual respect and shared values.
 - (3) Learning cutting-edge MI skills that can improve treatment engagement across disciplines.
 - (4) Understanding of the challenges that various disciplines face in engaging and treating patients.

Results

Response types: # of students who	N	%
Logged into the registration site	171	100
Entered their name & affiliation	136	79.5%
Provided some background information	120	70.2%
Provided all background information	114	66.7%
Were invited	79	46.2%
Attended 2/1/2017 workshop	66	38.6%
Attended 2/8/2017 workshop	60	35.1%

Students' prior experience with IPE and MI ranged from "none" (N=12/N=10) to "extensive" (N=4/N=2). Means on scale from 1=none to 4=extensive were 2.37 for IPE and 2.47 for MI. Open-ended responses reflected commitment to and interest in IPE.

U-M health science school	N (%) Registered N=136	N (%) Invited N=79	N Session One N=66	N Session Two N=60
Dental hygiene Program	9 (6.6%)	9 (11.4%)	5	5
Dentistry	24 (17.6%)	12 (15.2%)	11	12
Flint: -Health Professions and Studies -Nursing	2 (1.5%) 7 (5.1%)	2 (2.5%) 7 (8.9%)	2 6	2 5
Kinesiology	1 (0.7%)	1 (1.3%)	1	1
Medicine	11 (8.1%)	8 (8.9%)	7	5
U of M: Nursing	11 (8.1%)	9 (11.4%)	8	8
Pharmacy	14 (10.3%)	12 (15.2%)	9	8
Public Health	20 (14.7%)	5 (6.3%)	5	5
Social Work	33 (24.3%)	12 (15.2%)	10	7
Social work & Public health	3 (2.2%)	2 (2.5%)	2	2

Lessons Learned

This experience served as the first didactic IPE experience for most of the participating faculty. Faculty debriefs identified the following positive outcomes and challenges to inform adjustments to future offerings.

Positive Outcomes:

- Faculty from 8 health science disciplines implemented the workshop series with enthusiasm and engagement to expand the scope of IPE at UM
- The workshop was well attended, with 9 health science schools represented
- Student feedback was positive and they were enthusiastic about the opportunity to engage in IPE

Challenges Faced:

- Finding meeting times for all 9 faculty members made unanimous agreement on process and content difficult
- Faculty were subdivided based on availability and meetings were mostly conducted via phone or videoconference; much communication and decisions were made via email by necessity
- Organizational structure
- Agreement on balance of MI versus IPE content

Next Steps

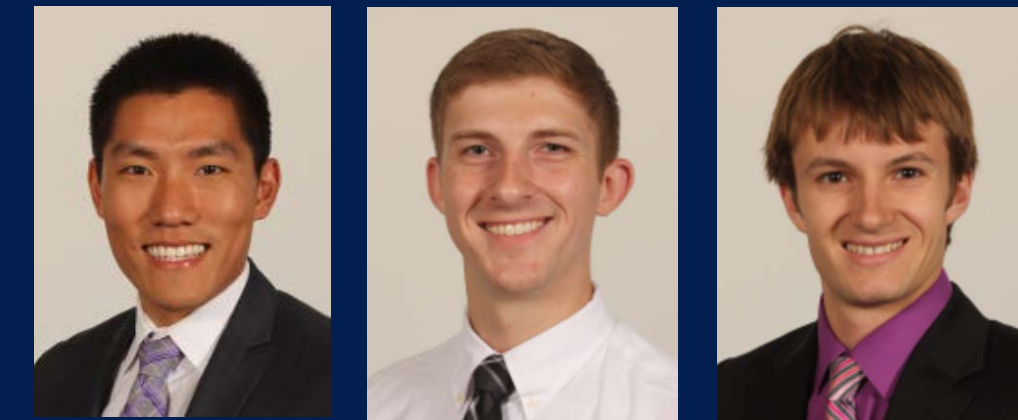
Faculty will continue to make efforts to meet and improve upon this first IPE-MI effort. Further, a group process has been developed for deciding on content for a workshop in Fall 2017. Grant support will be sought to help fund future IPE-MI endeavors. We will continue to analyze student feedback and engage students in our planning process. Results will be submitted for publication.

References

(1) World Health Organization (WHO) Department of Human Resources for Health (2010). Framework for action on interprofessional education and collaborative practice. Geneva: World Health Organization, 2010(64), 1-64. (2) Formicola, A.J., Andriue, S.C., Buchanan, J.A., Schneider Childs, G., Gibbs, M., Inglehart, M.R., et al. (2012). Interprofessional education in U.S. and Canadian dental schools: An ADEA team study report. Journal of Dental Education, 76(9), 1250-1268.

Creating Leaders in Dentistry through a Dual Degree Program in Dentistry and Business: The Student Perspective

J Han, M Huetter, T Paron; Mentors: CA Murdoch-Kinch, MR Inglehart
University of Michigan - School of Dentistry, Ann Arbor, MI



ABSTRACT

Objectives: The professional success of dentists depends on a comprehensive skill set including competence in business acumen. Achieving these skills is challenging without strategic training, such as business education. A dual-degree DDS/MBA program might therefore be beneficial for dental graduates. The objectives were to measure dental students' business-related educational responses, attitudes towards a dual program, and to explore whether subgroups of students differ in these responses.

Methods: A cross-sectional study of predoctoral DDS students was conducted.

Results: Data were collected from 272 pre-doctoral dental students. Nearly half of the respondents (43%) agreed that having an MBA or Master of Management (MM) degree would make them a better dentist, and 69% that the UMSoD should offer a dual DDS/Business program; 50% reported they would strongly consider enrolling in a dual DDS/Business program, and 39% that they would consider enrolling immediately; 46% reported that this degree option would have made them consider Michigan more positively when applying to dental school. However, 22% reported that undergoing a business program would be unnecessary for their scope of practice as a dentist; 18% had no interest in a business degree or dual DDS/MBA program; 64% reported they would rather enroll in a business program as a dentist. Male students valued business-related education higher and had more positive attitudes towards a dual-degree program than female students.

Conclusion: There is significant interest and student-perceived need for a dual-degree program at UMSoD.

INTRODUCTION

The field of dentistry is best-served by individuals who not only understand the basic conditions for ethical and responsible dental healthcare, but who are also professionally trained in financial considerations and managerial aspects of healthcare organizations.¹ The MD/MBA program at the Perelman School of Medicine and the Wharton School at the University of Pennsylvania are the oldest programs who offer business education together with medical education in the United States. In a 30-year survey study of their graduates, the subjects reported that the dual-degree benefited their career acceleration, professional flexibility, and increased credibility in multidisciplinary domains.⁴ Currently, 13 out of 66 accredited US dental schools offer a dual-degree program in MBA and DDS/DMD. These programs commonly aim to provide dental school graduates with skills necessary to successfully manage dental practices and personal portfolios, as well as to expand their interests into new dental healthcare-related ventures.^{2,3} This research explored pre-doctoral dental students' perception concerning their own business-related education and their attitudes concerning establishing a dual degree (DDS/MBA or DDS/MM) opportunity at UMSoD.

OBJECTIVES

The objectives were to assess pre-doctoral dental students'

- business-related educational considerations, during DDS program,
- business-related general educational considerations,
- positive attitudes concerning a dual DDS /business program,
- negative attitudes concerning a dual DDS /business program,
- and to assess the responses of subgroups of students.

METHODS

This study was determined to be exempt from Institutional Review Board (IRB) oversight by the IRB for the Behavioral and Health Sciences at the University of Michigan (HUM00119764).

Respondents: Data were collected from 272 pre-doctoral dental students at one dental school.

Procedure: Students responded to either anonymous paper-pencil or web-based surveys.

Table 1: Overview of the respondents' background characteristics

Background characteristics	Frequency N=272	Percentage
Year in program:		Response rate:
- D1	105	99%
- D2	97	94%
- D3	41	41%
- D4	29	25%
Gender		
- Male	148	54%
- Female	125	46%
Age	Mean 24.64	SD: 3.046 Range:21-40
Work related experiences before dental school		
Previous work related experiences	Yes 192	70 %
Post graduate plans:		
Work right away	171	63 %
Continue education	96	35 %
Unsure	6	2 %

RESULTS

The first objective was to determine the respondents' business-related educational responses related to their dental school education. Concerning the second objective, Table 2 shows that the majority of students were not very satisfied with their current business-related dental education. However, Table 2 also shows that students were on average very interested in business related education in general.

Table 2: Business-related educational responses

Satisfaction with own practice management education	1 ¹	2	3	4	5	Mean
I am satisfied with the training that UMSoD currently offers in its practice management classes.	20%	28%	44%	5%	3%	2.44
UMSoD adequately prepares me for the business aspects of dentistry.	24%	26%	42%	4%	4%	2.39
Satisfaction index (Cronbach alpha=.888)	Mean: 2.41	SD: .945	Range: 1-5			
Business education-related responses	1 ¹	2	3	4	5	Mean
I am very interested in learning about functional areas of business, such as accounting, marketing, real estate, investment, strategy, law, and operations management.	1%	4%	14%	35%	46%	4.21
It is important that dentists learn about these business elements.	0%	1%	6%	27%	66%	4.56
It would be helpful to have experts from outside of dentistry supplement the business education at the SoD.	1%	2%	8%	45%	45%	4.31
Dentistry is a career that requires a certain amount of business acumen.	1%	0%	5%	35%	59%	4.51
I have interests in business beyond operating a dental practice.	7%	18%	22%	25%	28%	3.48
Business education-related index (Cronbach alpha=.736)	Mean: 4.22	SD: .617	Range: 1-5			

Legend:
1 Answers ranged from 1 = "strongly disagree" to 5 = "strongly agree".

Table 3b: Responses related to an interest in a dual degree in dentistry and business – negative attitudes

Negative attitudes towards joint program	1 ¹	2	3	4	5	Mean
I believe that I can be equally successful in my practice without a business degree.	4%	14%	38%	33%	11%	3.33
There is a difference between business acumen and entrepreneurship. Therefore, undergoing a business program is unnecessary for my scope of practice as a dentist.	7%	20%	51%	18%	4%	2.91
I have no interest in a business degree or a dual program.	21%	33%	28%	12%	6%	2.48
I would rather enroll in a business program as a dentist, not as a dental student.	2%	3%	32%	40%	24%	3.82
Negative attitude index (Cronbach alpha=0.573)	Mean: 2.93	SD: .680	Range: 1-5			

Legend:
1 Answers ranged from 1 = "strongly disagree" to 5 = "strongly agree".

Figure 1: Average education-related and attitudinal responses of male vs. female respondents

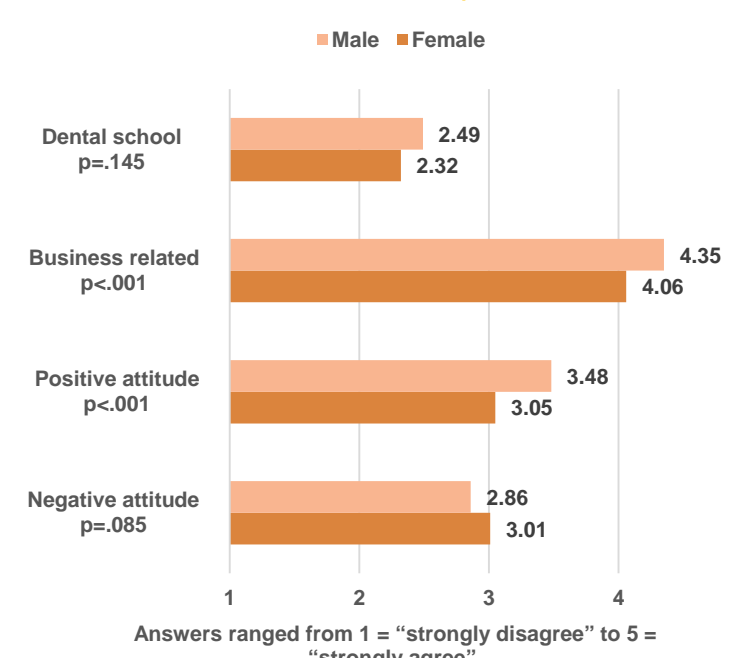


Figure 2: Average education-related and attitudinal responses of students who considered vs. did not consider business school

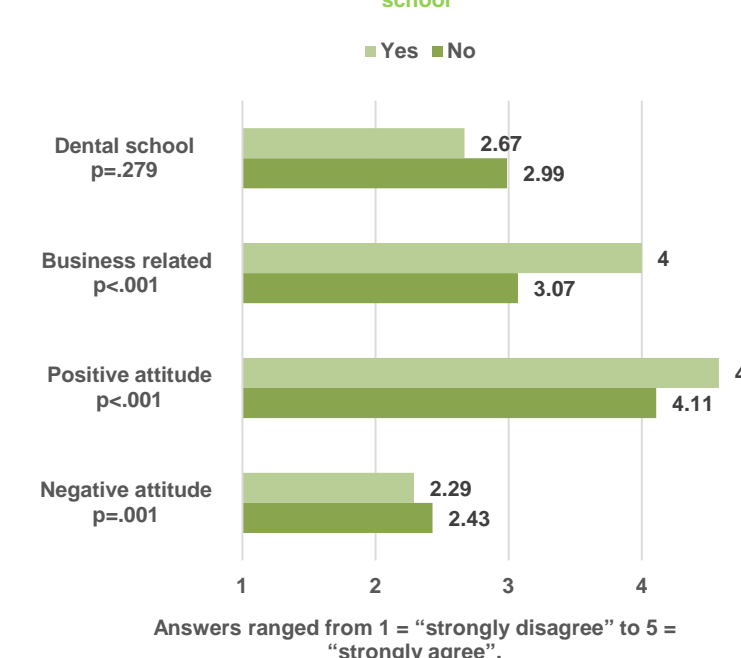
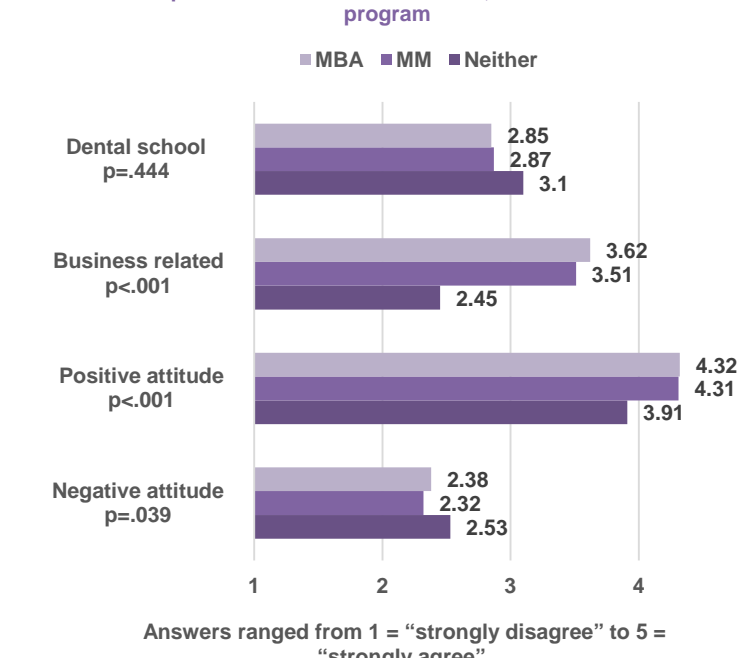


Figure 3: Average education-related and attitudinal responses of respondents interested in an MBA, MM or in neither program



The third objective was to assess dental students responses to positively formulated attitude statements and the fourth objective was to assess their responses to negatively formulated statements related to a dual DDS/business program. Table 3a shows that the majority of students held positive attitudes towards a dual program, and Table 3b that fewer students endorsed negative statements.

Table 3a: Responses related to an interest in a dual degree in dentistry and business – positive attitudes

Positive attitudes towards a joint program	1 ¹	2	3	4	5	Mean
Having an MBA or an MM would make me a better dentist.	6%	18%	34%	33%	10%	3.24
The UMSoD should offer a dual DDS/business degree.	2%	8%	23%	40%	29%	3.86
I would strongly consider enrolling in a DDS/business program.	8%	19%	24%	30%	20%	3.36
I would be interested in dual-enrolling now.	17%	25%	19%	24%	15%	2.95
Offering dual-enrollment would have positively affected my decision to apply to Michigan.	10%	16%	26%	26%	20%	3.29
I would be interested in obtaining a business degree, because of the value of its credentials.	9%	20%	23%	36%	13%	3.25
I would be interested in obtaining a business degree, because it would offer me education, experience, and network opportunities that I could not obtain otherwise.	6%	12%	20%	41%	22%	3.62
I would dedicate time to take the GMAT or GRE.	22%	24%	26%	19%	8%	2.67
I am willing to allocate the necessary amount of time needed to obtain a business degree.	14%	22%	31%	24%	10%	2.94
If time were not an issue, I would choose to apply.	6%	10%	19%	33%	33%	3.77
I am willing to allocate necessary expenses to obtain a business degree.	16%	24%	31%	18%	10%	2.81
If finances were not an issue, I would choose to apply.	7%	9%	19%	33%	32%	3.72
Positive attitude index (Cronbach alpha=0.882)	Mean=3.29	SD=.927	Range: 1-5			

Legend:
1 Answers ranged from 1 = "strongly disagree" to 5 = "strongly agree".

The fifth objective was to assess whether subgroups differed in their responses. Figure 1 shows gender differences; Figure 2 displays differences in average responses of students who previously considered business school and Figure 3 the mean responses of students interested in an MBA, a MM, or in neither.

DISCUSSION

The data showed an interesting divergence in the students average responses of their own business-related education and their average interest in general business-related education. Efforts should therefore be made to improve dental school education related to business-related topics. Establishing a dual DDS/business program could be one of these efforts because the majority of students evaluated such a program very positively and relatively fewer students endorsed a statement that they would prefer business-related education once they had graduated from dental school.

CONCLUSIONS

- Dental students did not evaluate their own business-related education very positively, but were on average quite positive about business-related education in general.
- Their attitudes towards establishing a dual degree program at their school were on average quite positive.
- Relatively fewer students endorsed negative attitudes.
- Subgroups of students differed in their responses and more in depth future research concerning subgroup differences would be helpful.

REFERENCES

- "DDS/MBA." Columbia University College of Dental Medicine, 29 July 2016. Web. 03 Jan. 2017.
- "DDS/MBA Program." UCSF School of Dentistry, n.d. Web. 03 Jan. 2017.
- "HSDM/HBS MBA/DMD Program." Harvard School of Dental Medicine - Harvard Business School, n.d. Web. 29 Dec. 2016.
- Patel MS, Arora V, Patel MS, Kinney JM, Pauly MV, Asch DA. "The Role of MD and MBA Training in the Professional Development of a Physician: A Survey of 30 Years of Graduates From the Wharton Health Care Management Program." *Academic Medicine*, 89.9 (2014): 1282-286.

ACKNOWLEDGEMENT

We thank the dental student respondents for taking time out of their busy schedules to participate in our survey.

Interprofessional Education of Dental and Dental Hygiene Students: Student-perceived Benefits and Curricular Suggestions

J. Doctor, E. Cahill; Mentors: M. McComas & Marita R. Inglehart
University of Michigan - School of Dentistry, Ann Arbor, MI

ABSTRACT

Objectives: In 23 U.S. universities, dental and dental hygiene students are educated side by side. The objectives are to explore (a) which benefits dental and dental hygiene students perceive when interprofessional education takes place, (b) which curricular suggestions they have for interprofessional education, and (c) whether the number of joint courses is correlated with the perceived benefits of interprofessional education.

Methods: Survey data were collected from 375 dental and 117 dental hygiene students from 12 different universities in the U.S.

Results: The majority of students agreed/agreed strongly that having joint classes with dental/dental hygiene students would allow them to develop better interprofessional relationships, gain a better understanding of the roles of the members of the other profession, and a better understanding what the other profession "is all about". Suggestions of curricular interventions in classroom-based settings included having a lecture about the roles of dentists and dental hygienists and discussions of professional roles in joint classes. Other endorsed classroom-based interactions were to include interprofessional group projects. The majority wanted "partnering up" in lab courses; numerous suggestions were made for increased clinical interactions. Only 24% indicated that they interact with students of the other profession regularly. However, 59% wanted to have more joint educational experiences and 49% wanted to take more interprofessional courses with each other. The more courses students jointly attended, the less likely they were to agree that joint courses allow them to get to know the members of the other profession better and to develop better interprofessional relationships.

Conclusions: Merely educating dental and dental hygiene students side-by-side in classes does not result in increased interprofessional understanding. Curricular interventions, especially in clinical settings, should be developed.

INTRODUCTION

In 2000, the first U.S. Surgeon General Report on Oral Health challenged dentists to consider how to improve access to care for patients from underserved population groups.¹ One central question is which role dental hygienists can play in this situation.² This discussion focuses quite frequently on the type of supervision hygienists should receive from dentists. Most states in the U.S. have moved towards a decreased level of supervision for dental hygienists.³ This trajectory has a logical end point in the "Direct Access" model of care which implies that hygienists can initiate treatment based on their assessment of patients' needs, treat patients, and can maintain a provider-patient relationship without explicit authorization or presence of a dentist.⁴ However, for these changes to occur, it is imperative that practicing dentists recognize the important role hygienists can play as part of the oral health care team. Educating dental students about the role of dental hygienists early on during their pre-clinical education and then later in clinical settings will help build interprofessional relationships that will lead to an enhanced collaborative practice in the real world setting.⁵ One main question is how to best educate dental and hygiene students about the value of interprofessional care.

AIMS

The objectives were to explore

(a) which benefits dental and dental hygiene students perceive when interprofessional education takes place,

(b) which curricular suggestions they have for interprofessional education, and

(c) whether the number of joint courses is correlated with the perceived benefits of interprofessional education.



METHODS

IRB approval was obtained from the IRB for the Behavioral and Health Sciences at the University of Michigan.

Respondents: Data were collected from 375 dental and 117 dental hygiene students from 12 different universities in the U.S. (See Table 1)

Procedure: The students responded to paper-pencil or a web-based survey.

Table 1: Overview of the background characteristics

Background characteristics	Dental hygiene students	Dental students
# of schools / programs	9	6
# of students	117	376
Year of program: - 1	3%	32%
- 2	58%	44%
- 3	20%	20%
- 4	5%	5%
- In-state	92%	69%
- Out-of-state	8%	27%
- International student	0%	4%
Gender: - Male	5%	53%
- Female	95%	47%
Age: Mean	24.15	25.08
- SD	5.145	3.027
- Range	19-47	21-44

RESULTS

The **first objective** was to explore which benefits dental and dental hygiene students perceive when interprofessional education takes place. The majority of students agreed/agreed strongly that having joint classes with dental/dental hygiene students would allow them to develop better interprofessional relationships, gain a better understanding of the roles of the members of the other profession, and a better understanding what the other profession "is all about" (see Table 2).

Table 2: Responses concerning benefits of intraprofessional education

Having joint classes with dental students allows me	1	2	3	4	5	Mean
- to learn about what dentistry/dental / dhyg hygiene is all about.	8%	18%	26%	32%	16%	3.30
- to gain a better understanding of the roles of dentists/ hygienists.	7%	17%	24%	36%	17%	3.40
- to get to know D/DH students better.	7%	14%	25%	36%	18%	3.43
- to develop better interprofessional relationships.	5%	12%	26%	39%	18%	3.54
Joint classes index (Cronbach alpha = .915)	Mean= 3.44		SD=1.007		Range:1-5	

Legend:
1 Answers ranged from 1 = disagree strongly, 2=disagree, 3=neutral, 4=agree, to 5 = agree strongly.

Table 3a: Responses concerning suggestions for classroom-based intraprofessional education

Classroom-based and lab-based interventions	1	2	3	4	5	Mean
Assigned seating would help students to interact more with each other.	16%	16%	25%	32%	11%	3.05
D and DH students should be partnered up for class work.	9%	13%	29%	35%	14%	3.31
Class time should be set aside for allowing students to communicate with each other.	6%	14%	27%	36%	17%	3.44
More in-class time should be allotted for students to work on inter-disciplinary group projects.	7%	13%	26%	39%	15%	3.41
More in-class group assignments would help facilitate interprofessional cooperation.	10%	16%	27%	37%	11%	3.23
Partnering up in lab would help me to get to know students better.	5%	9%	23%	44%	20%	3.66
I would like to work more collaboratively in labs.	8%	15%	28%	32%	17%	3.36
Interdisciplinary group projects would help facilitate more interactions between students in classes and labs.	5%	11%	27%	45%	12%	3.47
Students should be assigned to group projects throughout the term.	12%	22%	30%	27%	9%	2.99
Unique roles in a group project should be assigned to group members according to their program.	8%	15%	32%	33%	12%	3.27
I would like to take more inter-professional courses with students.	8%	12%	31%	33%	16%	3.37
Students should share more educational experiences with one another.	4%	10%	27%	37%	22%	3.64
Classroom/lab-based interaction index Cronbach alpha=.911	Mean=3.36		SD=.830		Range: 1-5	

The **second objective** was to explore which curricular suggestions they have for interprofessional education. Suggestions of curricular interventions in classroom-based settings included having a lecture about the roles of dentists and dental hygienists and discussions of professional roles in joint classes. Other endorsed classroom-based interactions were to include interprofessional group projects. The majority of dental and dental hygiene students wanted "partnering up" in lab courses; numerous suggestions were made for increased clinical interactions. Only 24% indicated that they interact with students of the other profession regularly. However, 59% wanted to have more joint educational experiences and 49% wanted to take more interprofessional courses with each other.

Table 3b: Responses concerning dental and dental hygiene students' clinical interactions

Responses concerning interactions in clinics	1	2	3	4	5	Mean
D and DH students should shadow one another in the clinics.	11%	13%	22%	32%	23%	3.42
Students should practice patient "hand off" in a clinical setting.	5%	7%	19%	43%	27%	3.80
D and DH students should work together in clinic.	2%	5%	16%	45%	33%	4.01
D and DH students should cooperate more in clinical settings.	3%	3%	17%	44%	33%	4.01
I believe that dentists are partners in the clinics.	2%	5%	14%	44%	35%	4.05
IPE helps students to develop good communication skills when working together.	3%	5%	19%	49%	23%	3.83
I would like to work more collaboratively in clinics.	3%	5%	15%	47%	30%	3.95
Interactions in clinics index (Cronbach alpha =	Mean= 3.79		SD=.779		Range: 1-5	

Legend:
1 Answers ranged from 1 = disagree strongly, 2=disagree, 3=neutral, 4=agree to 5 = agree strongly.

The **third objective** was to explore whether the number of joint courses is correlated with the perceived benefits of interprofessional education. The 12 schools differed in the number of joint courses from 0 to 6 joint courses.

The more courses dental and dental hygiene students jointly attended, the less likely they were to agree

- that joint courses allow them to get to know the members of the other profession better ($r=-.15$; $p<.001$) and
- to develop better interprofessional relationships ($r=.13$; $p < .01$).

DISCUSSION

In order to assure that dental hygienists can practice in a way that allows them to utilize their complete scope of practice, future dentists and dental hygienists need to be well educated about their mutual roles and responsibilities in the dental team. While the majority of dental and dental hygiene students clearly perceived the benefits for joint classes, merely educating students jointly without IPE focused interactions did not result in a better IP understanding. This finding could be due to the fact that both groups of students realize that there is a lack of genuine interprofessional interactions in those joint classes.

CONCLUSIONS

The data showed that

- The majority of the students were positive about having joint classes between dental and dental hygiene students.
- Students endorsed quite a number of suggestions for classroom-based and clinical IPE efforts.
- Merely educating dental and dental hygiene students side-by-side in classes does not result in increased interprofessional understanding. Curricular interventions, especially in clinical settings, should be developed.

REFERENCES

- U.S. Department of Health and Human Services. Oral health in America: A report of the surgeon general. Rockville (MD): U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health. At:<http://profiles.nlm.nih.gov/ps/access/NNBBJT.pdf>
- American Dental Hygienists' Association (ADHA). Facts about the Dental Hygiene Workforce in the United States. Chicago, IL. http://www.adha.org/resources-docs/75118_Facts_About_the_Dental_Hygiene_Workforce.pdf.
- Catlett, A V, Greenlee R. A Retrospective Comparison of Dental Hygiene Supervision Changes from 2001 to 2011. J Dent Hyg 2013;87(3):118-133.
- Gibson-Howell, J. C., & Hicks, M. J. Dental hygienists' role in patient assessments and clinical examinations in US dental practices: A review of the literature. J Allied Health 2010;39(1):1E-5E.
- Ritchie C, Dann L, Ford PJ. Shared learning for oral health therapy and dental students: enhanced understanding of roles and responsibilities through interprofessional education. Eur J Dent Educ 2013;17:e56-e63.

ACKNOWLEDGEMENT

We want to thank the academic deans of the dental schools involved for forwarding a recruitment email to their students, and the students for responding to our survey.

Team Simulation to Facilitate Learning of Interprofessional Education Competencies

S Munz, DDS, M Aebersold, PhD, RN, FAAN, M Bakewell, PhD, L Cherara, BSN, RN, DNPc, D Fischer, MSW, D Kurz, MHSA, P Mullan, PhD, A Hart, MD



Background

Simulation, as a method, has been proven to foster and practice team-based decision making in health professions education. Using simulation exercises, students are provided an opportunity to develop skills in ethics/professionalism, communication, roles and responsibilities, and teams/teamwork while navigating the nuances of these behaviors in an observed and mentored setting. A simulation exercise was designed for inclusion in the University of Michigan's Interprofessional Education (IPE) Course on Team-Based Clinical Decision Making for the Winter semester 2017. Utilizing mixed methodology, our interprofessional faculty team has three specific aims: 1) to evaluate if the sequence of these experiences affects observable team performance 2) to identify if measured teamwork attitudes and behaviors correlate to the timing of the simulation exposure and 3) how these experiences affect the students' perception of individual and overall team performance.

Learning Objectives

1. Function as a contributing member of the team caring for an acutely ill hospitalized patient.
2. Use effective verbal and nonverbal communication skills.
3. Accept responsibility for the care of their simulated patient and her outcome(s).
4. Formulate an appropriate and achievable plan of care that is consistent with the patient's and family's values and goals.
5. Actively elicit input and incorporate treatment recommendations from other team members given the evolving clinical need.
6. Demonstrate respect for others' roles and responsibilities.

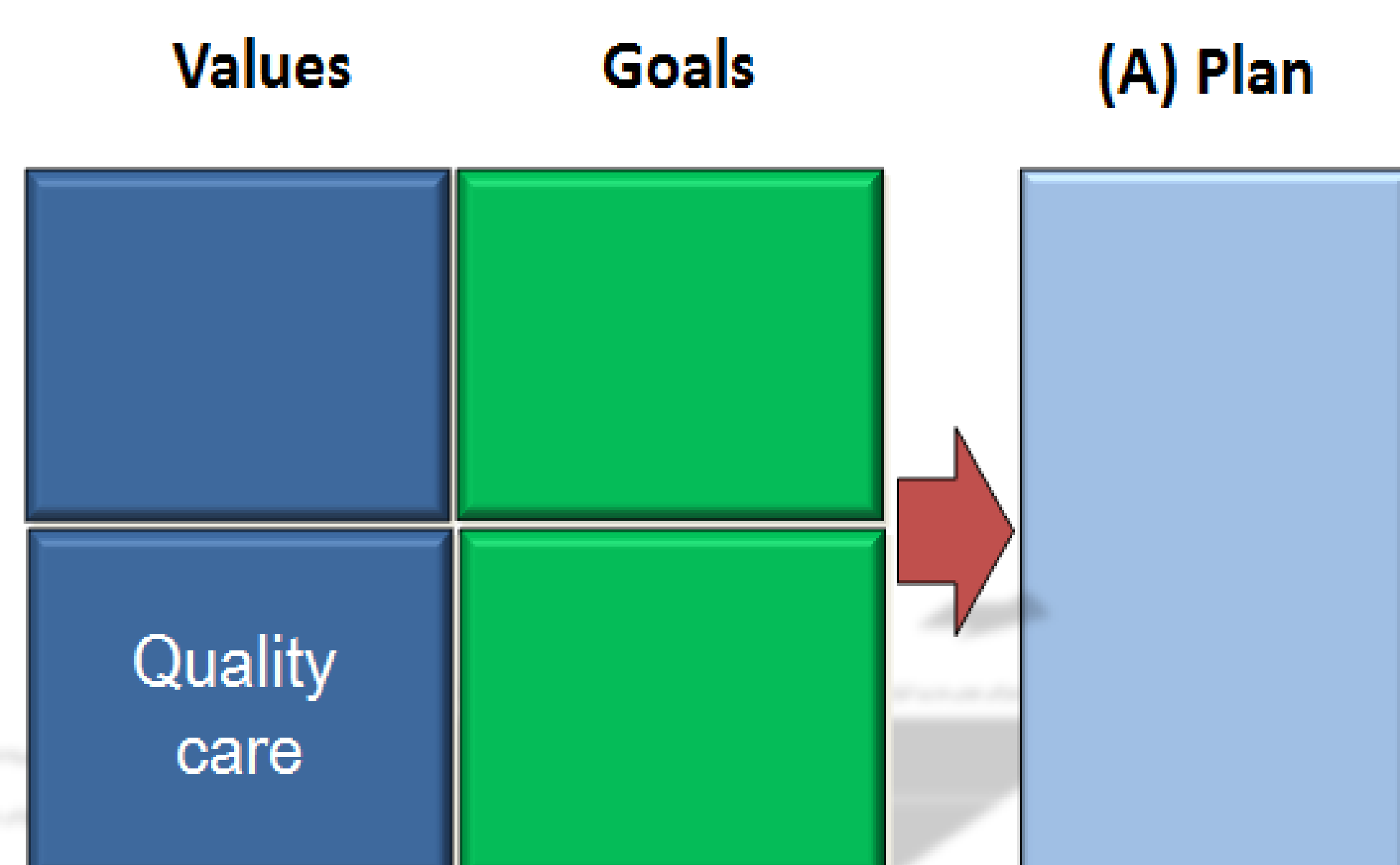
Simulation and Case Studies

A group pre-brief is followed by concurrent activities:

- A. an acute care simulated patient scenario involving an 88-year-old female who is acutely-ill and presents for emergency evaluation after a recent surgery and hospital stay related to an oral squamous cell carcinoma.



- B. a brief lecture followed by group activity utilizing a values and goals matrix to facilitate shared decision-making. The session concludes with a group debrief. There is an optional reflection that students are invited to participate in after the session ends.



Preliminary Results

Health professions students were from Medicine, Pharmacy, Nursing, Dentistry, and Social Work. There are three main assessment instruments based on:

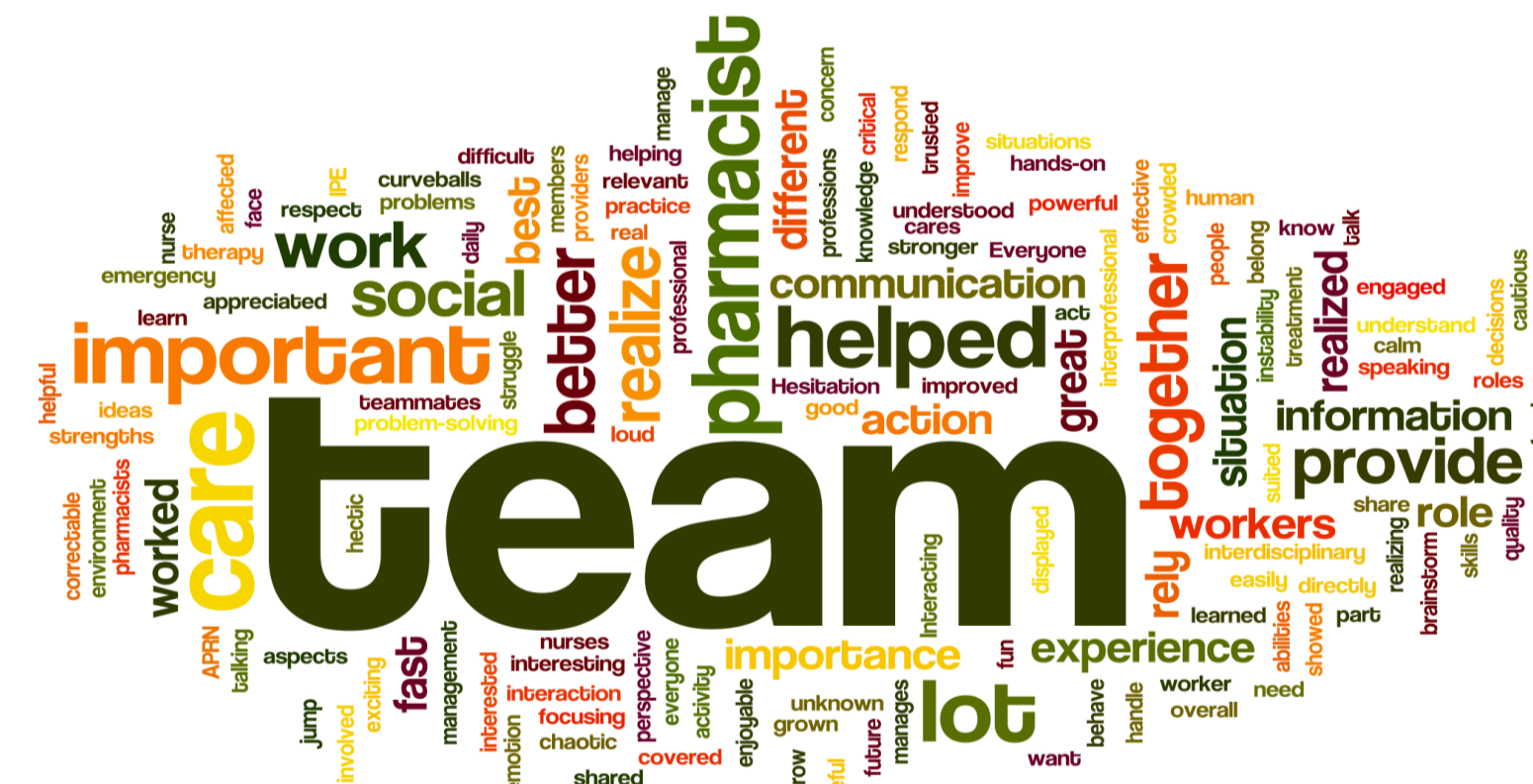
- A. the validated Communication and Teamwork Skills (CATS) Assessment framework¹ with and without crisis:

- B. a global assessment of readiness to practice², graded from 1-4 as follows:

B. PBA Global Assessment²

Level at which completed elements of the simulation were performed	Unable to perform simulation exercise, or part observed, under supervision	Able to perform the simulation exercise, or part of it, with supervision	Able to perform simulation exercise with minimum supervision	Competent to perform unsupervised
Circle one	1	2	3	4

- C. an optional student reflection:



Communication and Teamwork Skills (CATS) Assessment Instrument, Initial Version

Category	Behavior	Observed and Count	Variable in Observed	Expected but not Observed	Comments
Coordination	Working				
	Working				
	Working				
	Working				
Situational Awareness	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
Cooperation	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
Communication	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
	Verbally recognized				

Category	Behavior	Observed and Count	Variable in Observed	Expected but not Observed	Comments
Coordination	Working				
	Working				
	Working				
	Working				
Situational Awareness	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
Cooperation	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
Communication	Verbally recognized				
	Verbally recognized				
	Verbally recognized				
	Verbally recognized				

* SBAR, situation-background-assessment-recommendation.

Figure 1. Each time a behavior is either observed (as good or variable) or expected but not observed, a mark goes into the appropriate column. Space is also available for free-text comments and field notes to clarify the observation and provide examples of the behaviors.

Analysis and Discussion

Data from 16 teams of an anticipated total of 20 teams of IPE students. We completed a preliminary analysis of the differences in teams' performance, comparing two groups. Group A represents those participants from Week 1 to Week 4, and Group B represents Week 5 to Week 8. Each group represents an average of (6-8) IP students from various disciplines (Medicine, Pharmacy, Nursing, Dentistry, and Social Work). The overall CATS weighted performance was 60.31 (4.87) and 81.25 (2.19) respectively, which was statistically significant to a $p=0.0015$. Students' reflections on the overall simulation experience demonstrated that their perceptions of each other roles and responsibilities has changed as a result of collaboration with their teams during the course.

CATS Weighted-Score By Group

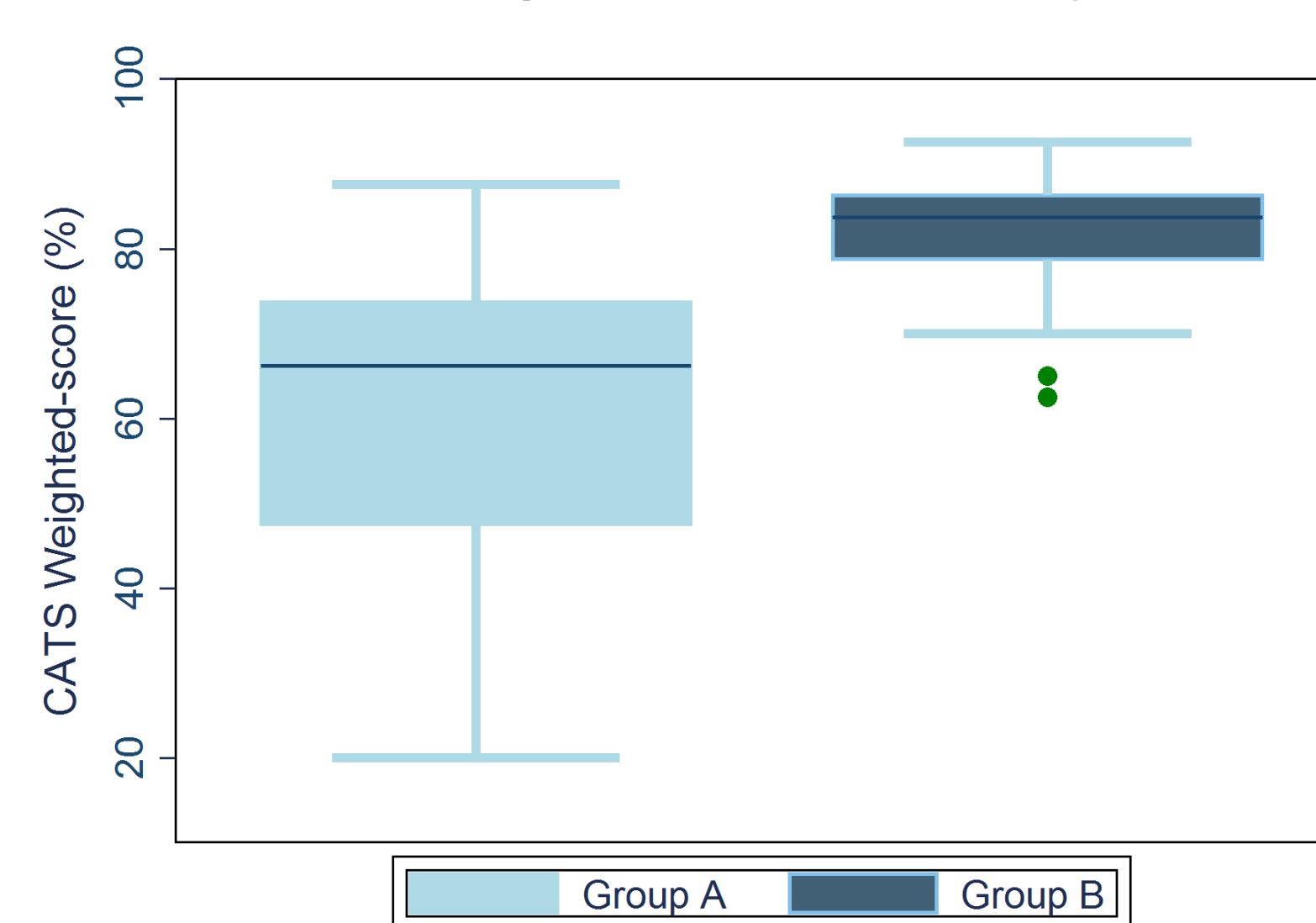


Table 1: Progression of Teams CATS Scores in Simulation Experience over Time

Overall CATS score	Without crisis situation		With crisis situation		P value
	Group A (n = 16) Mean ± SD	Group B (n = 16) Mean ± SD	Group A (n = 16) Mean ± SD	Group B (n = 16) Mean ± SD	
	10.25 ± 0.83	13.53 ± 0.36	12.06 ± 0.97	16.25 ± 0.44	0.0015

Group A denotes participants from Week 1 to Week 4; Group B denotes participants from Week 5 to Week 8.

Table 2: PBA Global Assessment Scores

PBA score	Group A n (%)	Group B n (%)
1	0 (0)	0 (0)
2	6 (37.5)	4 (25)
3	10 (62.5)	9 (56.25)
4	0 (0)	3 (18.75)

Group A denotes participants from Week 1 to Week 4; Group B denotes participants from Week 5 to Week 8.

References

1. Frankel A et al. Using the Communication and Teamwork Skills (CATS) Assessment to Measure Healthcare Team Performance. *The Joint Commission Journal on Quality and Safety*; 2007; 33(9): 549-558.
2. Crossley J and Jolly B. Making sense of work based assessment: ask the right questions, in the right way, of the right things, of the right people. *Medical Education*; 2012; 46: 28-37.

Lessons Learned and Future Steps

Counter measures are considered for adjustments in the structure and function of the experience weekly. Based on student feedback thus far, unique lessons learned include an expected response to the cognitive and emotional load of managing a seriously ill patient.

Adjustment: The final team debrief was modified to include content on self-care, including dual management of the cognitive and emotional load, stress response leading to either a good or bad outcome (compassion fatigue, burnout or resilience) types of coping mechanisms (active versus avoidance), and finding balance.

Simulation has a proven track record for positive team learning despite certain known challenges, which is thus far supported in these findings. Of particular relevance, students may benefit from training in health professional self-care and coping mechanisms in acute patient care scenarios. With continued student feedback and observation data, further simulation scenarios may be developed. The process for simulation design of this module as well as identification of logistical and design challenges will be addressed in a distributable format to others who are committed to using simulation in their team-based IPE experiences.



Quantitative and Qualitative Assessment of Clinical Performance Feedback Given to Medical Students via an Electronic Feedback System

Gabrielle Shaughness BA, Patrick Georgoff MD, Gurjit Sandhu PhD, Lisa Leininger MPH, Rishindra Reddy MD, David T. Hughes MD
University of Michigan Department of Surgery

Objective

The feedback medical students receive during clinical rotations, traditionally verbal and not formally captured, plays a critical role in student development. This study evaluates written daily feedback given to students through a novel web-based feedback system and identifies deficiencies that may benefit from targeted education and system improvement in the delivery of medical student feedback.

Methods

A *Minute Feedback System* was used to collect feedback given to medical students during their surgery clerkship from May 2015-April 2016. Using qualitative content analysis, feedback comments were categorized as: Encouraging, Corrective, Specific, and Non-specific. *Effective* feedback was a combination of specific and either corrective or encouraging feedback; *Ineffective* feedback contained only non-specific comments; *Mediocre* feedback contained elements of both *Effective* and *Ineffective* comments.

Results

Category	Definition	Examples of Feedback Responses
Effective Feedback	Encouraging and Specific	"Did an excellent job providing exposure and identifying anatomic structures of interest in the neck. I tried to go through the work up and preparation of the patient who had Graves Disease with X and he answered the majority of the questions correctly, or was at least providing well thought out, logical answers when not completely correct."
	Corrective and Specific	"Make sure you start and end the stitch below the dermis, and avoid unnecessary harsh handling of the tissue."
	Encouraging, Corrective, and Specific	"Need to identify the dermal-epidermal junction and practice making your suture tails come out on the same side of the loop. Good job though, keep working on it."
Mediocre Feedback	Encouraging, Corrective, Specific, and Non-Specific	"Followed directions well. Understood the basic set up for laparoscopic cases and the challenges of bariatric airway. Asked questions pertinent to the case. Practice instrument tying."
Ineffective Feedback	Encouraging and Non-Specific	"Great job. Interested and engaged. Keep working hard and feel free to ask questions and get involved."

Table 2: Examples of feedback provided by faculty and residents to third year medical students during the surgery clerkship.

3,191 feedback requests were sent by medical students and 2,029 faculty/resident feedback responses were received. The overall response rate was 62%. *Non-specific* feedback comprised 80% of faculty, 83% of senior resident, and 78% of junior resident comments. *Specific* feedback was given by only 35% of faculty, 17% of senior residents, and 26% of junior residents. Faculty provided *Effective* feedback in only 16% of comments, senior residents 8%, and junior residents 17%. *Mediocre* feedback comprised 13% of faculty, 9% of senior resident, and 7% of junior resident comments. *Ineffective* feedback comprised 67% of all feedback: 60% of faculty, 72% of senior resident, and 68% of junior resident feedback.

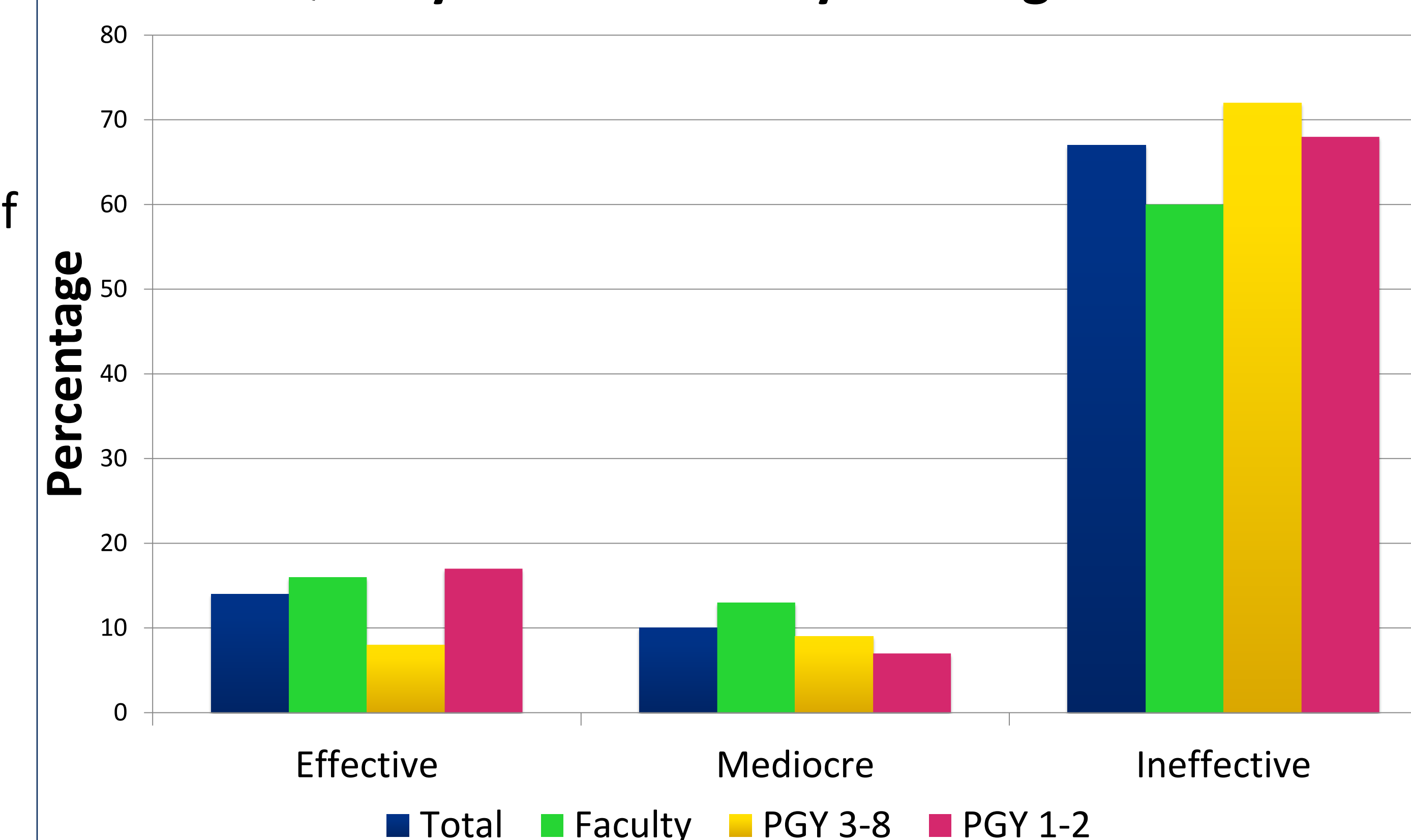
	Encouraging	Corrective	Non-Specific	Specific
Total	91	34	81	20
Faculty	93	37	80	35
Sr. Residents	90	33	83	17
Jr. Residents	94	35	78	26

Table 1: Categorization of feedback given to third year medical students during the surgery clerkship (by percentage)

Conclusions

The majority of resident and faculty feedback to medical students using an electronic, email-based application during their surgery clerkship was non-specific and encouraging and therefore of limited effectiveness. *Ineffective* feedback is given three times more often than *Effective* feedback. This presents an opportunity for resident/faculty development and education regarding optimal feedback techniques.

Quality of Feedback by Training Level



PGY: post-graduate year

Effective Feedback:

- Encouraging and Specific
- Specific and Corrective or
- Encouraging, Specific and Corrective

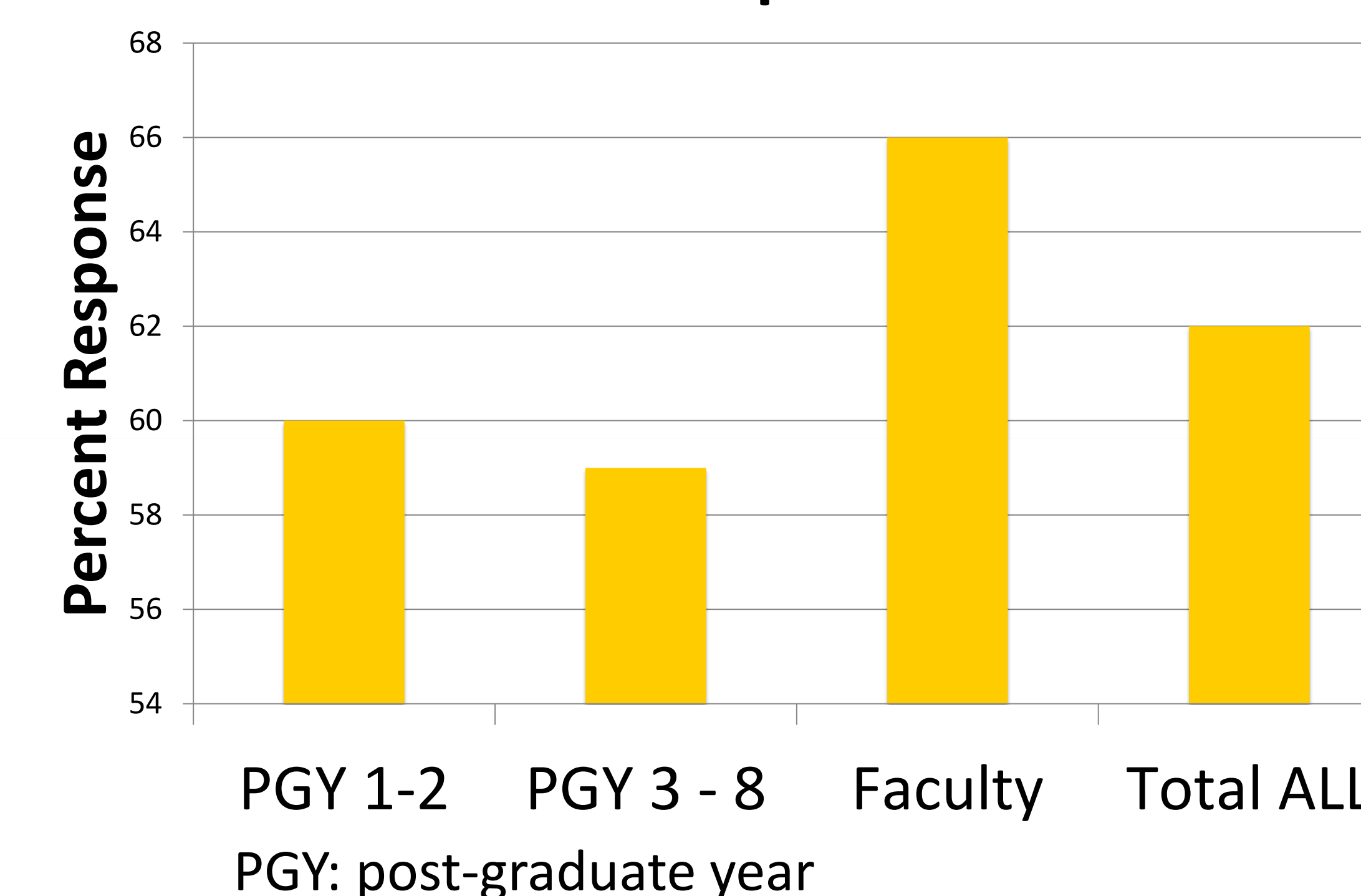
Mediocre Feedback:

- Encouraging, Specific, Corrective, and Non-Specific

Ineffective Feedback:

- Encouraging and Non-Specific
- Non-Specific and Corrective or
- Encouraging, Non-Specific and Corrective

Feedback Response Rate





Medical Students' Developmental Progression across the ACGME Competencies during their Clinical Clerkship Year

MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

Helen Morgan MD, John Burkhardt MD, MA, Leif Myklebust MS, Johmarx Patton MD, Meg Wolff MD, Nikki Zaidi PhD, Sally Santen MD, PhD

Introduction

- As undergraduate medical education shifts towards competency based education, consideration needs to be given for how competencies are assessed and attained.
- The objective of this study was to determine if medical students had developmental progression across the Accreditation Council of Graduate Medical Education (ACGME) competencies during their clinical clerkship year.

Methods

- In 2014, UMMS revised the institutional competencies to include the six ACGME competencies:

Patient Care

Medical Knowledge

Communication

Professionalism

Systems Based Practice

Practice Based Learning

- Attending physicians and house officers assessed medical student performance at the completion of the seven required clinical clerkships using a standard 9 point Likert-like scale (see Figure 1)

Figure 1. UMMS Clerkship Assessment Form Scale

1. REQUIRED: PATIENT CARE. Students will provide patient-centered care that is compassionate, culturally competent, appropriate, and effective for the treatment of health problems and the promotion of health.								
Unsatisfactory Insufficient for this level.		Approaching Competent Development still needed.		Competent -> Proficient Strong to Excellent.		Excellent Proficient at intern level.		Exemplary Proficient at senior-resident level
1	2	3	4	5	6	7	8	9

- Aggregate means (at one month intervals over the course of this year), were determined for each of the competencies.
- Single linear regression analysis was performed for each competency to examine for statistically significant increases in competency measurement.

Results

From 5/2014 - 4/2016,
361 medical students were assessed

On average, students
received **41** assessments

Total of **14,863**
assessments

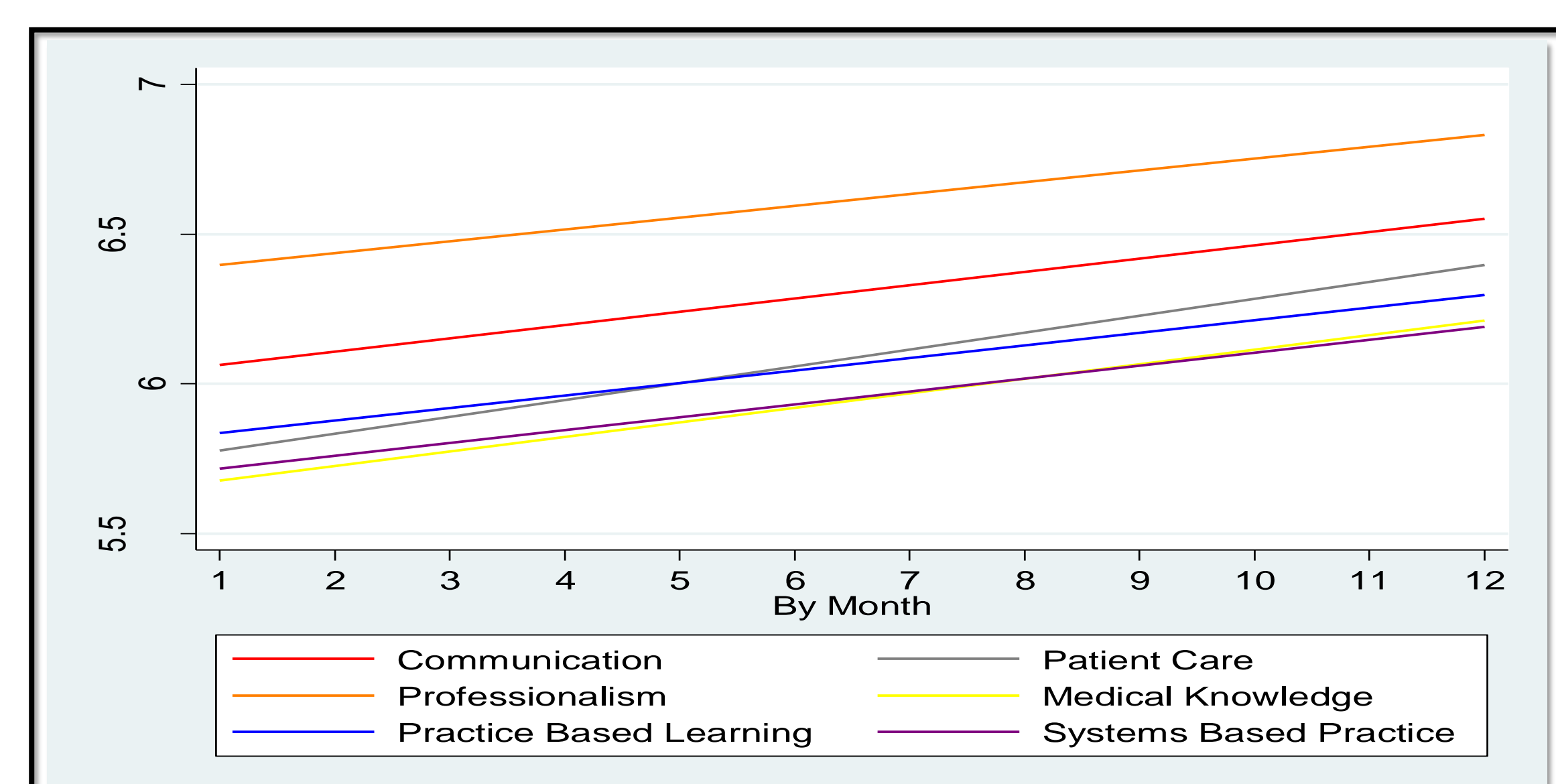
- Students demonstrated increasing competency over the year as shown by the aggregate means increasing significantly for all six of the ACGME competencies.

Table 1 Competency Score Change Over Time

*P<0.05, Table displays single regression results between Score and Time by Month

Competency Domain	Increase in Score per Month of Time	Expected Change in Score over One Year	95% Confidence Interval
Communication	0.04*	0.48	0.01 - 0.08
Medical Knowledge	0.05*	0.60	0.00 - 0.09
Patient Care	0.06*	0.72	0.01 - 0.10
Practice Based Learning	0.04*	0.48	0.00 - 0.08
Professionalism	0.04*	0.48	0.01 - 0.07
Systems Based Practice	0.04*	0.48	0.00 - 0.08

Figure 2: Competency Score Trends Over Time



Discussion

- Our data demonstrated developmental growth of medical students across the competencies.
- If competency based education is indeed going to ease the transition between UME and GME, then we need to demonstrate learners' developmental progression through the continuum.

Entrustment of Medical Students with Supervised Procedures during Core Clerkships

Darci C. Foote, MS; Niki Matsuko, BS; Rishindra M. Reddy, MD; Gurjit Sandhu, PhD

Introduction: Increased regulations have limited medical student participation in patient care as evidenced by declining student participation in supervised bedside procedures. Program directors across specialties and graduates themselves expressed concerns over poor preparation for internship. The authors sought to understand medical student entrustment with procedures and variances in entrustment between core clerkships (family medicine, internal medicine, neurology, obstetrics/gynecology, pediatrics, psychiatry, surgery) during the first clinical year.

Methods: An online survey was distributed to students who had completed their first clinical year at an allopathic, US-based medical school. Students were queried on attitudes towards procedures, procedures they were exposed to and performed, and factors important in enabling performance. Surrogates for entrustment were constructed including Performance Rate of Student (PRS= $\frac{\text{performed procedures}}{\text{exposed procedures}}$). Procedure complexity was incorporated through Procedure Difficulty Ratings (PDR) as assigned by clerkship directors. Entrustment was also measured through Procedure Difficulty score of Student (PDS= $2 \times \frac{\text{PDR performed}}{\text{PDR exposed}}$).

Conclusions: Medical student participation in supervised procedures is essential to developing competent graduates prepared for internship. Students experience higher entrustment in procedural clerkships, especially surgery. Target areas for increased participation were identified as procedures frequently performed by interns and to which students have high exposure. Ways to increase student performance are rotating on procedural teams, simulation, and "boot camp" rotations. Additionally, faculty and resident training may help foster safe teaching methods that increase student procedural performance and ultimately preparation for internship.

Results

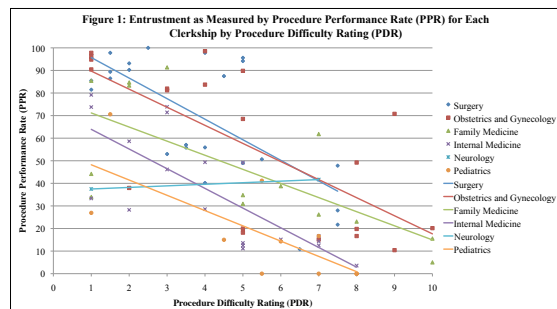


Figure 1: PDR versus PPR (a surrogate for entrustment) is graphed for every procedure queried by clerkship. Best fit lines were generated for every clerkship. In general, surgery had the highest level of entrustment for each PDR, while pediatrics had the lowest entrustment for each PDR. The entrustment of Neurology students for a given PDR is difficult to generalize as only 2 procedures were queried. Psychiatry was omitted from the figure as there was only one procedure queried.

Results

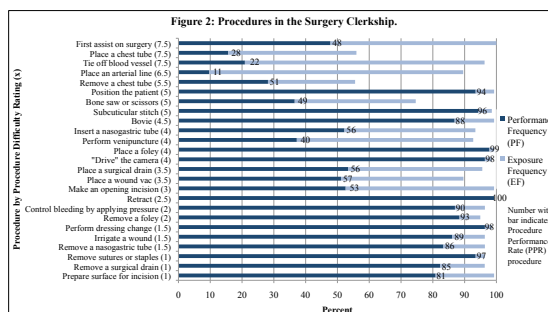


Figure 2: Procedure performance and exposure arranged by Procedure Difficulty Rating (PDR). Low PDR, high exposure (EF) procedures that currently have low performance frequency (PF), such as inserting a nasogastric tube, placing a surgical drain, placing a wound vac, or making an opening incision are viable targets for increased student involvement. Procedures such as placing a foley catheter, performing dressing changes, and removing surgical drains should continue to have high student involvement.

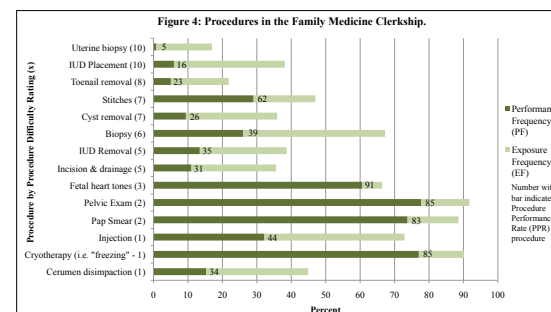


Figure 4: Procedure performance and exposure arranged by Procedure Difficulty Rating (PDR). Low PDR, high exposure procedures, such as pelvic exam, pap smears, injections, and cryotherapy, are viable targets for increased student involvement.

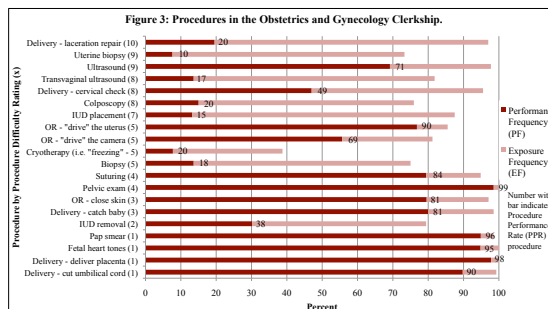


Figure 3: Procedure performance and exposure arranged by Procedure Difficulty Rating (PDR). Low PDR, high exposure (EF) procedures that currently have low performance frequency (PF), such as intrauterine device (IUD) removal and biopsy are viable targets for increased student involvement. Procedures such as pelvic exam, pap smears, delivery of the placenta, or catching a baby should continue to have high student involvement.

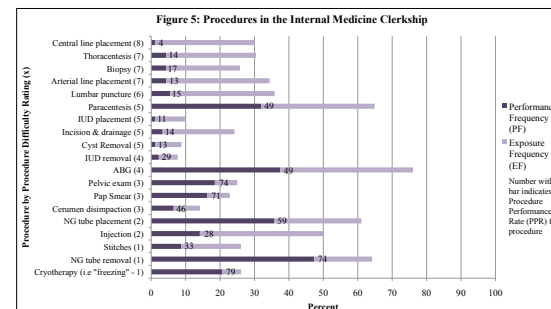


Figure 5: Procedure performance and exposure arranged by Procedure Difficulty Rating (PDR). Low PDR, high exposure procedures, such as arterial blood gas (ABG), nasogastric (NG) tube placement and removal, and even paracentesis, are viable targets for increased student involvement.



DEPARTMENT OF
SURGERY
UNIVERSITY OF MICHIGAN HEALTH SYSTEM

Darci Foote
darci.foote@gmail.com
517.712.1871



Don't Our Students Need Both? Physicians and Social Behavioral Scientists Focus on Different, Yet Mutually Important Aspects of Communication and Physical Exam Skills

Emily Hogkyan, Class of 2019¹, Julie S. Taylor, MD, MSc², Patricia Mullan, PhD¹, Jennifer Stojan, MD, MHPE¹, Michelle Daniel, MD, MHPE¹

¹University of Michigan Medical School, ²The Warren Alpert Medical School of Brown University



Background:

- The enhanced Calgary-Cambridge Model was introduced in 2005.¹
- The model is widely used to teach combined content, process-perceptual approach to clinical skills.

Expanded Calgary-Cambridge Model²



Problems:

- Despite broad acceptance of the Calgary-Cambridge Model, physicians still struggle to teach medical students patient-centered communication and physical exam (PE) skills.
- Even the most empathetic and humanistic physicians tend to focus their instruction and feedback on content.
- This has led several institutions to adapt an innovative model whereby **social behavioral scientists (SBS)** co-teach with **physicians (MD)** in Years 1 & 2 to ensure adequate emphasis on both the content and process-perceptual aspects of these skills.^{3,4}
- Little is known about how co-teachers operationalize instruction.
- The purpose of this study is to explore teacher perspectives of interdisciplinary co-teaching as a student learning of communication and physical exam skills.

Methods:

- Context:** At the Warren Alpert Medical School of Brown University, SBS and physicians longitudinally co-teach clinical skills 3 hours/week for 1 year.
- Subjects and Sampling:** Participants were recruited by email from among 64 possible faculty. Sampling was purposive to achieve maximal variation.
- Data Collection:** 12 semi-structured interviews (6 SBS, 6 MD), and 2 monodisciplinary focus groups were conducted and transcribed verbatim.
- Data Analysis:** The constant comparative method was used to develop a grounded theory and discourse analysis was used to determine if what SBS/MD faculty individually described as contributing to instruction was what was observed by the other.

Results:



Discussion:

- Process, perceptual and content aspects of clinical skills instruction are all important.
- Physician trainees must develop skills that allow them to arrive at sound differential diagnoses with technical precision while being patient-centered.
- This study's findings suggest having both MD and SBS faculty ensures instruction and feedback in a holistic manner that honors the importance of both.
- The theory of social constructivism assumes an individual's cognitive development is influenced by context.
- The co-teaching model brings together complementary viewpoints, and learners are influenced by this intentional relationship.
- This may ensure a fuller realization of the Calgary-Cambridge Model than is possible with MD instructors alone.
- Next steps include evaluation of student perceptions and comparisons of learning outcomes in co-taught versus physician only models.



An innovative model for Clinical Skills Instruction that warrants further exploration.

References:

1. Miller, F., Steinway, J., Benson, J., & Chapp, J. (2005). Making content and process-oriented medical teaching enhance the Calgary-Cambridge guide. *Academic Medicine*, 80(9), 822-826. <https://doi.org/10.1097/00001888-200509000-00010>
2. Wilson, M. L., Ludwin, A., Goren, S., & Hoffman, J. A. (2006). *Learning University of California, Los Angeles*. Available online. <http://www.losangeles.edu/~med/med100/>
3. Taylor, J., Daniel, M., Stojan, J., Taylor, J., Cook, S., Cook, B., Warren Alpert Medical School of Brown University. A Comparative, Integrated Clinical Curriculum. *Med Health* 9, 2020, 96149. doi:10.1001/med.96149



MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

Integrating Health Disparities Education into a Pre-Clinical Curriculum through Site Visits

Jacob Cedarbaum, MEd; Maya Faison, BA; Lauren Merz, BA; Ann A. Soliman, BS
University of Michigan Medical School

Purpose

- Meaningful integration of health disparities content into undergraduate medical curricula is vital to ensuring that new physicians understand the barriers to care that many patients face.
- However, there is a notable lack of opportunities for preclinical students to gain experience with the clinics and community organizations that play a crucial role in the care of underserved patients.
- To address this shortcoming at the University of Michigan Medical School, four second year students designed a site visit experience to expose their peers to underserved populations and the organizations who serve them.

Methods

- Sixteen local partners serving the health needs of groups ranging from prisoners to American Indians to LGBTQ teens were recruited to host medical students for an afternoon.
- Students were split into groups of 6-10 and assigned to visit one site. Following the visits, students had a small group discussion to reflect on their experiences.
- M2 students were assigned to one site location and conducted a 2-3 hour visit during afternoon time allotted for their Doctoring course
- Site visits experiences included:
 - Lecture style-experiences
 - Tours of facilities
 - Illustrative games
 - Case presentations
 - Patient interaction
- A 1-hour debrief in small groups (10-12 students), facilitated by one faculty mentor

Site Visit Locations:

- American Indian Health and Family Services
- Arab Community Center for Economic and Social Services (ACCESS)
- Catholic Social Services of Washtenaw County
- Corner Health Clinic
- Dawn Farms
- Egeler Reception & Guidance Center (Department of Corrections)
- Home of New Vision
- Hope Clinic
- Ozone House
- Packard Health
- Planned Parenthood
- Pediatric Advocacy Initiative (PAI)
- Therapeutic Riding
- Woodland Center Correctional Facility (Department of Corrections)
- Ypsilanti Health Center



Site Coordinator Feedback

Overall experience with site visits:
4.75 / 5 (N=12)

Program Strengths:

“Overall, my experience talking with the students about our clinic was fantastic. It was great to expose students to the many services our site provides, and I loved when the students asked questions or engaged in the conversation.”

“They were very engaged in our presentation and seemed genuinely interested in the ways in which medical-legal partnerships can help address social determinants of health.”

Areas for Improvement:

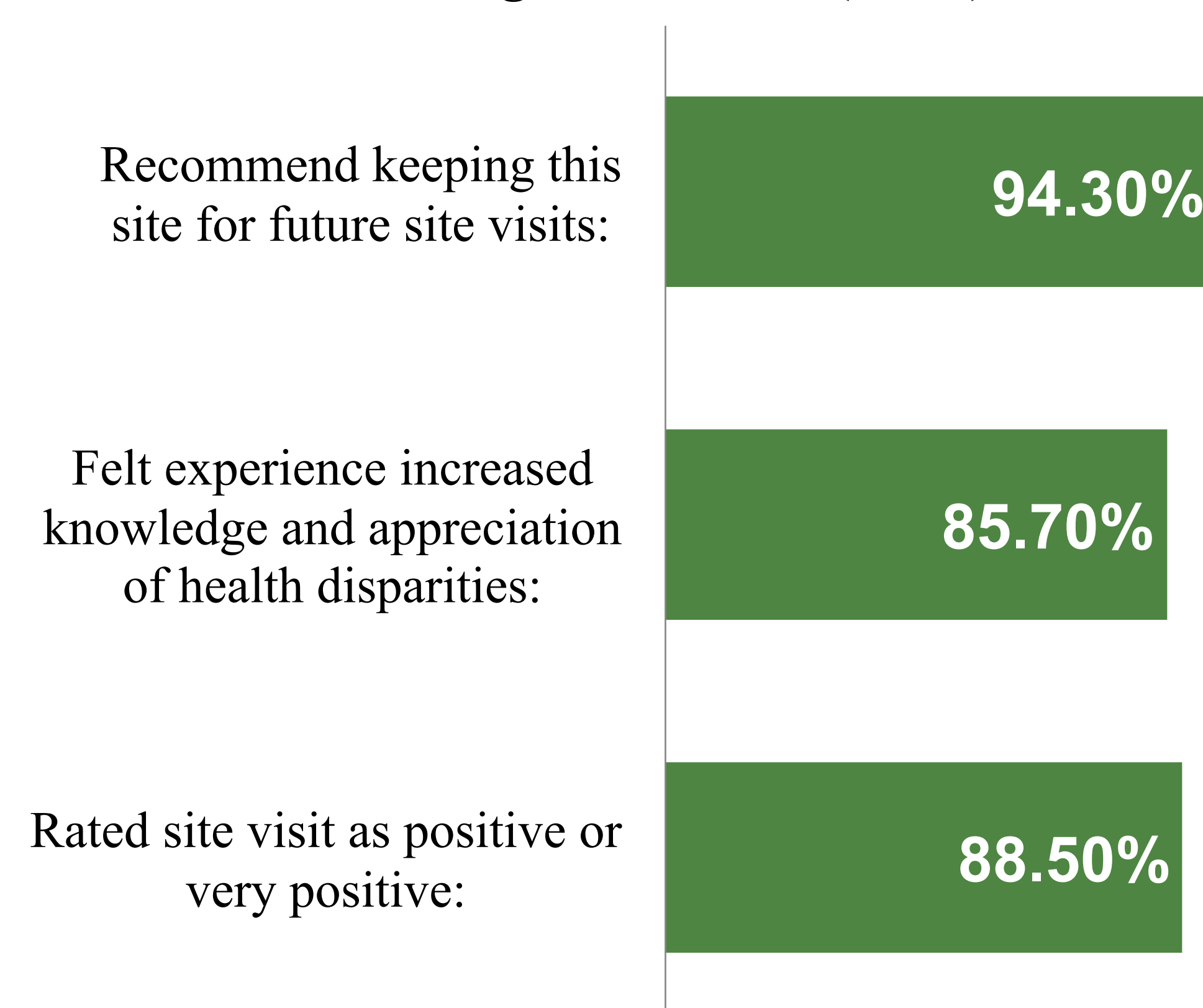
“While I understand that not all students will have a passion for underserved medicine, during one of the visits, I had a particular group that did not appear engaged.”

“Prepare for the visit with anticipatory questions and some basic community knowledge.”

Student Participant Feedback

Overall experience with site visits:
4.4 / 5 (N=70)

Percentage of Students (N=70)



Selected Narrative Feedback:

“It may have been the 2-3 hours that I have learned the most in the past month, which is not what I was expecting! The staff there were so prepared--we did an interactive hour-long activity that simulated the unique challenges that some adolescents and their families face. We learned about many of the services available in the community, but also how hard it can be to access these services and how many hoops often have to be jumped through, the first of which is knowing they exist!... We all found this experience so valuable and thought-provoking that my group chose to spend an hour afterwards at Starbucks talking about what we had learned and how it fit into the context of our lives and our future interactions with patients.”

“The info provided about medical legal partnerships was very practical and applicable to our futures as 3rd year medical students, residents, and doctors.”

“I am so glad this was included in our schedule. I hope students continue to get exposed to the care of these populations in the hopes that more doctors are drawn to these fields as a career.”

“[The site coordinators] were very welcoming and enthusiastic to have us there and teach us. This was a population that I had not learned much about before, so this visit was very informative.”

Conclusions

Strengths:

- **Exposure to new Clinical Contexts**
 - Students enjoyed visiting sites that they would otherwise be unlikely to experience in traditional medical training—including prisons, FQHCs, homeless shelters, and resource centers.
- **Practical Learning**
 - Students appreciated learning about practical, community-based resources that different sites offered and which they could potentially recommend for future patients.
- **Experience of Host Sites**
 - All host sites rated their experience as positive or very positive and would want to host medical students again for future visits.

Weaknesses:

- **Inconsistent Host Site Experiences**
 - Host sites were given suggestions on what topics to discuss with students, but ultimately decided on their own programming. Student feedback mentioned that lecture-style experiences and lack of engagement with the population served detracted from the overall visit.
- **Sites without Strict Underserved Focus**
 - Some sites could have been more explicit in discussing their work with the underserved.

Future Directions:

- **Addition of New Sites**
 - Continue to add new sites in order to provide an even more diverse set of experiences for students. These may include AIDS clinics, women’s shelters, and school health centers.
- **Encourage more Interactive Experiences**
 - Sites that provided more interactive experiences (games, case presentations, and patient interactions) were especially well received.
- **Incorporate into Permanent Curriculum**
 - Integrate into the “Initial Clinical Experience” curriculum for the M1 2016-2017 academic year.

Addressing Unconscious Bias in Standardized Patient Performance

Jennifer Murphy, MPH, MSW, Sally Santen, MD, Laurie Whitman, MSE, David Belmonte, MD
Office of Medical Student Education, University of Michigan Medical School, Ann Arbor, MI

Background

The science of unconscious bias is an emerging area of study that explores how the human brain's natural functioning influences people's perceptions, behaviors, and interactions with others.¹ Leading institutions around the country recognize the negative, and at times discriminatory, impact unconscious bias can have on its workforce and the people they serve. Michigan Medicine is currently training its staff to recognize and address unconscious bias in patient care, education, and research with colleagues, students, and patients. This includes the Standardized Patient Program at our medical school where standardized patients (SPs) are expected to be free of implicit bias as they portray designated patient roles in a consistent manner.



Action

For medical students it is important to have the opportunity to practice taking a sexual history in a safe environment. We developed a sexual history case for first-year medical students to offer them this experience. SPs were trained to portray a 35-45-year-old father in a same sex marriage who is having difficulty with sexual dysfunction. SPs spent approximately 3 hours learning the case, practicing with their peers and SP Educators and receiving feedback prior to the real experience with our students.

Results

During training the SPs exhibited initial discomfort engaging in discussion about specific sexual behaviors. They sought clarification about same-sex sexual activities and appropriate language related to some of these practices. Despite role portrayal training, several SPs independently adopted stereotypical behavior and communication styles historically associated with gay men in the United States. For example, although SPs were instructed to dress professionally, they self-selected somewhat flamboyant and flashy outfits they thought appropriate to this role. This behavior was observed by faculty and SP educators both during the initial training as well as during interviews with students.



Lessons Learned and Next Steps:

Bias is inherent in everyone, and providing explicit training to SPs in this area is necessary, especially as curricula begins to include more culturally sensitive topics, such as sexual orientation and gender identity. It is imperative to assess and address SP implicit and unconscious bias during and post-training to avoid any negative impact the formative and summative experiences for our students. SP training should include unconscious bias awareness training to mitigate SP unconscious bias. The Standardized Patient Program will be requiring all Standardized Patients to attend the University of Michigan's Office of Diversity, Equity and Inclusion's "Unconscious Bias in Everyday Life" training in 2017.

REFERENCES

1. Staats, Cheryl, and Charles Patton. "State of the science: Implicit bias review 2013." Kirwan Institute for the Study of Race and Ethnicity 14 (2013): 129-142.



Implementing a Palliative Medicine Curriculum in Emergency Medicine Residency

MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

Neil Khanna, MD and Carrie Harvey, MD
University of Michigan, Department of Emergency Medicine

Background

- Emergency Medicine clinicians frequently encounter patients with terminal events or who are near end of life ³⁻⁵
- Palliative care discussions have the ability to increase quality of care by avoiding undesired interventions, improving symptom management, and directing patients and families towards appropriate resources such as hospice services ^{3,6}
- When delivering bad news, good communication skills can lead to improved patient-provider relationships and improve patients' and relatives' long-term adjustment ¹⁻³
- Although there is a significant amount of literature with different protocols available for delivering bad news and increased discussion regarding the interplay between Emergency Medicine and Palliative Medicine, the Emergency Medicine Residency does not have a Palliative Medicine curriculum in place
- This project aims to address that deficit by teaching strategies for addressing Goals of Care and communication skills for difficult conversations

Methods



- The curriculum includes didactic lectures from Palliative Medicine literature and simulation of difficult conversations with standardized patients
- Lectures will focus on the GRIEV_ING and SPIKES protocols

Results

- Currently in the process of implementing this curriculum
- Using our data, we hope to modify our curriculum to better suit our resident's needs and assist them in attaining clinical competency in these Palliative Medicine concepts

References

- Fallowfield L. Giving sad and bad news. *Lancet*. 1993 Feb;341(8843):476-8.
- Fallowfield L, Jenkins V. Communicating sad, bad, and difficult news in medicine. *Lancet*. 2004 Jan;363(9405):312-9.
- Gisondi MA. A case for education in palliative and end-of-life care in emergency medicine. *Acad Emerg Med*. 2009 Feb;16(2):181-3.
- Kraus CK, Greenberg MR, Ray DE, Dy SM. Palliative Care Education in Emergency Medicine Residency Training: A Survey of Program Directors, Associate Program Directors, and Assistant Program Directors. *J Pain Symptom Manage*. 2016 May;51(5):898-906.
- Lamba S, Pound A, Rella JG, Compton S. Emergency medicine resident education in palliative care: a needs assessment. *J Palliat Med*. 2012 May;15(5):516-20.
- Stone SC, Mohanty S, Grudzen CR, Shoenberger J, Asch S, Kubrick K, et al. Emergency medicine physicians' perspectives of providing palliative care in an emergency department. *J Palliat Med*. 2011 Dec;14(12):1333-8.



Surgery Olympics – An Opportunity for Medical Students to Learn Surgical Techniques and Gain Research Experience



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

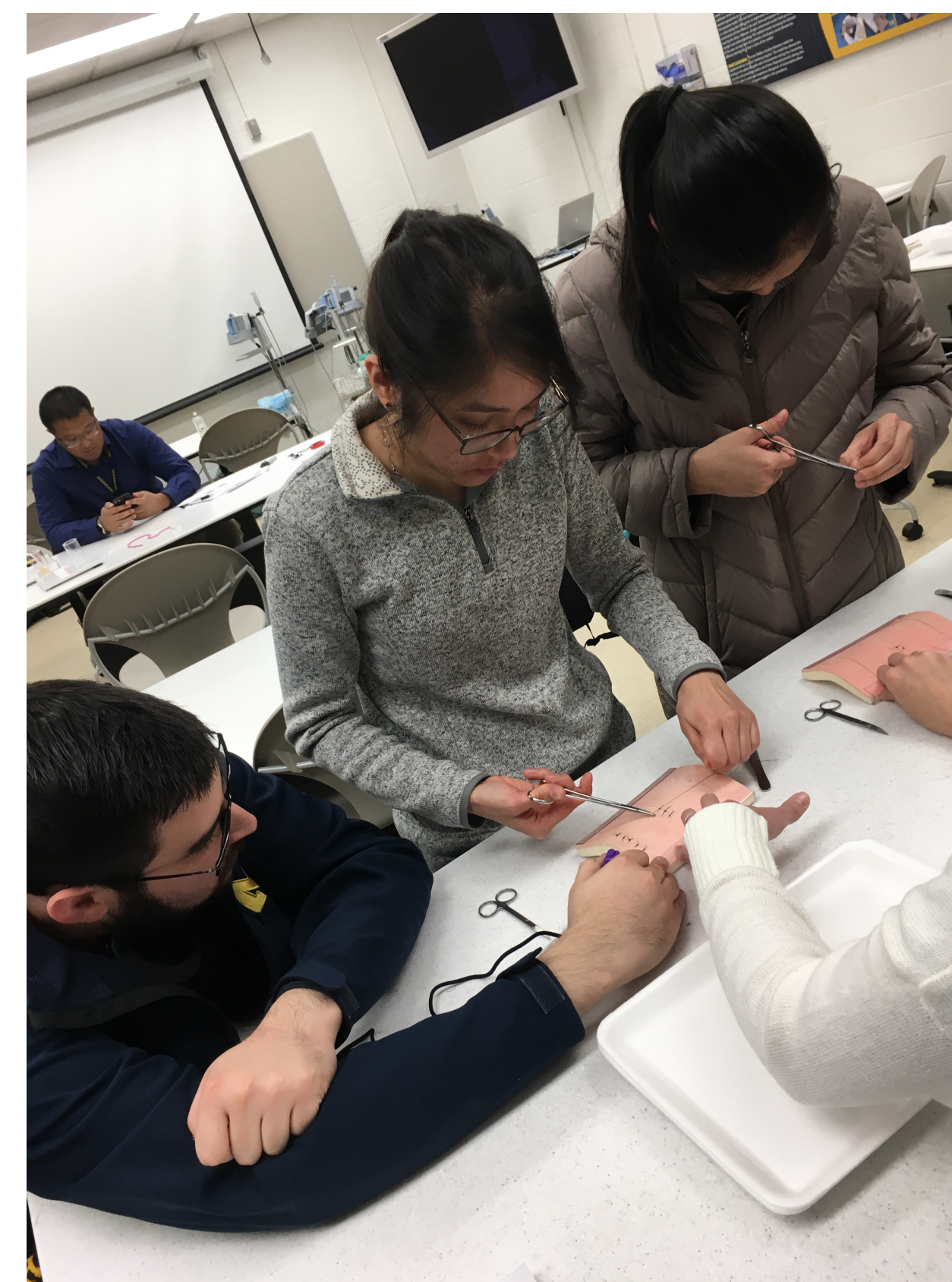
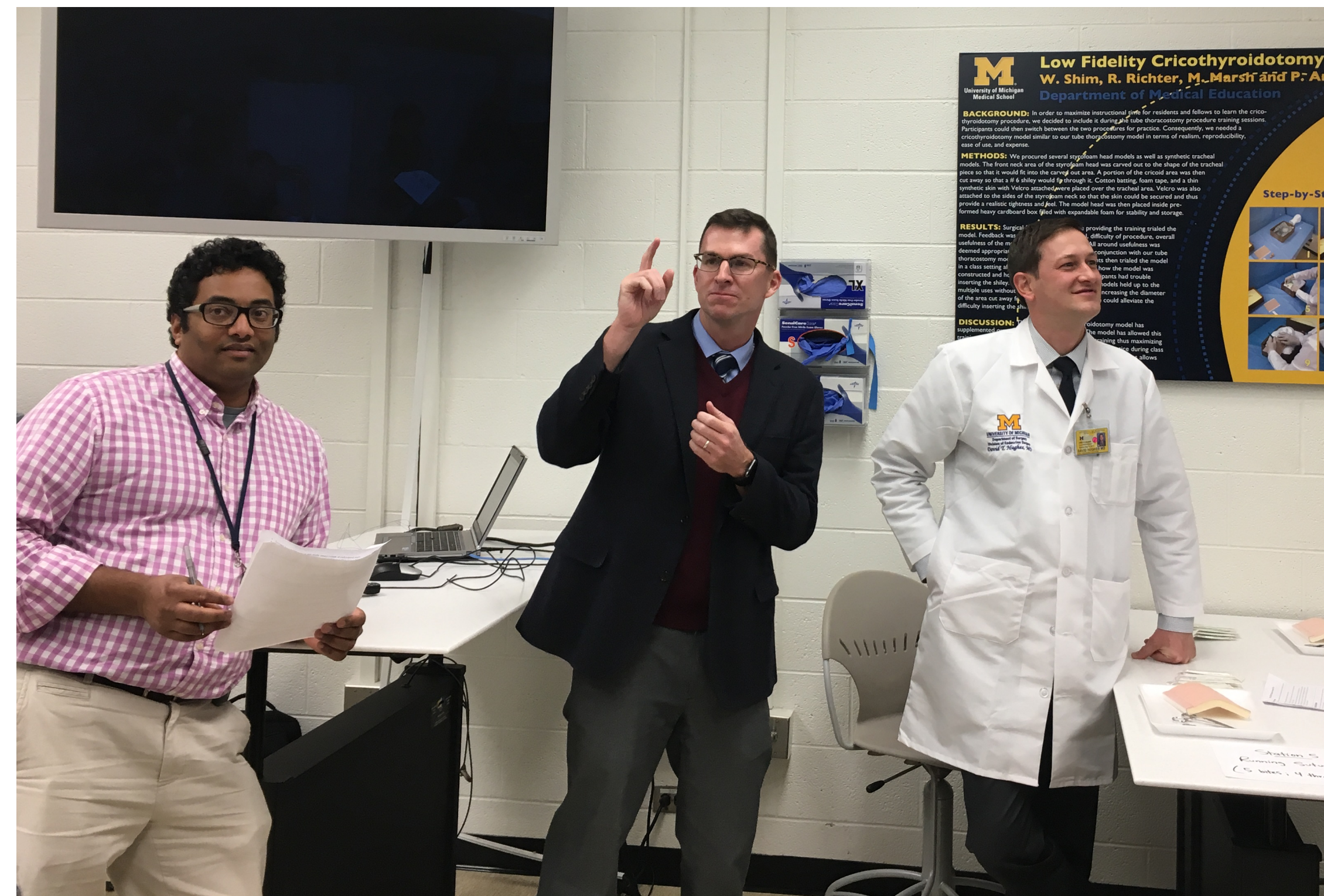
Jessa Miller, BS¹, Owen Brown, BS¹, Neal Al-Attar, BS¹, Gabrielle Shaughness, BS¹, Rishindra Reddy, MD², Michael Englesbe, MD²
University of Michigan Medical School¹, University of Michigan Department of Surgery²

Background

- SCRUBS is the University of Michigan Medical School's surgery interest group
- SCRUBS events:
 - Monthly faculty-student dinners
 - Surgeon lunch talks
 - SIM center workshops
 - Surgery Olympics

Methods

- **Research experience and satisfactory surgical skills** are two important criteria for medical students applying to surgical residency programs
- Surgery Olympics was created to address these needs
- Designed for medical students to participate in during the 10-week summer break after M1 year
- Students were arranged into teams of 4-5 and paired with one faculty mentor to collaborate on a research project
- All students in the program were required to attend a bimonthly SIM center session taught by surgical residents
- At the end of the summer, teams were evaluated on surgical skills (knot-tying, complex suturing, and laparoscopic skills)
- Teams were required to present their research at the Department of Surgery Grand Rounds in the fall
- The team with the highest rankings in both of these categories was deemed winner of the Surgery Olympics
 - Surgical skills competition
 - Grand Rounds research presentation
- A survey was sent out to the 70 students who participated in the Surgery Olympics to evaluate the program's effectiveness



Results

- The survey had a 30% survey response rate (n=21)
- Of the 21 respondents, 71.43% said their team published or were in the process of publishing an abstract and/or manuscript
- The mean rating of surgical skills at the start of the program was 1.29, while the mean rating after completing the program was 2.62
 - 1=poor, 3=average, 5=advanced
- Of the 21 respondents, 66.7% (n=14) rated their experience as average, good, or great

Future Applications and Next Steps

- Increasing the number of faculty mentors in the program will allow for:
 - Smaller research teams
 - Greater individualized mentorship
 - More student involvement
- We hope to get M4 students involved in the program to serve as a peer mentor for M1 students
- We plan to send out a survey to faculty mentors to evaluate if they found the program beneficial

Conclusions

- Overall the Surgery Olympics program was beneficial for the majority of students
- Many teams have since published and presented their research
- Students' surgical skills improved upon completion of the program

Acknowledgements

- Thank you to the University of Michigan Department of Surgery for supporting the SCRUBS program



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

A Needs Assessment of the Geriatric Medicine Rotation for Internal Medicine Residents

Jessica Voit, MD¹, Meredith Gilliam, MD MPH^{1,2}, Fareeha Khan, MD^{1,2}, Erika Manu, MD^{1,2}
Department of Internal Medicine¹, Division of Geriatrics and Palliative Medicine²
University of Michigan, Ann Arbor, MI

Background

- 2014: ~46.2 million adults 65+ years old in the USA
 - 14.5% of the population
 - numbers are expected to grow
- Geriatric Conditions:
 - frailty
 - fall risk
 - dementia
 - elder abuse and neglect
- Not enough geriatricians to provide primary care or screen for geriatric conditions → rely on internists and subspecialists

UM Geriatric Rotation

- ACGME requires an assignment in geriatric medicine for all internal medicine (IM) residents
- Current IM House Officer Geriatrics Rotation:
 - PGY2 and PGY3 residents
 - Receive a welcome email and schedule a few days before the start of the rotation.
 - Entirely in Turner Geriatric Clinics (primary care and specialty)
 - Minimal orientation or didactics

February 2017	Monday	Tuesday	Wednesday	Thursday	Friday
1 st - 14 th House Officer A Dr. [Smiley Face]			1 AM: Geriatrics Primary Care (Dr. Wiggins is absent work w/ (Dr. Min) (resource ID: MIN-RES)) PM: Mobility with (Dr. Alexander) (resource ID: See pts with Attending)	2 AM: Endocrinology (Dr. Herman) (No resource ID. See pts with Attending) PM: Continuity Clinic (psych clinic cd)	3 AM: Geriatrics Primary Care (Dr. Suh) (see pt's with Dr. Suh)
	6 AM: Geriatrics Primary Care (Dr. Manu) (resource ID: MANU-RES) PM: ABSENT 2/5 pm	7 AM: Neurology Movement (Dr. Albin & Dr. Frey) (resource ID: GNEIMRES) PM: Geri-Trans-care/PCP (Dr. Hall) (resource ID: HALL-RES)	8 Same as above	9 Same as above	10 AM: Geriatrics Primary Care (Dr. Mody) (see pt's with Dr. Mody) PM: ABSENT 2/10 pm
Continuity Clinic Schedule for the Month: Thursday p.m.	13 AM: Same as above PM: Neurology Cognitive (Dr. Heidebrink) (No resource ID. See pts with Attending)	14 AM: Same as above PM: Geri-Trans-care/PCP (Dr. Manu) (resource ID: MANU-RES)			

Why Do a Needs Assessment?

- Anecdotal, residents' opinion of the rotation have been mixed
- Geriatric fellowship programs are underfilled
 - 2014: only 53% of accredited fellowship slots filled¹
- UM IM residents historically uninterested in career in Geriatrics
 - from 2005-2017, only 10 (2%) matched in geriatrics
- All residents need strong geriatric training

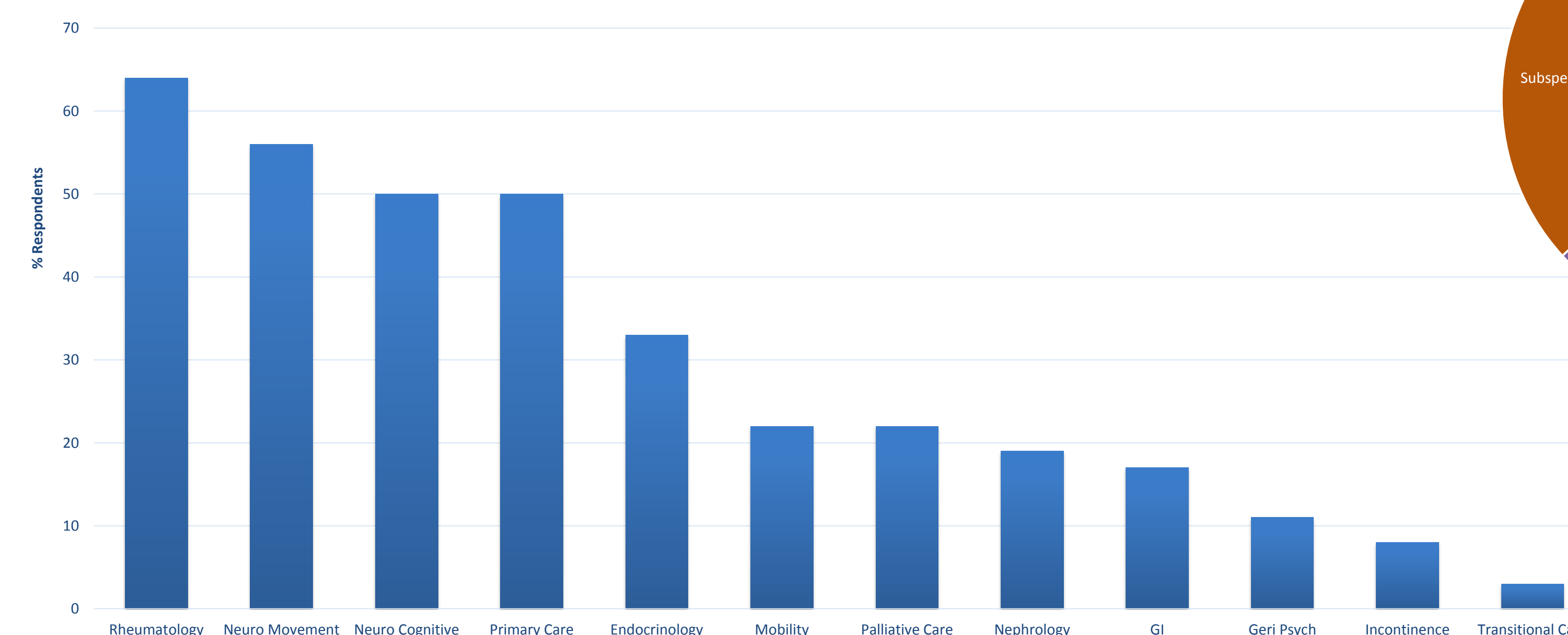
Methods

- December 2016 – January 2017
- Qualtrics survey distributed via email to 63 UM residents or recent graduates (PGY2, PGY3, PGY4) who had completed geriatric rotation in the past 2 years
- Inquired about:
 - Most and least educational clinic experiences
 - Desire for other geriatric learning experiences
 - Degree to which rotation experiences will change their clinical practice

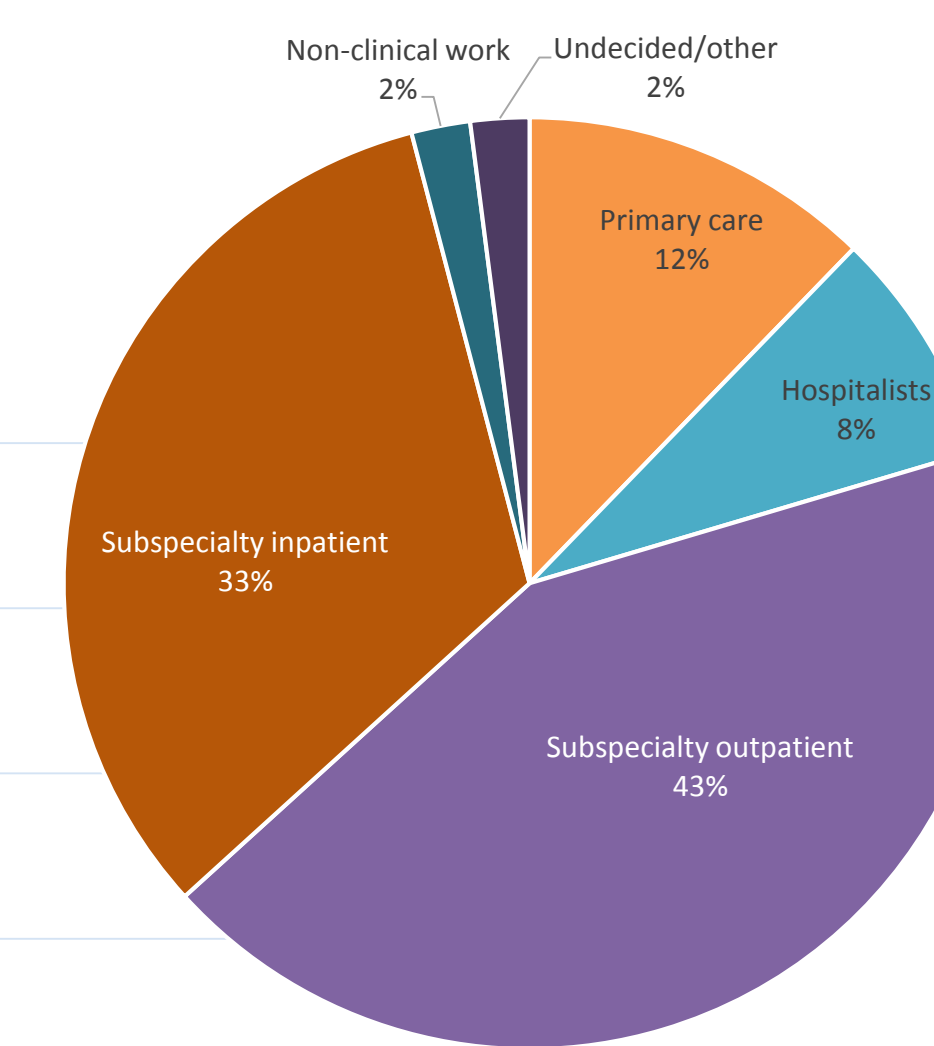
Results

Response rate: 36/63 (57%)

Which clinics have the MOST educational value?



Career interests:



Reasons for high educational value of "top" clinics*

- Quality of faculty teaching
- Types of diseases/conditions seen in clinic
- Amount of time discussing patients with faculty

Sample comments:

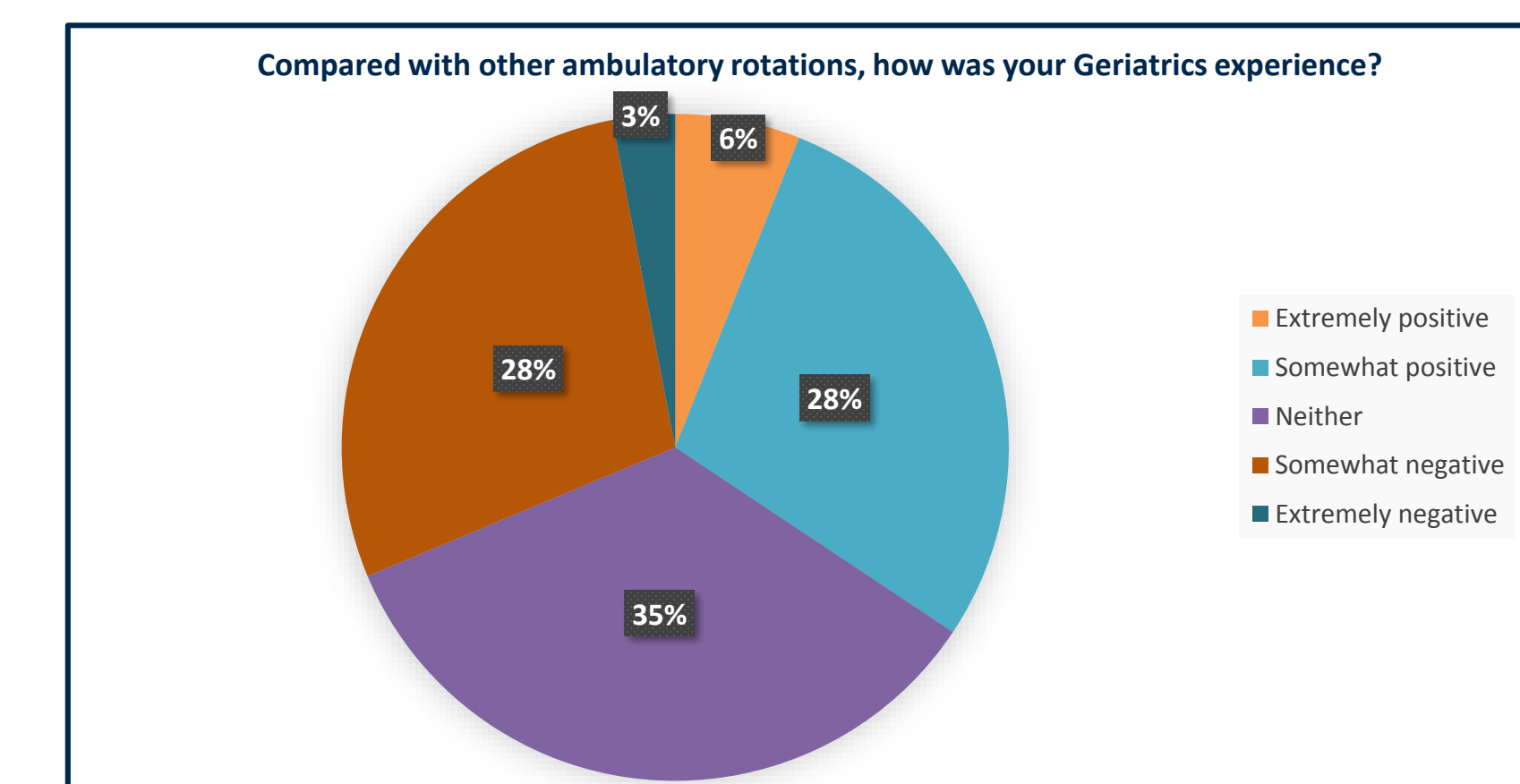
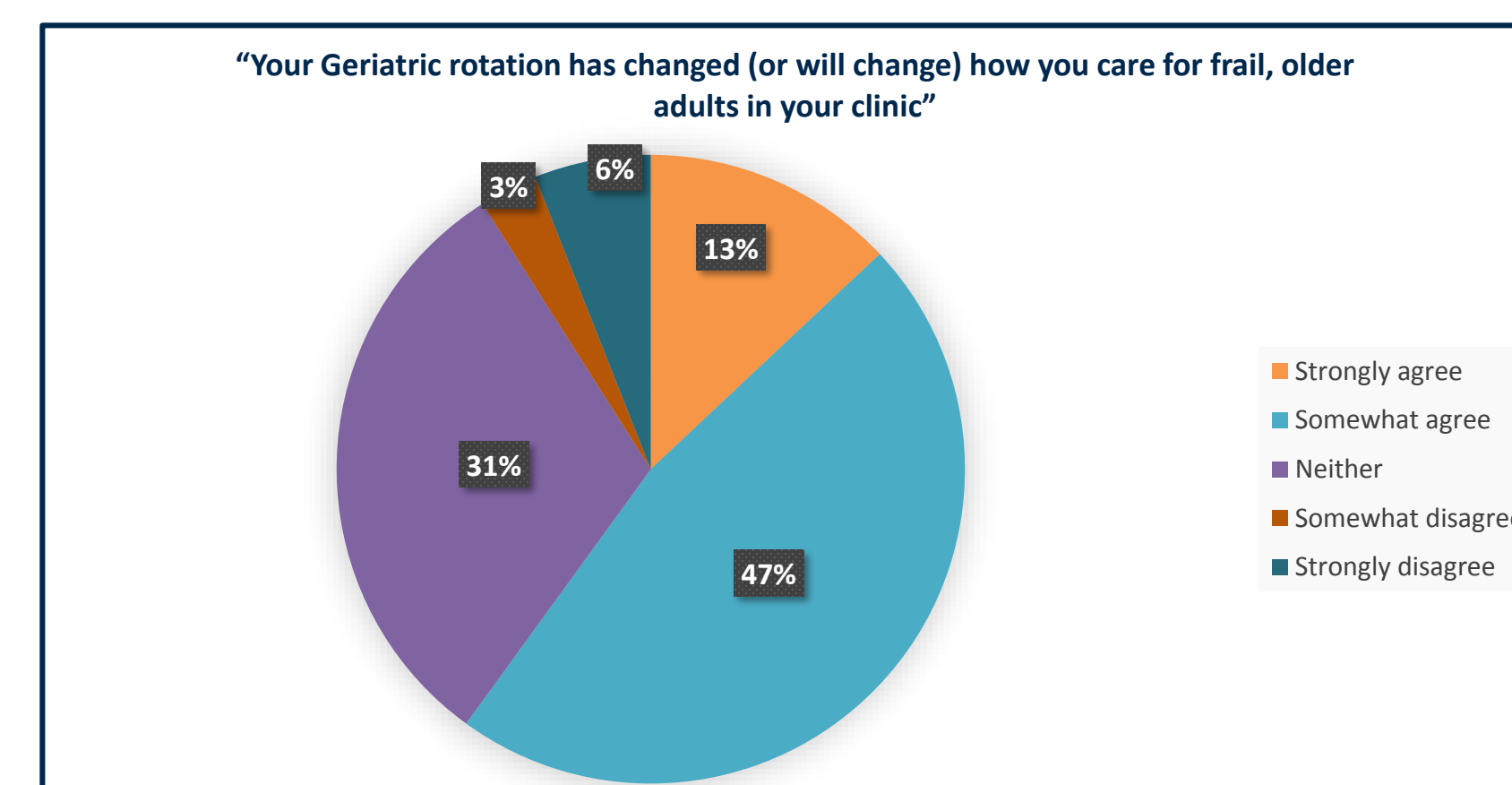
"Dr. X would...spend a lot of time teaching me about the exam"
 "Dr. Y picked high-yield patients for me"

*Respondents picked choices from list

Reasons for low educational value of "bottom" clinics*

- Not enough house officer autonomy
- Clinic running behind schedule
- Not enough time to write notes

*Respondents picked choices from list



Results

What do you think would improve the Geriatrics rotation?*

- Time assigned for didactics [59% in top 2 choices]
- Time set aside to complete clinic notes [44 % in top 2 choices]
- Exposure to different clinical settings (ex: SAR, home-based care) [81%]
- Fewer patients per half-day in primary care clinic
- More subspecialty clinics
- More variety in subspecialty clinics
- More primary care clinics

*Respondents picked choices from list

Conclusion

- House officer (HO) satisfaction with the geriatrics rotation can be improved upon
- HOs find educational benefit in clinics that:
 - Expose them to interesting and relevant diseases
 - Provide resident autonomy
 - Provide high-quality teaching from faculty
- HOs feel sidelined and just there to write notes in some clinics
- Top 3 needs identified by HOs:
 - Time for didactics
 - Time set aside to complete notes
 - Exposure to different clinical settings

Future Steps

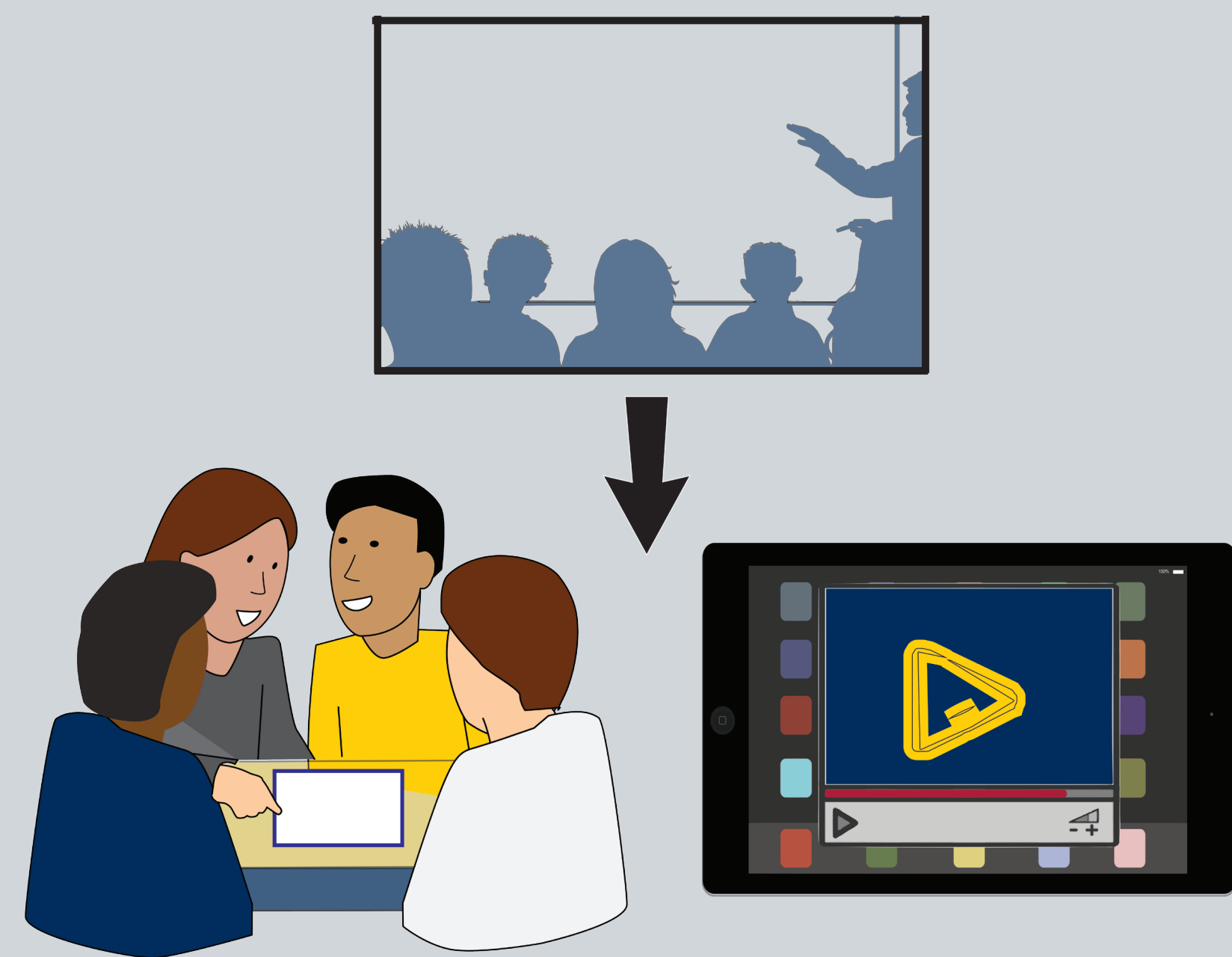
- Provide one-hour formal orientation
- Provide one-page orientation for house officers
 - Focus: rotation expectations and clinic learning objectives
 - Include "concept maps" for key geriatric syndromes to facilitate faculty teaching during clinic or self-directed learning
- Restructure one to two half-days of clinic to allow time for formal didactics and tours of other geriatric clinic settings
 - Would also allot time for finishing notes on those half-days
- Post-implementation: will assess the impact using the Geriatric Medicine section of the Internal Medicine In-Training Exam
 - Compare changes in geriatric scores

VI. References

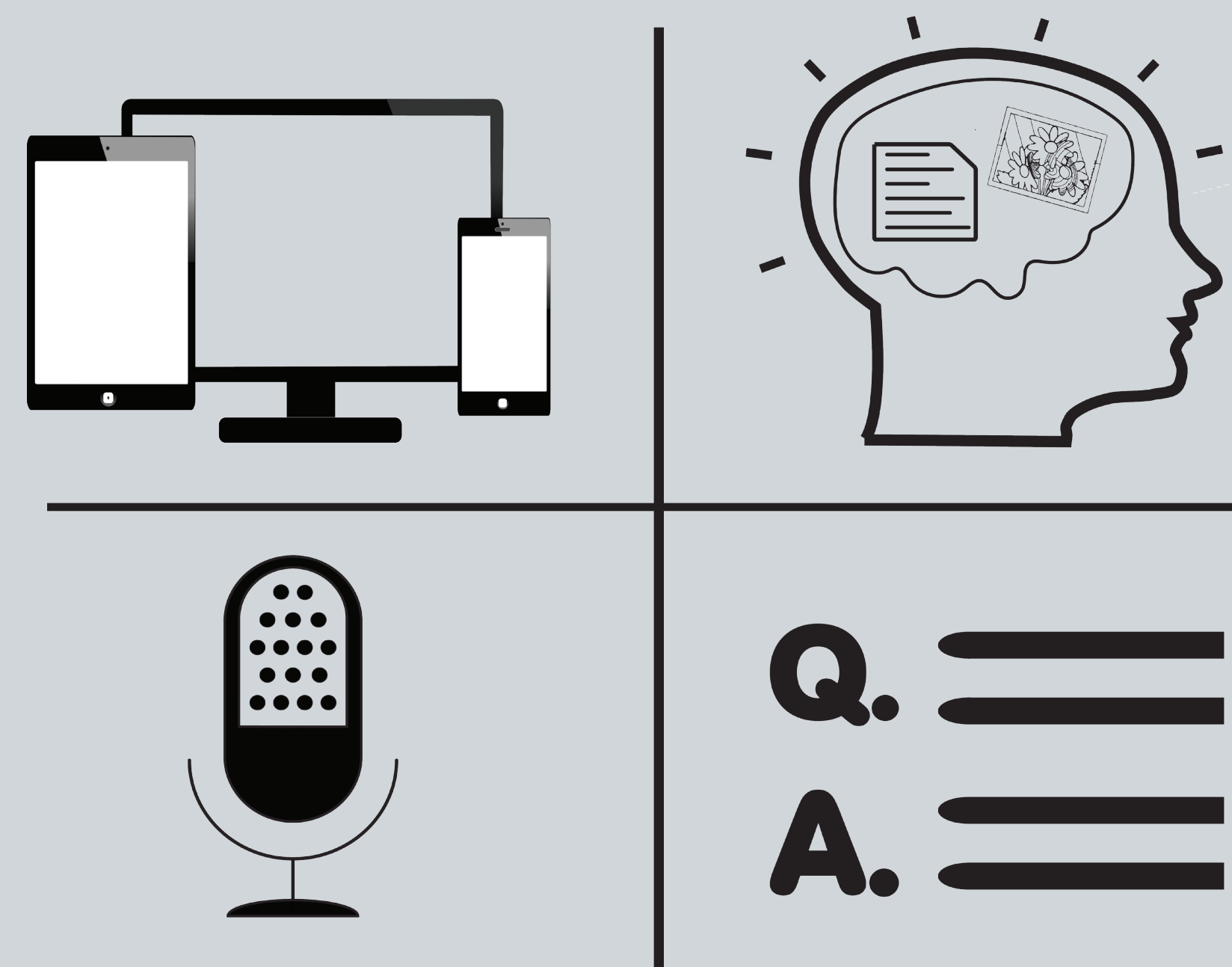
- http://adgap.americangeriatrics.org/documents/ADGAP_Survey_Results_2013_2014Match.pdf
- http://www.americangeriatrics.org/files/documents/Adv_Resources/demand_for_geriatric_care.pdf
- https://aoa.acl.gov/Aging_Statistics/Index.aspx

NEW CURRICULUM

As part of the new Medical School curriculum, faculty were asked to create and produce video podcasts to support small-group learning.



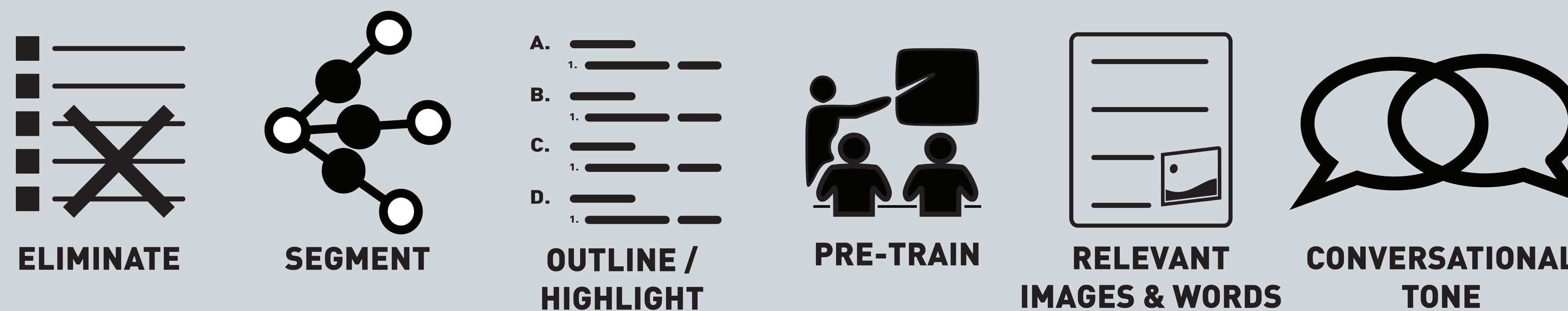
OUR CONCEPT



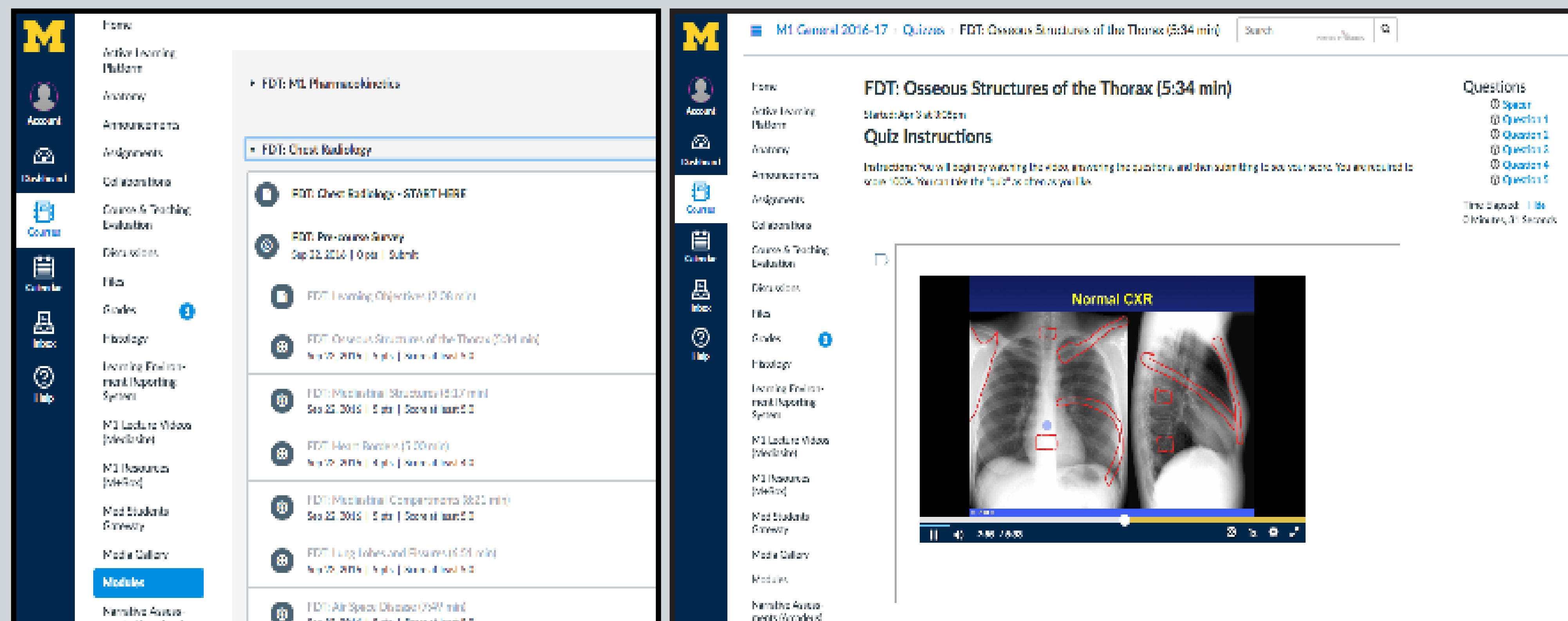
Faculty partnered with Education Design for recording and instructional design (ID) assistance. Faculty were provided with a brief training and overview of ID design principles, retrieval practice, and the recording process in the Education Design podcast studio. Faculty then created narrated PowerPoint presentations to support small-group sessions.

Incorporating Instructional Design Principles into Undergraduate Medical Education Video Podcasts

**C. Chapman, MA; J. Westfall, MA;
J. Engling, MA; M. Stephens, MAED; A. Yao**



MAYER'S DESIGN PRINCIPLES



RESULTS

**48
VIDEO
PODCASTS**

**20
FACULTY
PARTNERS**

**13
PRACTICE
QUIZZES**

**8
SEQUENCE
COURSES**

**1
POWERPOINT
TEMPLATE**

**1
YOUTUBE
VIDEO**

LESSONS LEARNED

Through a combination of faculty development, individual coaching, and the use of structured templates, faculty can easily apply a subset of ID principles to improve their video presentations.

FUTURE STEPS

Education Design to work with faculty and staff to add the Four-Component Instructional Design (4C/ID) model to the overall process and to ensure continuous quality improvements.

DESIGN REFERENCES

Mayer's (2011) Multimedia Learning
Learn more here: openmi.ch/MayerML

Roediger & Butler's (2011) Retrieval Practice
Learn more here: openmi.ch/RetPract

Medical Students Make the Great Escape: An Innovative Avenue for Experiential Leadership Learning and Team Building

Christine Wu, M4; Heather Wagenschutz, Leadership; Justine Hein, M-Home
University of Michigan Medical School

PUZZLE PIECES (BACKGROUND)

- Need for effective physician leadership and team management is increasing, especially in a tangled and complicated American health care system¹
- Emerging push for leadership learning and team-based experiences in undergraduate medical education (UME)
- **Question:** Can leadership skills be developed while also focusing on building group connections in order to create physician leaders?
- **Idea:** “Escape Rooms” offer an engaging, experiential, peer-to-peer learning experience. Participants work together to uncover and solve clues within a time limit to escape from a room.
- **Objective:** Assess the outcome of an experiential, peer-based opportunity in leadership learning and teamwork development.



CLUES DISCOVERED (RESULTS)

Post-Escape Room Evaluation:

Overall rating of the Escape Room experience (4.92/5.0)

	n	%
Excellent (5)	24	92.3
Great (4)	2	7.7
Good (3)	0	0
Okay (2)	0	0
Poor (1)	0	0

Which Leadership Competencies were used during the Escape Room experience:

	n	%
Leading Self	25	96.2
Communication & Influence	25	96.2
Problem Solving	26	100
Teamwork	24	92.3
Systems Thinking	13	50
All 5 Competencies	13	50

Would you recommend the Escape Room to medical student peers as a team learning activity?

	n	%
Yes	26	100
No	0	0

Is this experiential learning activity applicable to becoming a doctor?

	n	%
Yes	24	92.3
No	1	3.85%
N/A	1	3.85%

Did this experience help, hurt, or have no effect on the group connection?

	n	%
Help	23	88.5
Hurt	0	0
No effect	0	0
N/A	3	11.5

Specific Student Comments:

“I didn’t know these people before, and I definitely feel more connected to them now.”

“Learning when to lead and when to follow is crucial in a medical team.”

“You have to be able to work in a multi-disciplinary setting in order to be a successful physician.”

“Everyone has their own unique talent/leadership skills and can contribute to the team to make us all better.”

“Working both independently and together was a really great simulation... of working as a group in a healthcare team.”

SOLUTIONS UNCOVERED (LESSONS LEARNED)

- Peer-based learning opportunity for vertical integration across all classes in a dynamic and engaging environment
- Fun and meaningful approach to apply leadership skills alongside collective problem-solving in a high-pressure situation
- Common themes expressed: open communication, delegating and sharing responsibilities, shifting leadership and team fluidity, and the necessity of sharing individuals’ strengths for the team’s success
- Promoted the implementation and translation of an experience to their medical careers
- Students chose to participate (vs. required), which may have led to a cohort more invested in leadership and teamwork development
- All 4 teams successfully completed the challenge, which may have positively impacted the outcomes

RULES OF THE GAME (METHODS)

- UME students across all 4 classes (M1-M4) were invited to participate
 - 4 groups with up to 8 students each participated in 1 of 2 Escape Room scenarios
 - Escape Room Rules: Uncover and solve a series of puzzles within 60 minutes
 - Complete a written evaluation regarding the experience and engage in post-game debriefing session
 - Evaluate the use and/or presence of 5 Leadership Competencies* and if the experience + or - (or neutral) affected group connectivity
- *5 Leadership Competencies: Leading Self, Communication & Influence, Problem Solving, Teamwork, Systems Thinking

FUTURE ESCAPES (NEXT STEPS)

- Provide a similar opportunity with twice the number of students with equal class distribution.
- Post-evaluation survey and discussion will be performed in order to analyze lessons learned, leadership competencies utilized, effect on group connectivity, and applicability to medicine.

REFERENCES

1) Stringfellow TD, Rohrer RM, Loewenthal L, Gorrard-Smith C, Sheriff IHN, Armit K, Lees PD, Spurgeon PC. Defining the structure of undergraduate medical leadership and management teaching and assessment in the UK. *Medical Teacher* 2015;37 (8):747-754.



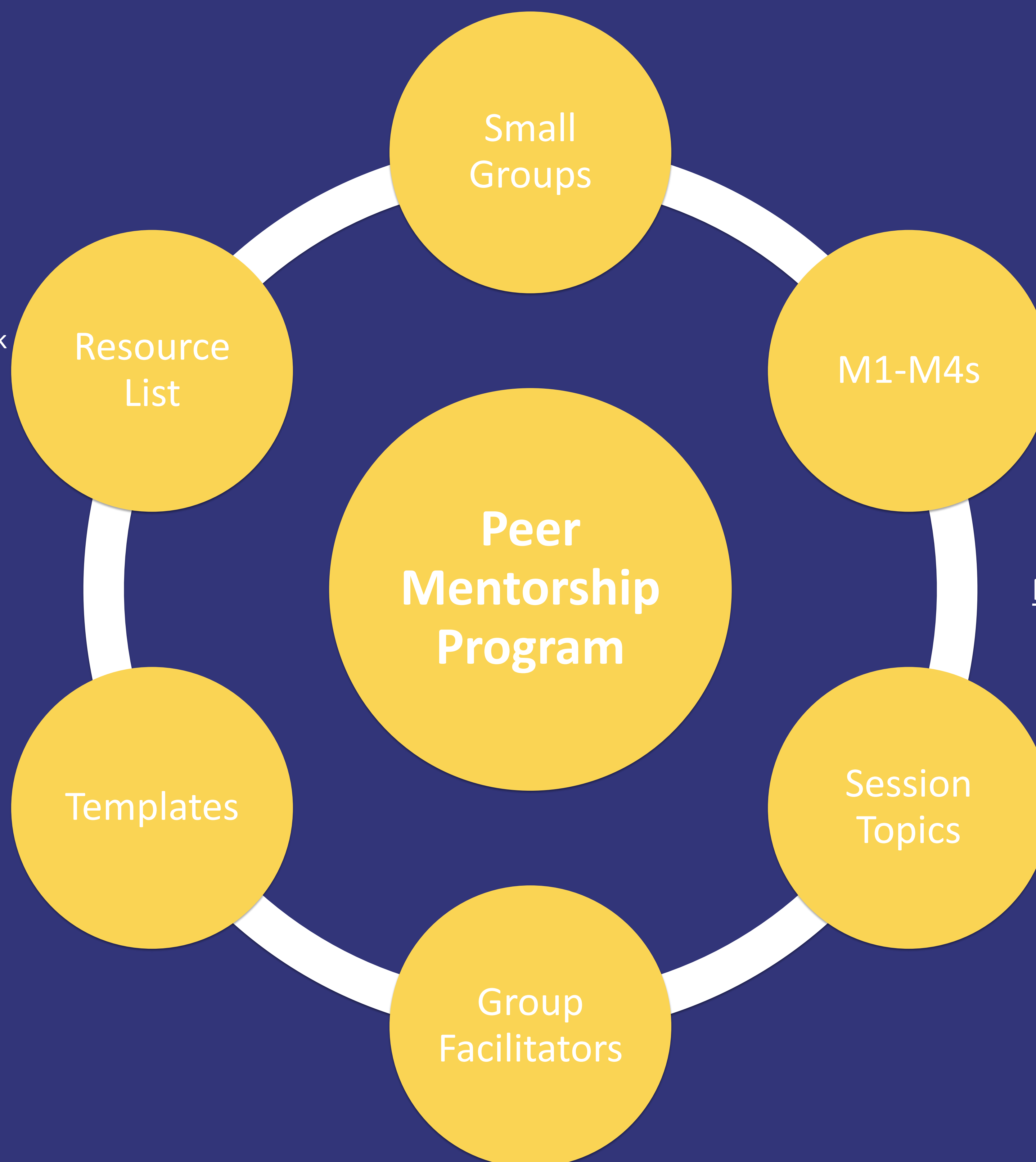


Background:

- Journey of medical school is challenging
- Students commonly note that there are a limited number of mentors available ¹
- Medical students launched eMpower at University of Michigan Medical School (UMMS) in Fall 2016
- Overarching goal: Unite medical students from all classes in a small group setting to support one another in finding personal and professional success

Methods:

- Out of a total of 691 UMMS students, 272 students chose to participate in eMpower
- Students were divided into 19 small groups
- In each small group, two to four students were selected to be facilitators
- Five scheduled eMpower sessions took place throughout the year with topics including:
 - Program kickoff
 - Achieving academic success
 - Discovering one's path through extracurriculars and research
 - Practicing wellness
 - Thriving in the clinical environment
- Provided student-designed template outlining session objectives, suggested activities, and discussion points to group facilitators
- Post-program evaluation with Likert scale and open response style questions administered to all participants via Qualtrics



Participant Quotes:

What did you find most valuable about being in eMpower?

- “Having upperclassmen to bring up my concerns to was so helpful. Their advice practically saved me and totally changed my mental framework. This has been the **best resource to me** thus far in med school.”
- “**Connecting with members** of other classes and being able to pass on some of the advice and wisdom I received from classes ahead of me.”
- “The opportunity to **reflect** on my medical school experience and what has been positive, helpful, challenging, etc.”
- “Learning important things about what to expect while in medical school that are **not readily available through other avenues.**”
- “As an M1, eMpower was incredibly valuable for helping me **develop friendships** and mentorship with M2, M3 and M4 students.”

Next Steps:

- Anecdotally has already started to create a greater sense of community at UMMS
- Equipped students with relationships, tools, and strategies to help them thrive in medical school and beyond
- Program is sustainable as underclassmen return as mentors
- Students refined their teaching skills and ability to provide feedback in preparation for residency ²
- We envision:
 - Expansion of meetings to outside of the traditionally structured meeting times
 - Dissemination of similar programs throughout the country that will foster communities of successful students
 - Further evaluation specifically focused on the benefits in wellness that eMpower offers

Results:

Of the 104 total students who completed the survey:

- **88%** of students felt that being part of eMpower was a valuable experience
- **91%** would recommend the program to other medical students
- **81%** have formed stronger connections with students in other class years
- **93%** thought the small group format was effective

Of the 64 underclassmen who completed the survey:

- **75%** now feel better prepared to achieve their goals in medical school

Of the 38 group facilitators who completed the survey:

- **89%** gained teaching and facilitation skills through their involvement in the program

eMpower: peer mentorship within M-Home

Maintaining Wellness in Medical School

Objectives:

- Develop an individual understanding of wellness in the context of your life
- Identify specific stressors frequently faced by medical students
- Determine resources available to medical students for wellness and resiliency

Ice Breaker:

- What does the term “work-life balance” mean to you?
- What does resilience look like to you? Why is it important?

For your reference, the definition of resilience from an AMMC conference: The capacity to respond to stress in a healthy way such that goals are achieved at minimal psychological and physical cost. Resilient individuals not only bounce back after challenges but they also grow stronger.

Activities:

1. Have everyone go around a say something they like/respect/admire about each member of the group
2. Do another 3 minute free-write, writing down a brief wellness plan or goal for the coming weeks, months, of the year
3. Some type of breathing/meditation exercise

Discussion Points:

- The physiology of stress and its effects on the body
- Not being afraid to seek help!!
- Following a healthy diet
- Finding time for exercise
- Developing a support system
- Wellness Week (December 5th - 10th)

Resources:

- Group leaders - please send wellness resources document to rest of group!

Session template designed by students, distributed to group facilitators prior to each session

Acknowledgements:

This project would not have been possible without the guidance of Justine Hein and Dr. Eric Skye within the UMMS learning community, M-Home. Thank you both for your contributions and encouragement throughout this process.

References:

1. Pololi, L. H., & Evans, A. T. (2015). Group Peer Mentoring: An Answer to the Faculty Mentoring Problem? A Successful Program at a Large Academic Department of Medicine. *Journal of Continuing Education in the Health Professions, 35*(3), 192-200.
2. Tenenbaum, L. S., Anderson, M. K., Jett, M., & Yourick, D. L. (2014). An innovative near-peer mentoring model for undergraduate and secondary students: STEM focus. *Innovative Higher Education, 39*(5), 375-385.



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

Actions Speak Louder: Social Justice Education at the University of Michigan Medical School

Jasmyne Jackson, Lauren Seale, Uchenna Okoro, Christina Chapman M.D., Simone Ferguson, Marina Mikhael, Kemi Omotoso, Bamidele Otemuyiwa, Angelica Simmons, Lynette Wynn M.P.H.



ABSTRACT

Background: In 2014, the Black Lives Matter movement sparked protests and national dialogue about racism and violence against communities of color. White Coats for Black Lives (WC4BL) was created as a national medical student organization devoted to embodying the responsibility of the institution of medicine to counteract systemic and interpersonal racism and its effects on the practice of medicine. In the fall of 2015, the University of Missouri's protest of racial injustice and the subsequent resignation of the university's president sparked students across the nation to courageously demand that their institutions create safe environments for students of color. WC4BL called for medical schools to show solidarity with Mizzou by having stimulating discussion about racism on National BlackOut Day, Wednesday November 18th. The Black Medical Association (BMA) took this opportunity to hold an interactive, educational program on systemic racism in the medical field for students, staff and faculty.

Methods: BMA's executive board held a planning meeting to create a #MedStudents4Mizzou event that addressed the issue of unconscious bias at University of Michigan Medical School (UMMS). We publicized the event to the community at large through email and collected anonymous discussion questions through a google document. We welcomed all those who wanted to attend and were in accordance with our goal of having an open and honest discussion on Wednesday November 18th 2016 in Taubman Health Science Library 6215 from 3:00-4:30pm. We started the meeting by displaying online videos of the specific racially-motivated acts that took place at Mizzou. We then presented scientific data that demonstrates how bias affects healthcare outcomes, economic opportunities, and the mortality of certain minority groups. Members within BMA provided personal accounts of how their lives have been detrimentally affected by unconscious bias in the healthcare setting. The session then proceeded with discussion prompted by questions derived from the google document and a message of encouraging allyhood. Lastly, the attendees took a solidarity picture that was displayed on multiple media platforms.

Results: The event was well attended by UMMS faculty, staff, and students with over seventy attendees. Following the #MedStudents4Mizzou, WB4BL committee tripled its non-black membership. Follow-up events included a workshop on how race and socioeconomic status impact our work in a clinical environment from the UM Program on Intergroup Relations, as well as a collaboration with the UMMS Honor Council. WC4BL members were recruited to refine and create scenarios for first year medical students to explore when discussing professionalism in the clinical environment. In addition, UMMS joined the national WC4BL initiative #ActionsSpeakLouder and several UMMS students were featured in the online video that reiterated WC4BL resolute commitment to social justice in medicine. The Office of Health Equity and Inclusion (OHEI) also bolstered this work by hosting Dr. Mona Hanna-Attisha, the Hurley Medical Center pediatrician who uncovered elevated lead levels in Flint children following the water crisis. WC4BL advocated for university-sponsored identity training and OHEI partnered with admissions to deliver identity training to the UMMS class of 2020 during orientation.

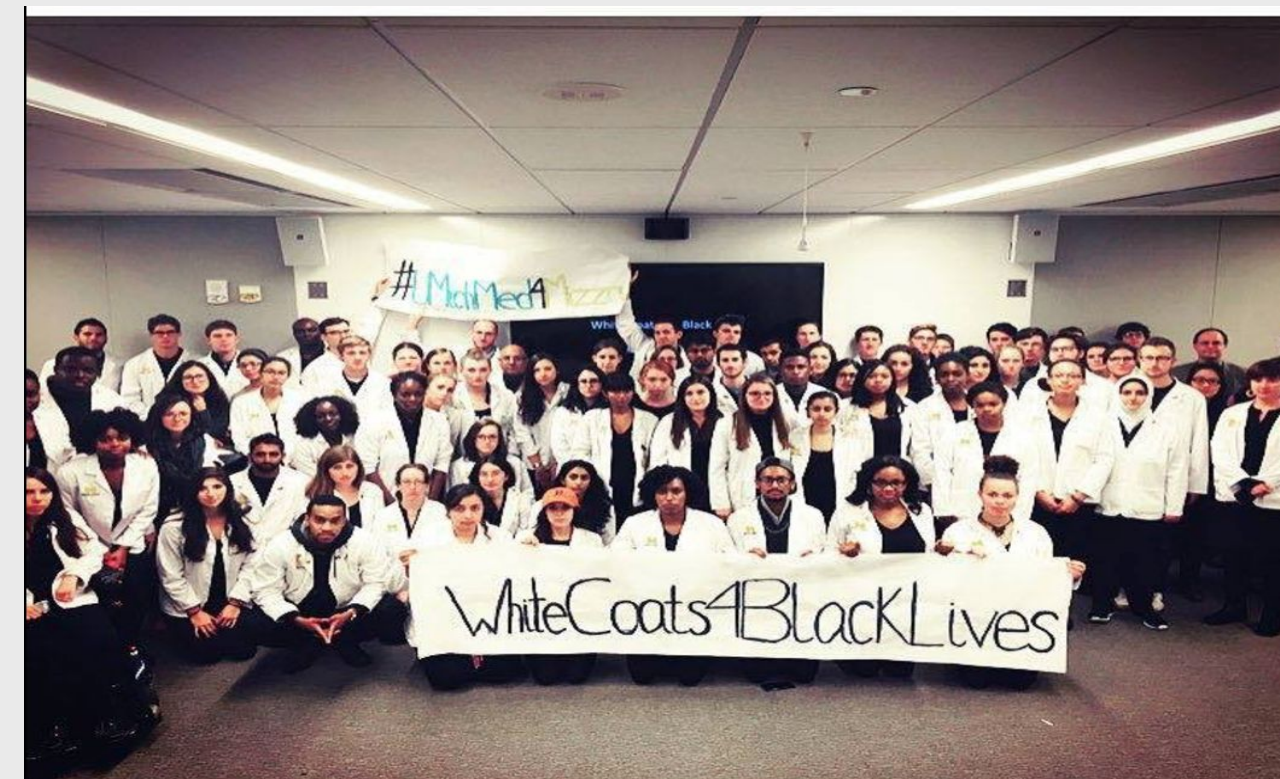
Conclusions: As future physicians, it is our obligation to address bias that affects the health of certain patient populations. It is imperative to reinforce ways for colleagues to be active in response to social injustice and we must recognize the importance of dialogue of difficult topics. Encouraging allyhood and giving our peers practical ways to address the concerns of others in their community is empowering and helps advance health equity.

RESULTS

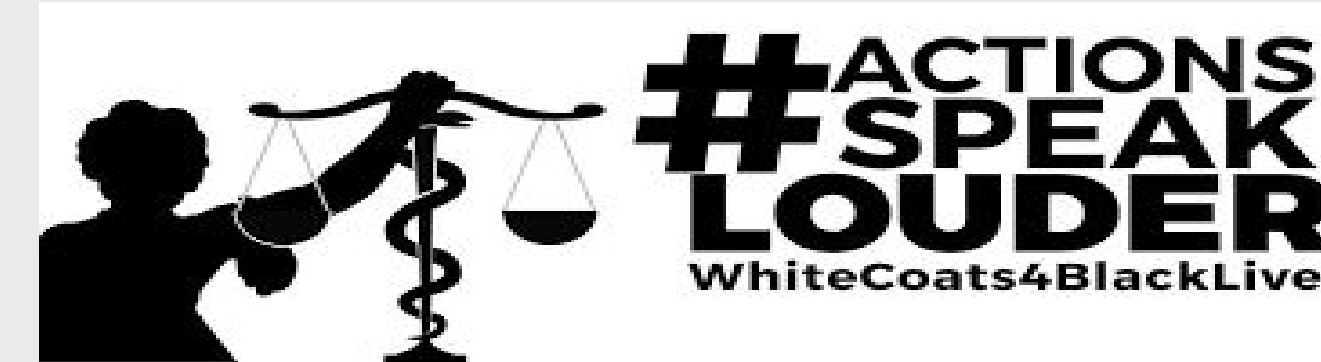
Top Picture: Students and faculty of the medical school came together for a solidarity picture to show their support after the tragic events of Mike Brown's death and all the other victims of police brutality. As future healthcare providers, we must not only be critical of bias but also raise awareness, garner support and be advocates ourselves for the elimination of healthcare disparities and acts of social injustice.



Middle Right & Left: Our WC4BL chapter, along with chapters from over 70 other medical schools across the country, organized a protest on the undergraduate campus as part of the nationwide medical student die-in to promote activism against police brutality and systemic racism. MLive covered the event and we were able to model how medical students can enact their civic responsibility to promote change.



Bottom Left: The solidarity picture at our MedStudents4Mizzou event designed to create dialogue surrounding systemic racism and think of creative ways to improve the cultural climate within the medical school.



Bottom Right: A year after the medical student die-in, our medical students collaborated with WC4BL in the #ActionsSpeakLouder video, acknowledging that systemic racism is still alive and how that affects healthcare. <https://www.youtube.com/watch?v=w75PxnL9m1Y&t=135s>

RESULTS

- **#MedStudents4Mizzou Quotes/Testimonies**
 - "There was a great turn-out and much solidarity expressed by allies and the administration. I am so so proud of my classmates who courageously talked about the challenges they have faced as students of color and the role that allies could play in making our school a better place." - Medical Student
 - "I admire the passion and strength you all had today as you beautifully shared your experiences and emphasized the value of dialogue and other institutional initiatives that can allow us to come together and grow together as we bring such uncomfortable topics to the medical school community." - Medical Student
 - "It was a pleasure to be a part of today's event that I believe has and will continue to enforce positive change across UMMS." - Medical School Faculty
- **Subsequent Results**
 - Approximately tripling the amount of members within our WC4BL chapter
 - Collaborating with the M-Home community to facilitate reading "Black Man in a White Coat" to further the discussion of diversity, bias, disparities, and medicine intersect
 - The Office of Health Equity, Diversity, and Inclusion (OHEI) facilitating workshops through Common Ground focusing on social identity within the larger medical school community
 - The Admissions Office collaborating with OHEI to facilitate sessions on unconscious bias and social identity during orientation for incoming medical students (Class of 2020)
 - Encouraging the administration to foster allyhood in the community by sending comforting messages to the student body when events that target specific minority groups occur

CONCLUSION/FUTURE STEPS

- We will continue our partnership with the administration for future events regarding race primarily through the M-Home community.
- We will work to advocate for health equity through activism, involvement in WC4BL demonstrations, movie screenings, and discussions.
- We are developing a White Coats 4 Black Lives pin to be worn by students, staff and faculty in the hospital to increase awareness and support of health, racial and political equity.



SafeMD

Medical Students Developing a Sexual Assault Awareness and Education Curriculum Targeted To Medical Professionals

Petrina LaFaire^{1*}, Jonathon McBride^{2*}, Seth Klapman^{3*} and Kathryn S. Brown^{4*}

¹University of Michigan Medical School, Ann Arbor, MI

*The authors contributed an equal amount of work



MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

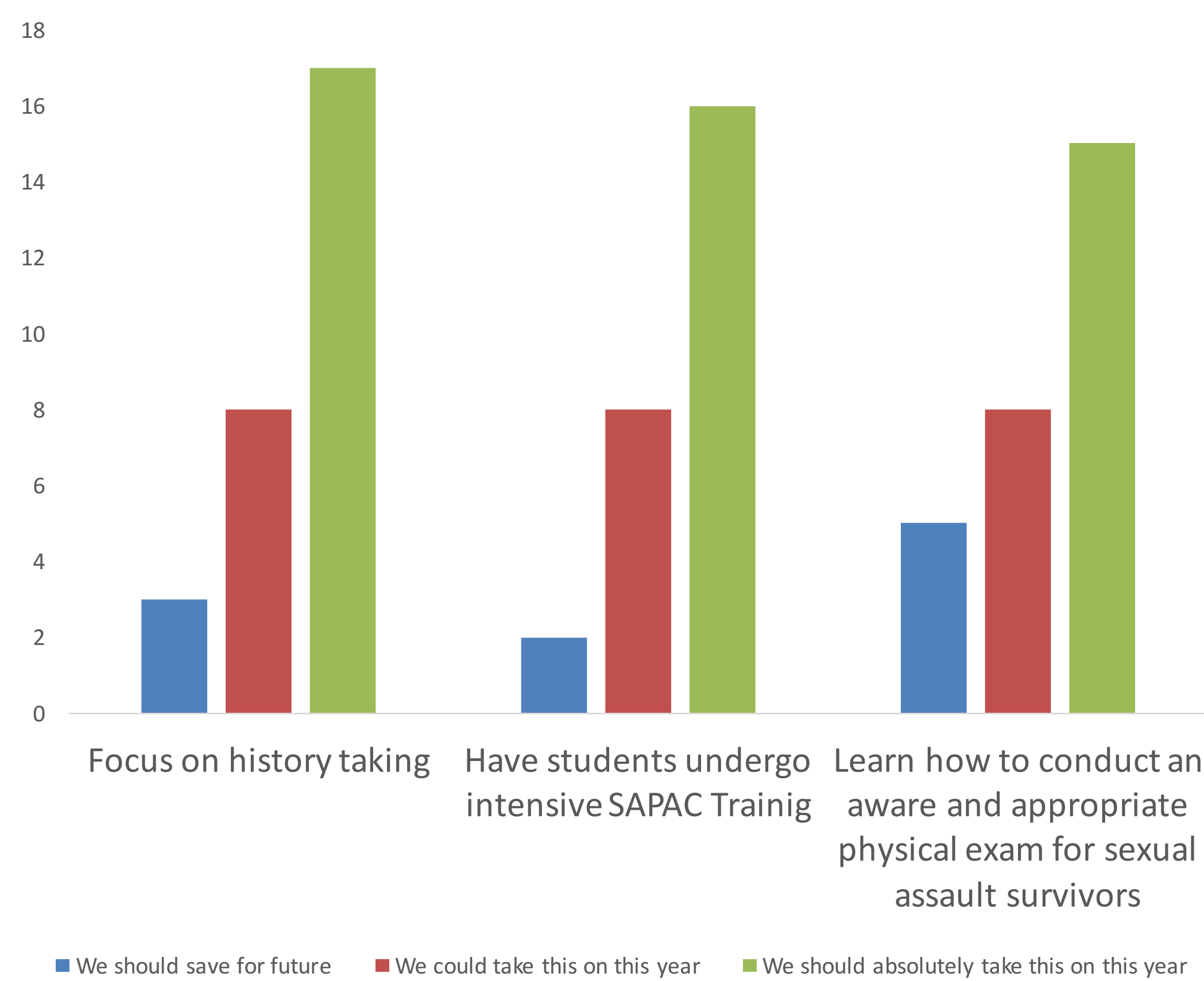
INTRODUCTION

- Sexual assault affects thousands of people every year, particularly on university campuses, and leaves an impact on both the individual and community level. In addition to the personal impact, medical professionals stand in a unique position as sexual assault affects their patients as well.
- As medical students at the University of Michigan, we were disappointed to find that sexual assault was only minimally addressed at our institution, both within the curriculum or extracurricularly, and specific sexual assault resources were not made clear to students.
- In Fall 2015, UM medical students founded **SafeMD** (Survivors, Advocates, Friends, Educators) to promote an environment in which sexual assault is illuminated, understood, not tolerated and actively combated; in which survivors of sexual assault have access to and are aware of supportive resources; and in which future medical professionals become proficient at handling patients involved in sexual assault with nuance, skill, and care.

2016 UMMS NEEDS ASSESSMENT

SafeMD conducted an informal needs assessment to incorporate students' input into what needed to be addressed by both SafeMD and the medical school administration. This needs assessment was sent to attendees at SafeMD's first meeting of the year, in order to understand where SafeMD's efforts could be most high yield. This data was used to guide program planning and provide feedback to the administration.

SafeMD Needs Assessment - What should we do this year?



Top 3 priorities identified:

- Provide further education on how to take a sexual assault history
- Have students undergo SAPAC intensive training
- Learn how to conduct an aware and appropriate physical exam for sexual assault survivors

EDUCATION: ALLYHOOD TRAINING

Goal: Educate the Medical School Community Through a Peer-Led Sexual Assault Basic Training.

Achieved: In collaboration with the UM Central Campus Sexual Assault Preventions and Awareness Center, medical students designed and implemented a training, which included integrated, multi-day sessions exploring the themes: *Bystander intervention & Community Engagement*, *Sexual Assault Law & Legal Processes* and *Responding as a Medical Professional*. Speakers included representatives from the UM School of Law, UM Department of Obstetrics and Gynecology, and the UM Sexual Assault Nurse Examiner program.

Impact: Seventy-five medical students attended two-out-of-three sessions, and received SafeMD lapel pins for their white coat.

OPTIONAL ALLYHOOD TRAINING



2017 Allyhood Training session in progress.

SAFE SPACE: M1 ORIENTATION

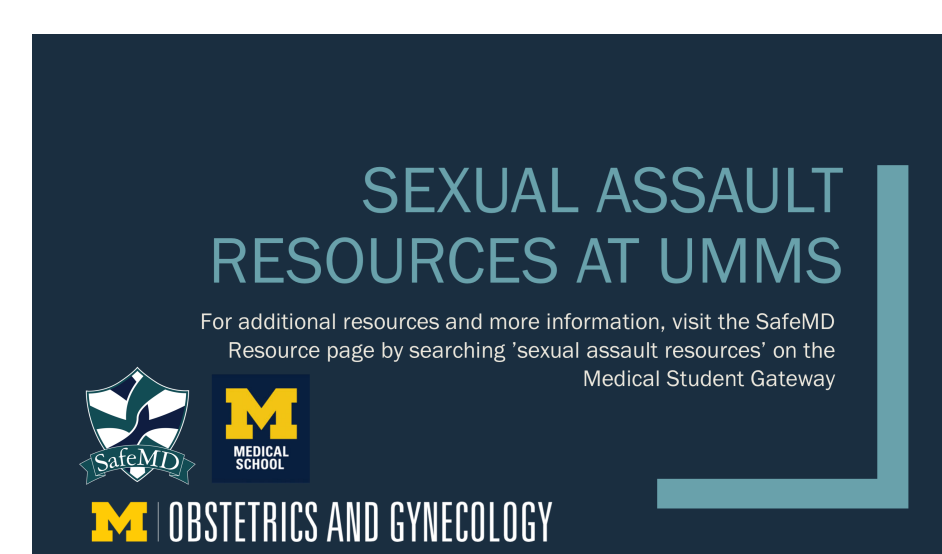
Goal: Introduce Incoming M1 Medical Students to Campus Sexual Assault Mandatory and Nonmandatory Reporting Resources.

Achieved: A dedicated session, designed and presented by medical students, was built into the M1 Orientation ("Launch") to give incoming students an introduction to Sexual Assault and ensure all students know what resources (confidential and mandatory reporters) are available to them. Topics covered during the 25-minute session include defining sexual assault, bystander intervention, consent, and resources.

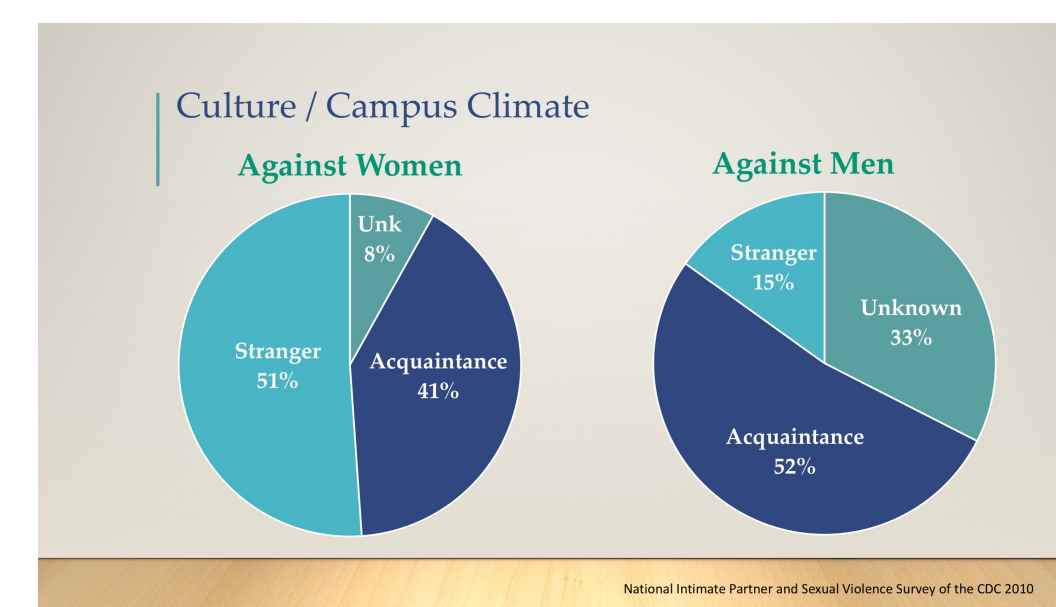
Impact: 172 incoming M1 medical students attended the session and received Resource Cards (see below).

M1 ORIENTATION / LAUNCH OVERVIEW

Resource Wallet Card



Presentation – Sample Slides



OUTREACH

SAFEMICHIGAN



Goal: Work with other graduate schools on the UM campus to support development of sexual assault awareness programs within each school.

Achieved: Organized an inter-professional mixer to share SafeMD's successful model and assess other graduate efforts to address sexual assault.

Impact: Established a means for SafeMichigan communication (event sharing, networking etc.) and aided in foundation of SafeSPH.

SAFEWORLD



Goal: Connect with medical schools across the country to share programming and ideas regarding sexual assault awareness.

Impact:

- Connected with medical students from other institutions at national conferences.
- Developed a shared resources portal to consolidate potential curricular activities.

CONCLUSIONS

• SafeMD began to address the lack of Sexual Assault training at UMMS.

• In its inaugural year, SafeMD found strong support in the medical student body, secured funding from the Medical School and Hospital departments, partnered with UM campus organizations, and held multiple events.

• SafeMD provides an excellent model for other medical students and institutions to initiate similar programs dedicated to educating future professionals on sexual assault in order to better serve their patients and communities.

ACKNOWLEDGMENTS



WHEN THE RIGHT TO KNOW IS THE RIGHT TO UNDERSTAND: PEER-BASED HEALTH AND SAFETY TRAINING

Judy Daltuva, MSW
Mary-Catherine A. Goddard, MPH Candidate 2017
University of Michigan School of Public Health

Background

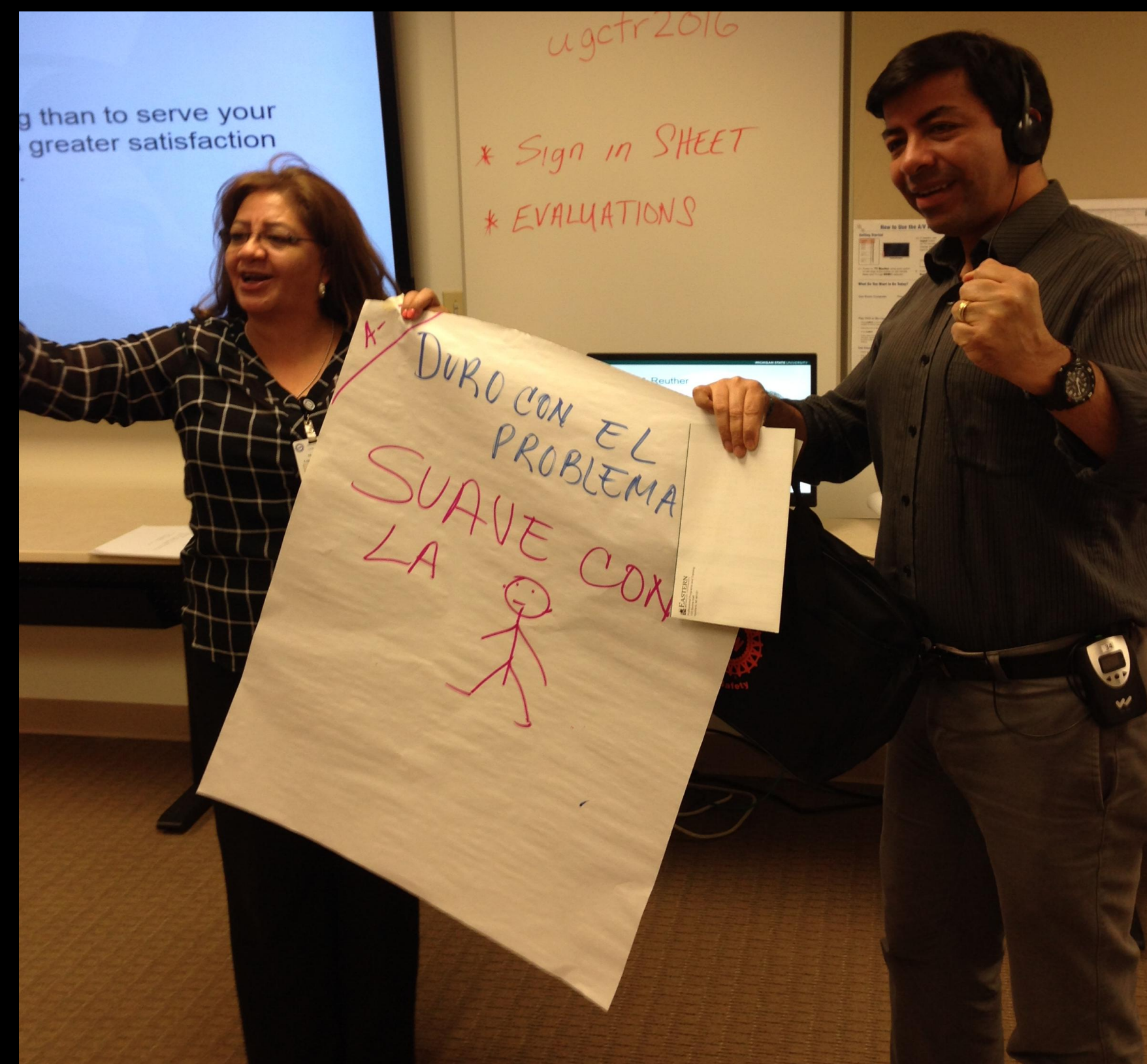
- Grant assistance provided by the National Institute of Environmental Health Sciences has allowed the United Auto Workers International Health and Safety Department (UAW) to provide trainings to UAW members and other communities such as:
 - Those disadvantaged by environmental justice
 - With limited English proficiency and/or lack of educational opportunity
- UAW has worked with worker trainers (peer trainers) to deliver health and safety trainings
- Trainings have helped protect places of employment and communities from exposure to hazardous materials

Methods and Intervention

- University of Michigan staff worked with UAW and community groups on:
 - A needs assessment survey to determine the necessary training and how best to deliver it
 - Gathered information on major occupations and hazards
 - Train the trainer program was held to train peer trainers and those trainers delivered training in their communities
- Peer training teaching strategies:
 - Introducing health and safety words and concepts in ESL classes
 - Presenting long classes in short segments
 - Holding classes on weekends

Results

- UAW partnered with agencies who work with Spanish-speaking populations to train peer trainers
- Peer trainers then deliver health and safety training to underserved workers in high-risk low-paying jobs on how to limit exposure to workplace hazards
- These vulnerable workers in Southwest Detroit, Pontiac and Macomb county work in the following fields:
 - Landscaping, agriculture, construction, hotel and restaurant services, commercial and residential



Benefit of Peer Training

- Peer training increases the likelihood that trainers/evaluators have shared values and specific knowledge of hazardous conditions faced by workers
- Utilizing peer trainers in established community organizations makes health and safety training more accessible
- UAW is collaborating with community partner organizations to:
 - deliver bi-lingual (English/Spanish) health and safety trainings to community members recruited by partner organizations
 - Transfer health and safety training skills to staff members at partner organizations through train-the-trainer programs

Lessons Learned and Next Steps

- Trainings by peer trainers were difficult to perform for the following reasons:
 - Trainees worked fluctuating and seasonal hours, difficulty accommodation work schedules
 - Some trainees had limited English proficiency
 - Many did not have access to information about workers' rights or worker health and safety
 - Recent immigration changes and barriers in trust
- Future train the trainer programs will be used to expand the reach of the current training group

Acknowledgements

Funding was provided by the National Institute of Environmental Health Sciences under Grant Number 2U45ES006180-24 and grant # SH-27639-15-60-F-26 from the Occupational Safety and Health Administration, U.S. Department of Labor. Thanks to the United Auto Workers, United Hispanic Workers of Detroit, Detroit Hispanic Development Corporation, Macomb County Immigrant Service Center, and Catholic Charities of Southeast Michigan Hispanic Outreach Services for their participation



MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

UMMS Communication Collaborative Elective :

A Forum for Student Presentations and Peer-to-Peer teaching

Ilana Fischer¹, Alisha Lussiez¹, Erin McKean, M.D.²

¹U of M Medical School, Ann Arbor, MI ²Department of Otolaryngology, University of Michigan

Medical Student
Grand Rounds

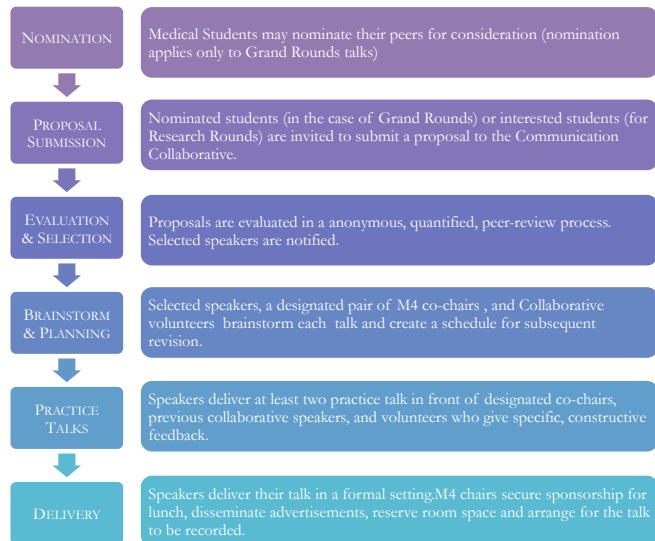


INTRODUCTION

The Communication Collaborative is a student-run course developed at the University of Michigan Medical School that promotes clear communication by providing forums for students to practice public speaking. Proficiency in communication, presentation, and didactic instruction are critical for all physicians, especially those in academic medicine, and this initiative provides a unique opportunity for students to develop these skills.¹ The Collaborative model is easily generalizable to other medical schools, where it could benefit students with minimal financial or administrative burden.



TALK DEVELOPMENT



TYPES OF EVENTS

The UMMS Communication Collaborative hosts talks and periodic workshops to help medical students improve their public speaking and communication skills.

MEDICAL STUDENT GRAND ROUNDS

A monthly series featuring peer-nominated speakers covering topics of their expertise and personal interest. Example topics include:

- How to act on the wards: lessons from a medical student and former nurse
- Logistics and Aid in Haiti and Sudan
- 3D printing Prosthetics and media coverage of medical advancements
- Medical Apartheid

RESEARCH ROUNDS

Quarterly speaker series that provides students the opportunity to present their research to their peers and faculty. Prepares students to deliver effective talks in the academic setting.

WORKSHOPS

Periodic training events and one-on-one coaching for interested students to learn and master skills critical for of public speaking including:

- Speaking drills
- Talk organization
- Giving reasoned feedback

CURRICULUM

This initiative is lead by fourth year medical students and includes both an initial intensive segment as well as a year-long longitudinal component. The intensive teaches students the skills required for giving and critiquing two different types of presentations: a short, research-focused presentation, and longer, narrative presentations. Skills taught in the initial didactics portion of the course include the principles of public speaking, effective non-verbal communication, proposal evaluation, management, and how to deliver critical feedback to colleagues. Students apply for the course as they finish their third year rotations. In this pilot year, seven four year medical students were selected as chairs; one of these seven was be selected to be student director. After the completion of the intensive, the student director and coordinators work longitudinally to host forums for public speaking opportunities and as well as to coach students speakers through the development and delivery of their presentations.

NEXT STEPS

Feedback from participating speakers and Student Leaders suggests this class provides an important niche within the academic community for students to improve their communication abilities. Assessment of this program after completion of year one will survey students to assess their attitudes about and competence in public speaking, delivering critical feedback, academic review, and management before and after participation in the Collaborative.

LIMITATIONS AND CHALLENGES

Since this elective is in its pilot year, we have not yet collected sufficient data for analysis. Success of the class will depend in part on the motivations and abilities of the Student Leaders and Director. Nevertheless, the Collaborative model is a promising one for students at the University of Michigan and other medical schools.



Vicky Koski-Karell, BA
M.D. Ph.D. Candidate, MSPP Class of 2022
University of Michigan Medical School



Medical Student
Grand Rounds



Flint and Haiti:

A Tale of Two Rivers, A Tale of Two Crimes

Tuesday, February 16, 2016
12:00-12:55 PM
West Lecture Hall
Medical Science Building II
Ann Arbor, Michigan



MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

Comparison of Study Behaviors of Third-Year Medical Students to Resources Recommended by Clerkship Directors

Maria Pliakas, BS, Kylie Steenbergh, BS, Max Griffith, BA, Lauren McIntosh, BS, and Sally Santen, MD

University of Michigan Medical School

Background

- Guides to study resources for core clerkships exist at other medical schools¹
- Lack of a comprehensive study resource guide for clerkships at University of Michigan Medical School (UMMS)
- Reports of generational differences leading to differing perspectives on learning strategies and challenges to succeeding during clinical rotations²

Objectives

- Query third-year UMMS students regarding perceived effectiveness of study resources and behaviors for shelf exams and other summative assessments
- Create clinical resource guide for distribution to current second-year students
- Query clerkship directors to explore in what ways their opinions of study resources and behaviors were similar and different from those of medical students

Methods

- Electronic surveys in Qualtrics distributed to third-year medical students and clerkship directors at UMMS
- Students and clerkship directors/assistant directors asked to rate usefulness of various study resources according to a Likert scale
 - 0 (Not at all useful) to 4 (Extremely useful) or "Did not use"
 - Students only given option to evaluate resources for clerkships already completed
- Option to enter free responses for unlisted resources
- Data analysis completed in Qualtrics

Results*

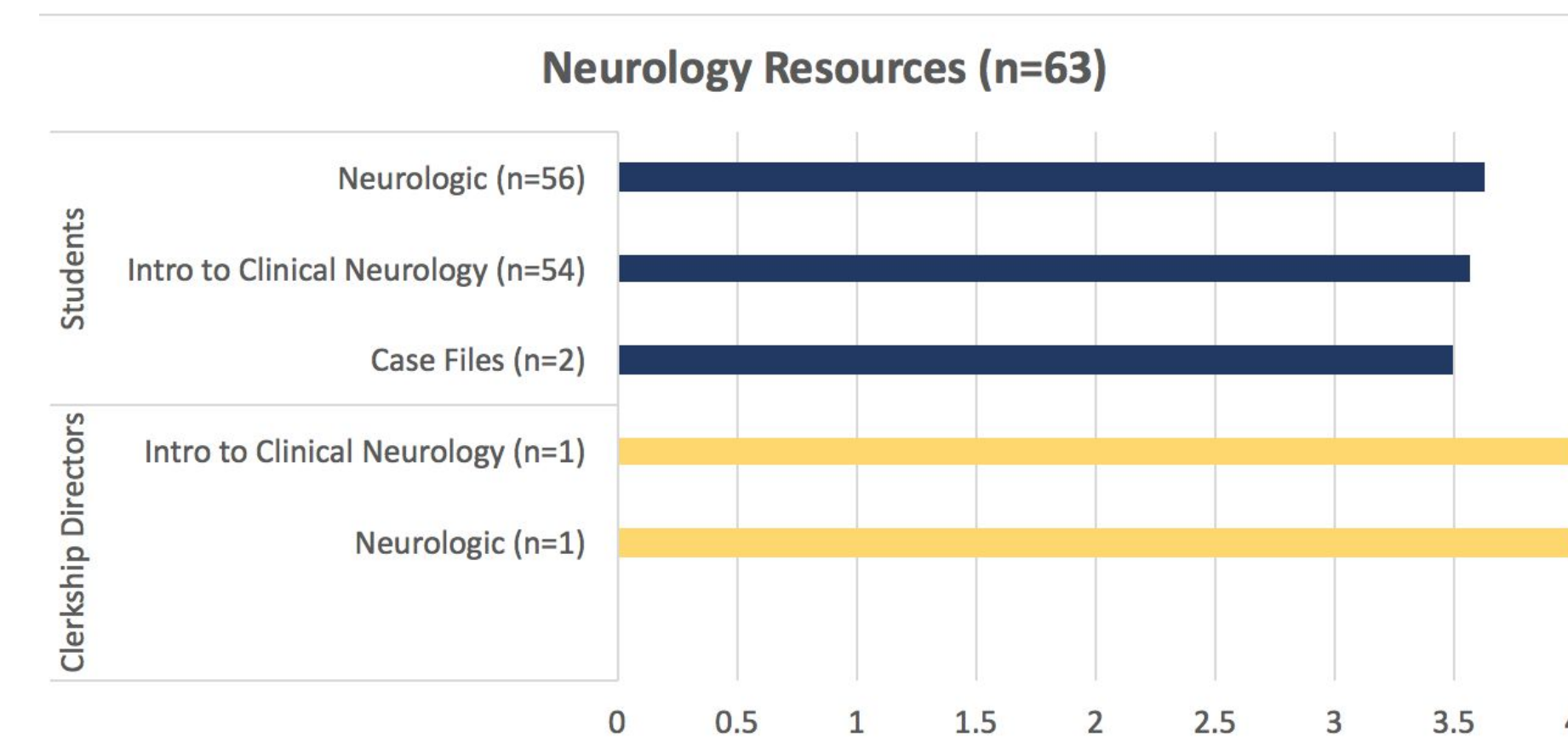


Figure 1: Neurology top 3 resources as rated by students and clerkship directors

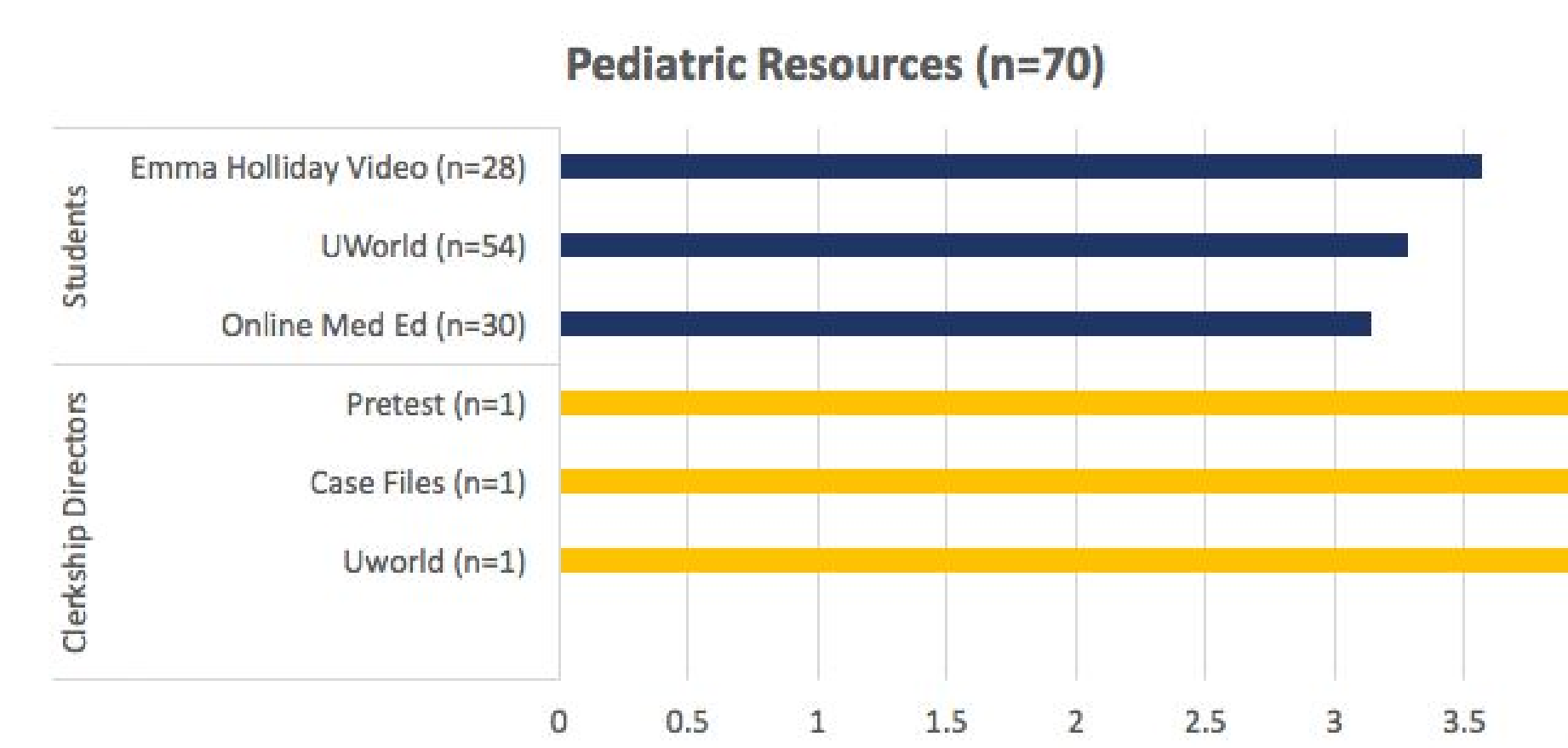


Figure 2: Pediatric top 3 resources as rated by students and clerkship directors

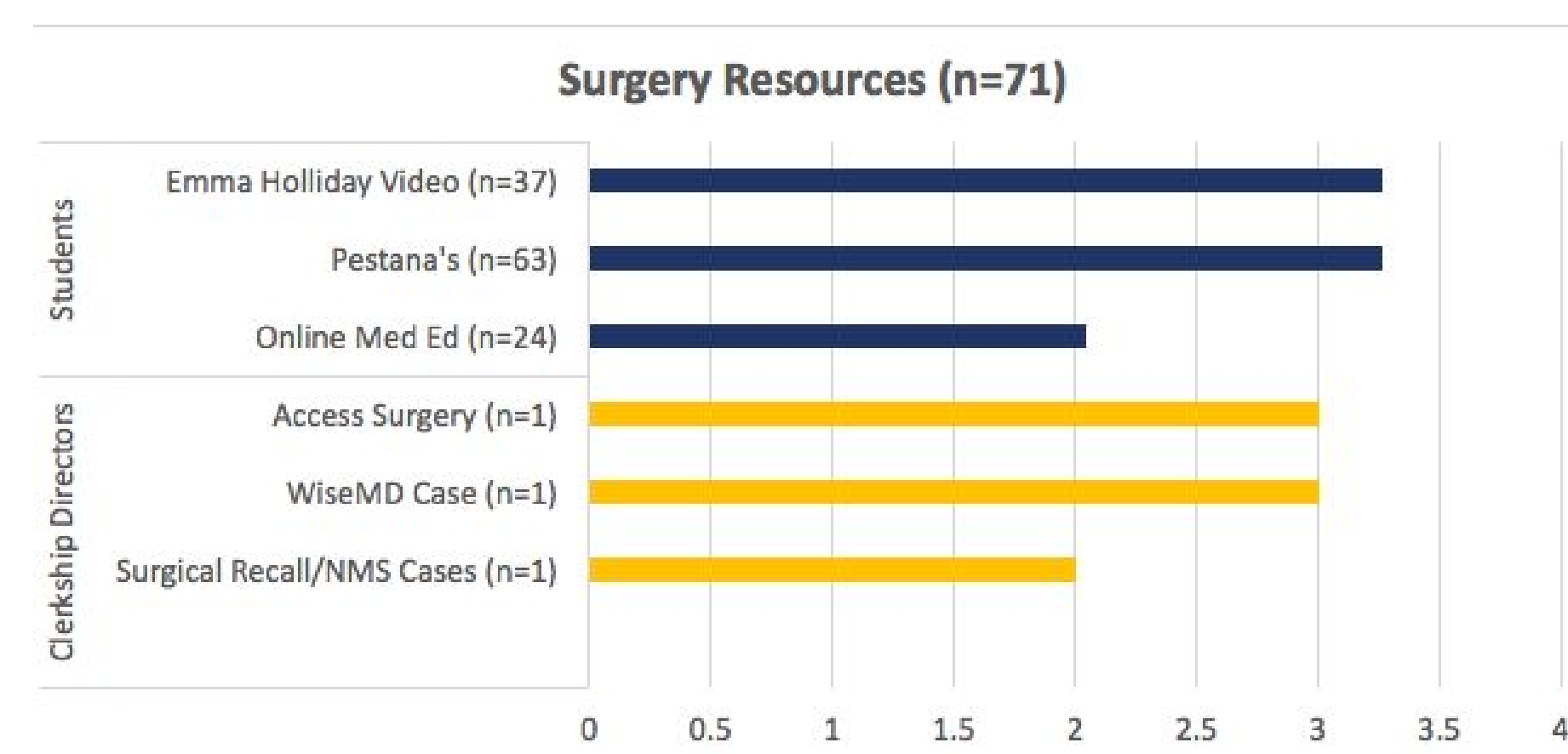


Figure 3: Surgery top 3 resources as rated by students and clerkship directors

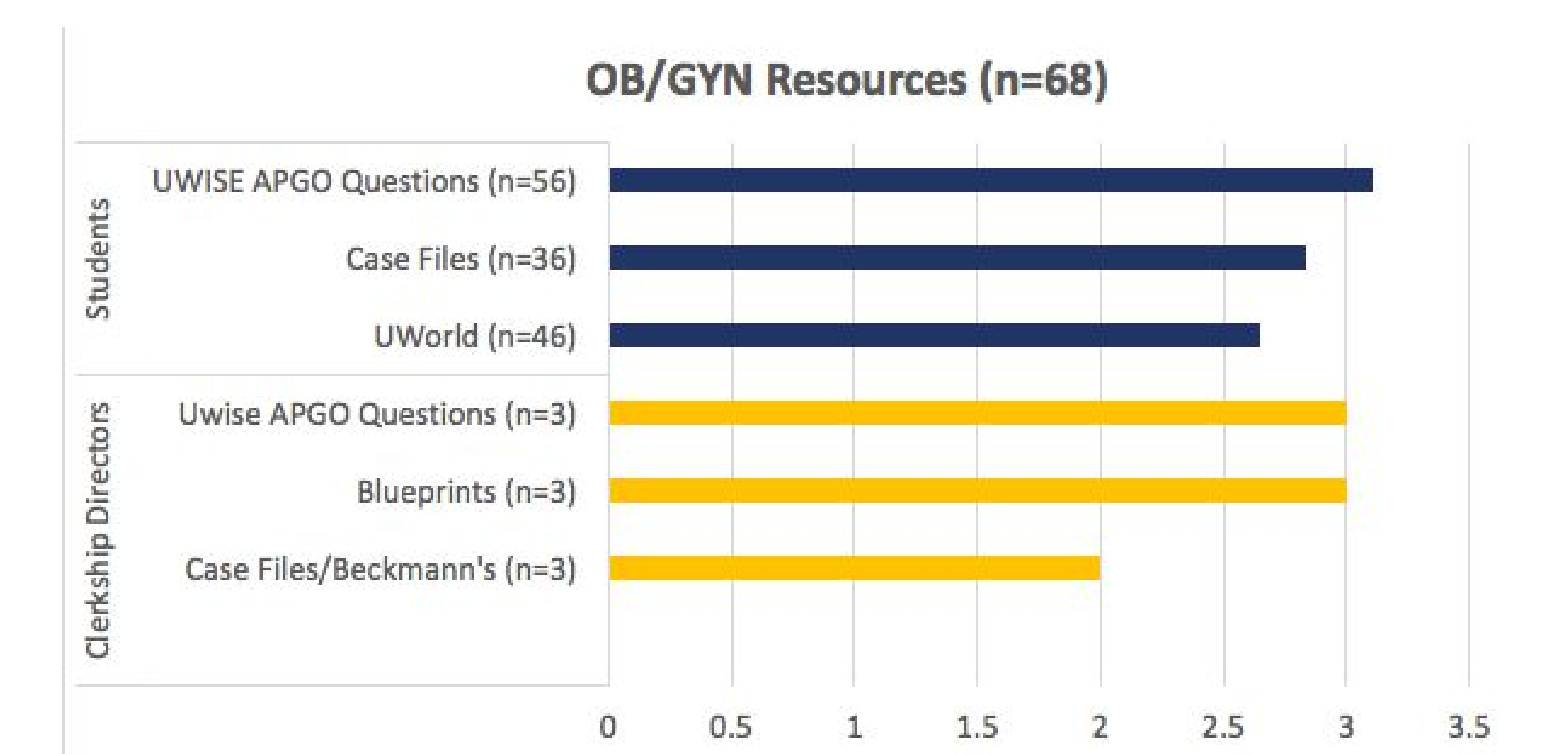


Figure 4: Ob/Gyn top 3 resources as rated by students and clerkship directors

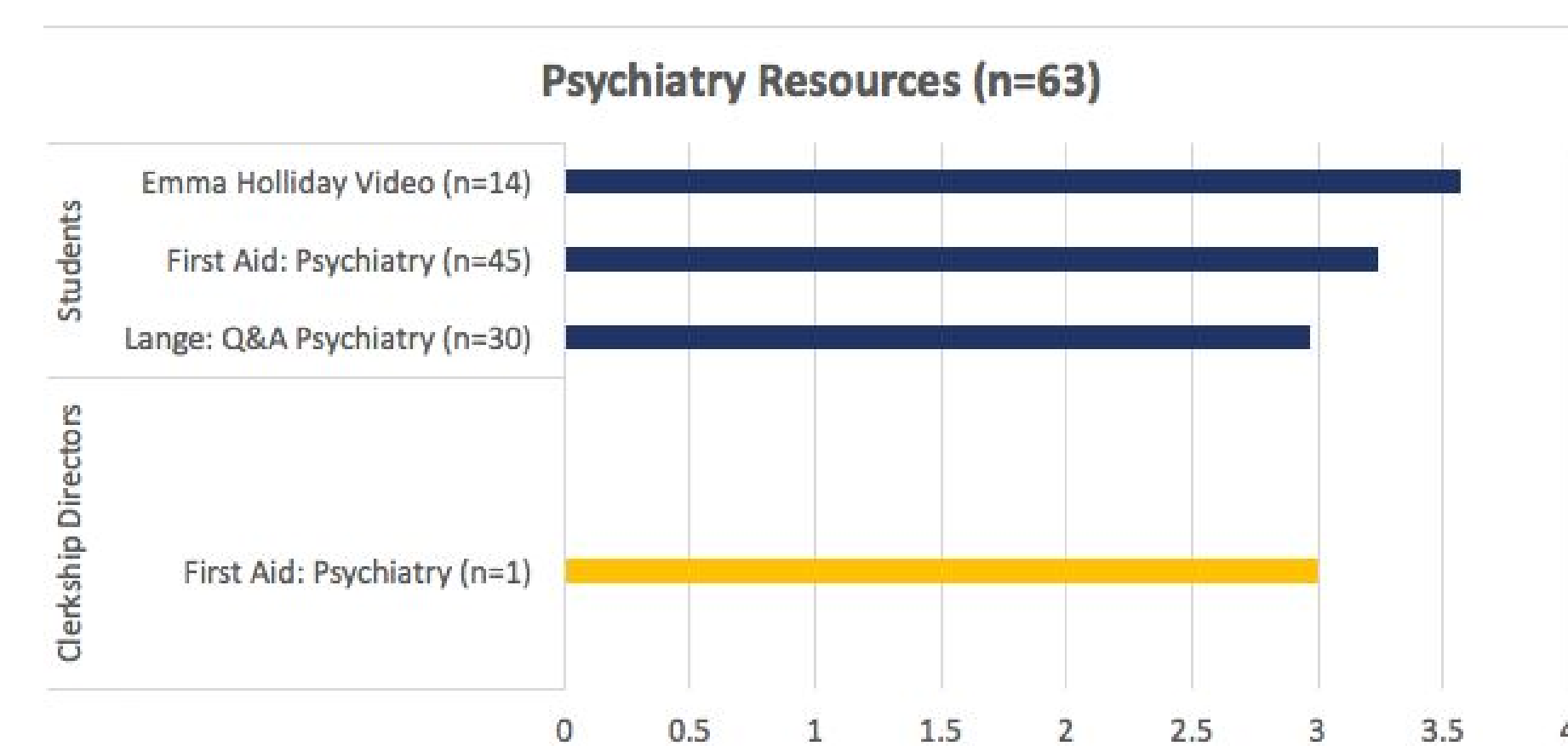


Figure 5: Psychiatry top 3 resources as rated by students and clerkship directors

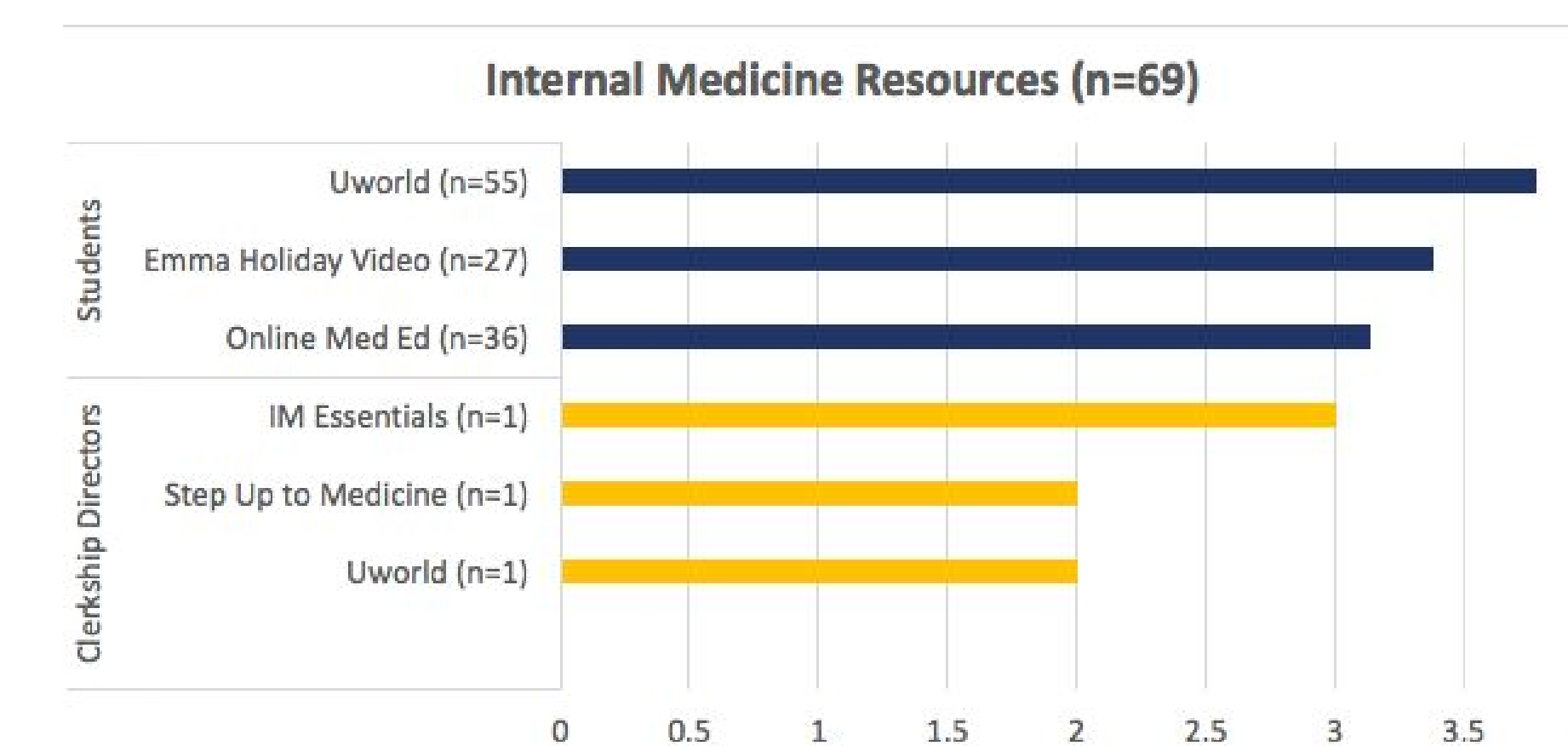


Figure 6: Internal Medicine top 3 resources as rated by students and clerkship directors

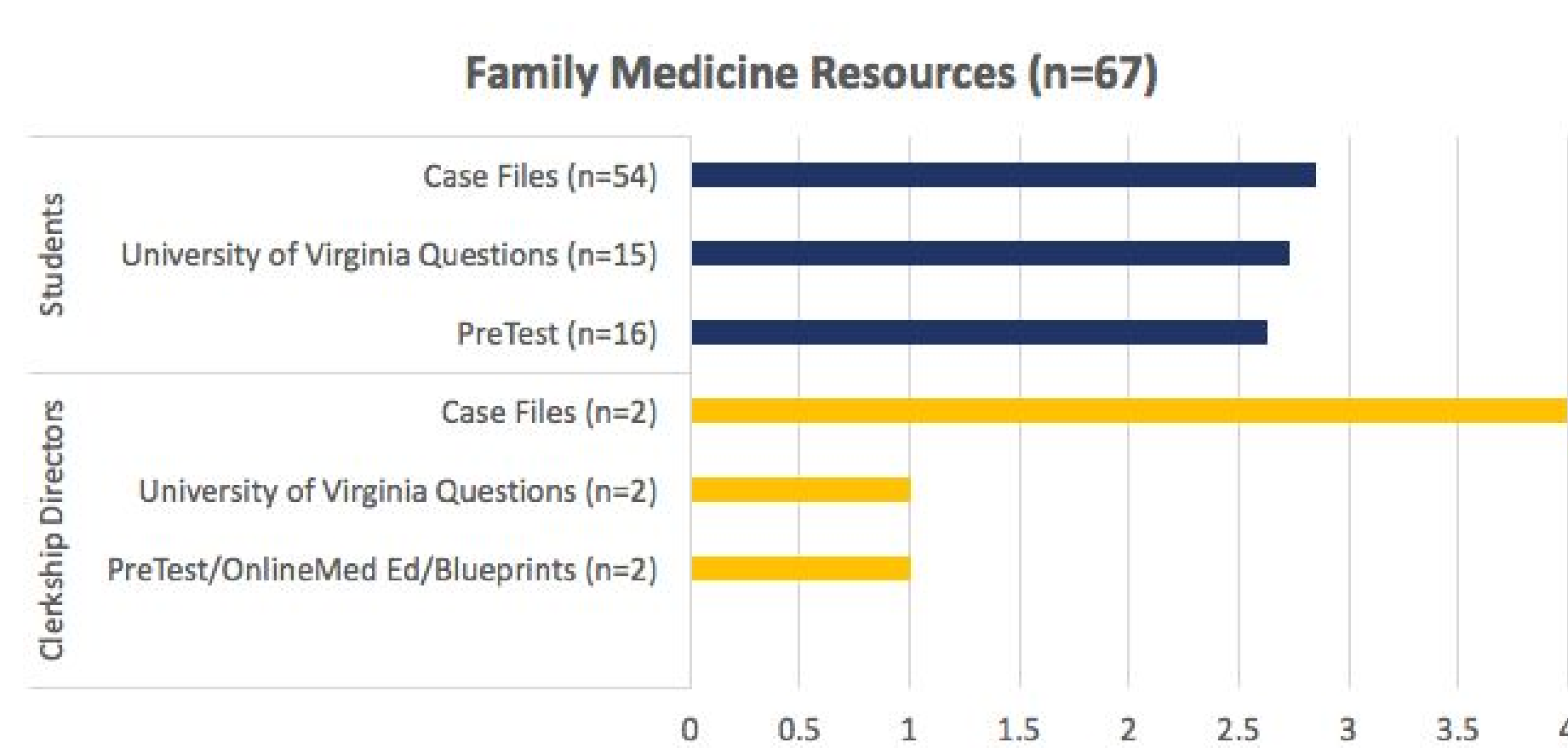


Figure 7: Family medicine top 3 resources as rated by students and clerkship directors

*"Other" resources were also highly rated and described in free-responses by students for multiple rotations. These resources are listed in our Clinical Resource guide. Here, we exclude the "Other" category due to low (n) and to focus on the well-rated, highly used resources.

Conclusions

- Survey responses revealed discrepancies between opinions of students and clerkship directors
 - Students placed greater emphasis on question banks and multi-media resources, both in their numerical ratings and free responses
 - Clerkship directors attributed greater value to reading from textbooks and researching specific conditions affecting patients seen during the clerkship
- Medical students value study approaches that offer immediate feedback and those that incorporate technology
- The discrepancies with resources between clerkship directors and students are consistent with reports of generational differences²

Limitations

- Low completion rate for all clerkship rotations due to early exit of the survey
- Response rates limited by students not having completed all clerkships at time of survey
- Survey design allowed responders to rate a resource while also selecting "did not use." These data were excluded

Acknowledgements

We would like to thank the clerkship directors and assistant directors for their dedication to medical student education. We would also like to thank Jesse Burk-Rafel for his expertise on survey design and the UMMS Class of 2018 for their responses.

References

- 1) 2015 M3 Book Survey Results. Medical Student Government, Medical College of Virginia. Accessed online: http://www.vcumsg.org/uploads/4/3/1/8/43185619/m3_book_survey_results.pdf
- 2) O'brien, Bridget, Molly Cooke, and David M. Irby. "Perceptions and attributions of third-year student struggles in clerkships: do students and clerkship directors agree?." *Academic Medicine* 82.10 (2007): 970-978

BACKGROUND

In many medical schools, preclinical students often stream recorded lecture videos instead of physically attending lecture. If these “streamers” have a question regarding a topic or lecture, they must ask it via email rather than directly. Questions over email, however, are a poor substitute for in-person questions. Email is private and decentralized; students do not know which questions have already been asked of the professor, and the answers they receive stay private unless students specifically make an effort to share answers with friends or broadcast them to the class, leaving some students uninformed. Email also removes the social discussion aspect of in-person questioning, as fellow students lose out on the opportunity to collaborate towards finding the solution.

Piazza™ is an online platform which provides a much more natural question-and-answer experience. It provides a central, searchable repository for questions and allows students to answer each other’s questions collaboratively. Faculty can make their own responses or simply endorse students’ correct answers. Questions can also be posted anonymously, reducing the intimidation factor when working with professors. The Platform has found extensive use in undergraduate courses, but has not yet been applied to medical student education. Here, we discuss the results of a two-week pilot of Piazza during the first-year (M1) Endocrine System course at the University of Michigan Medical School.

METHODS

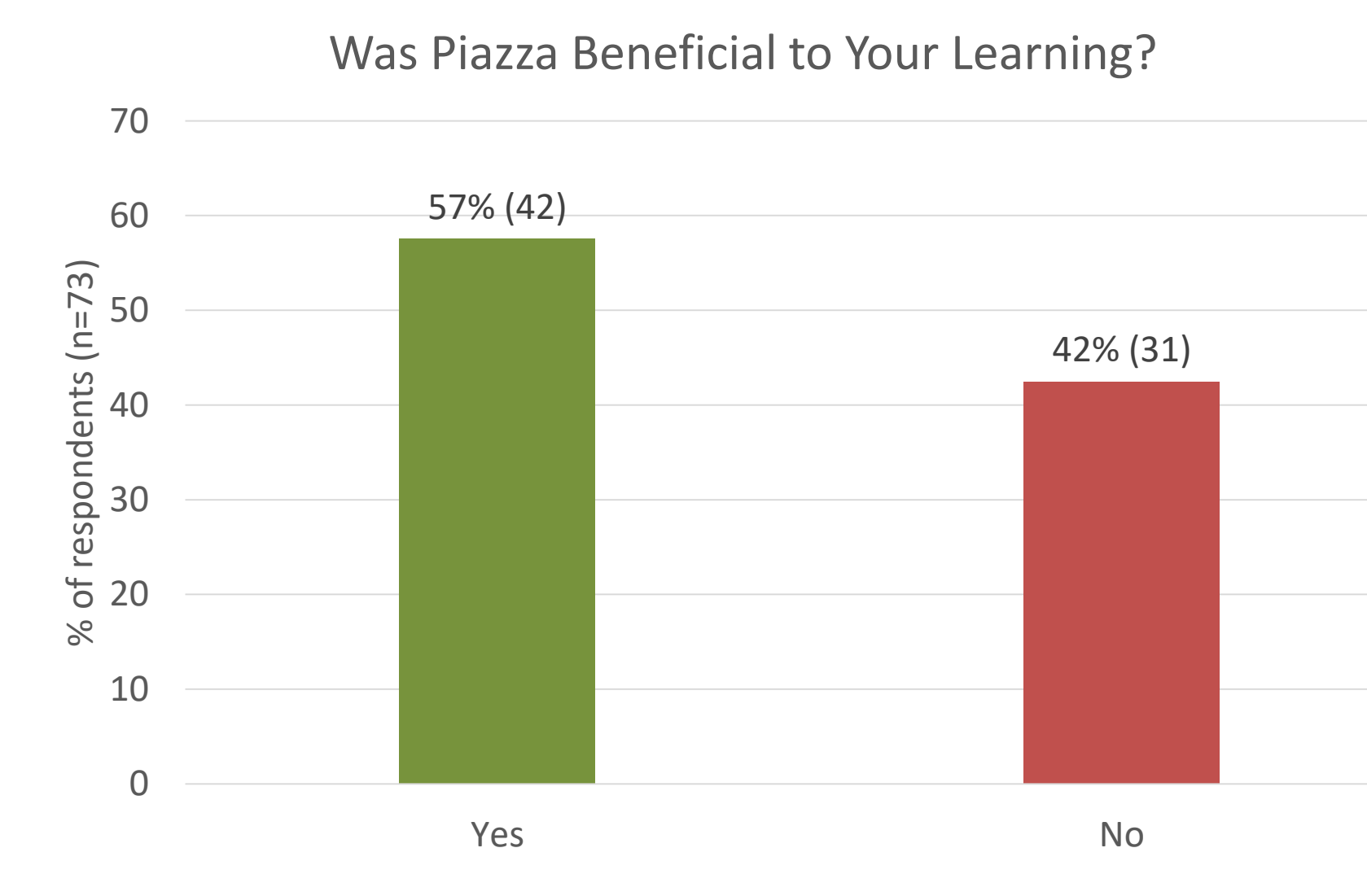
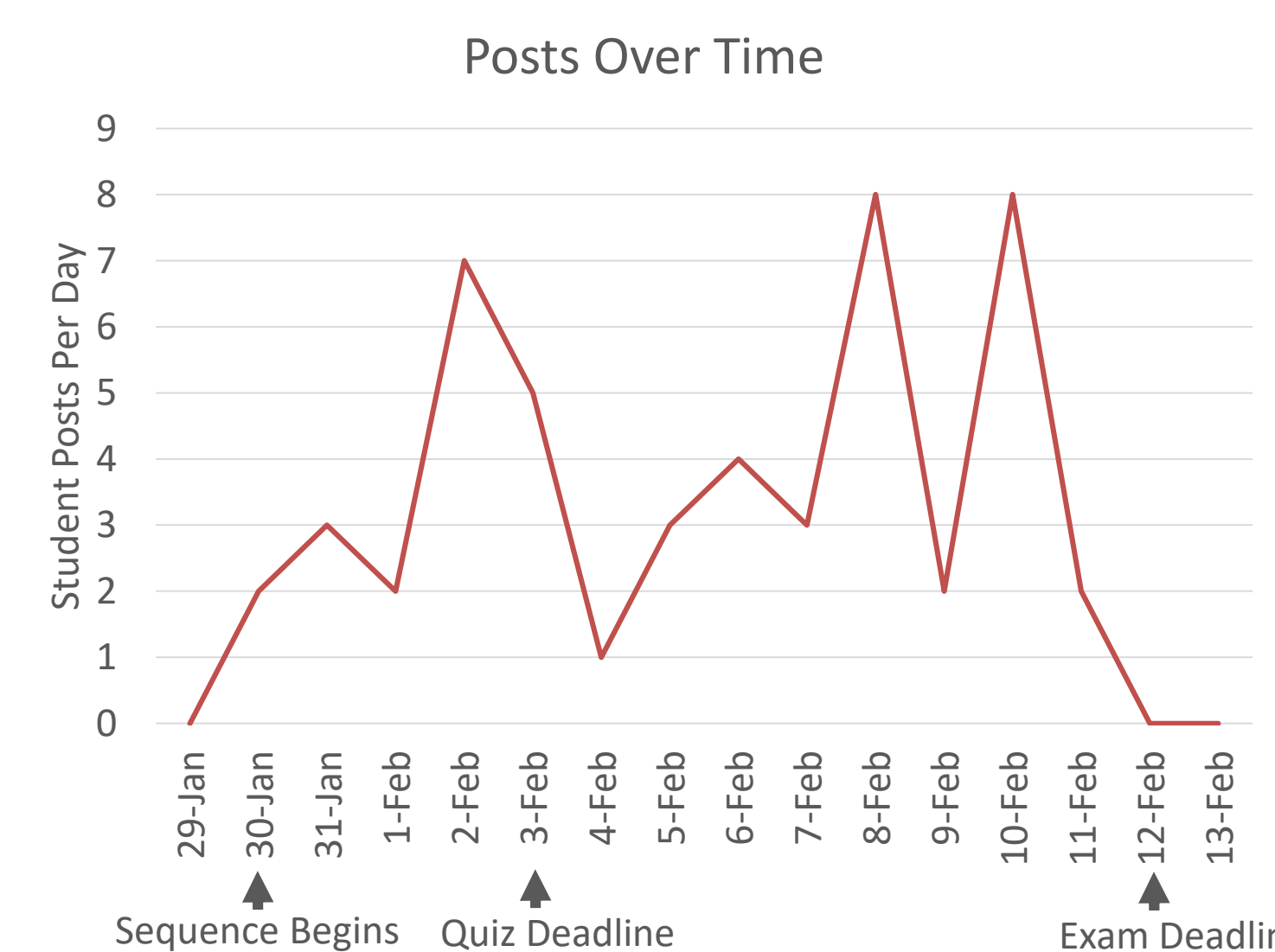
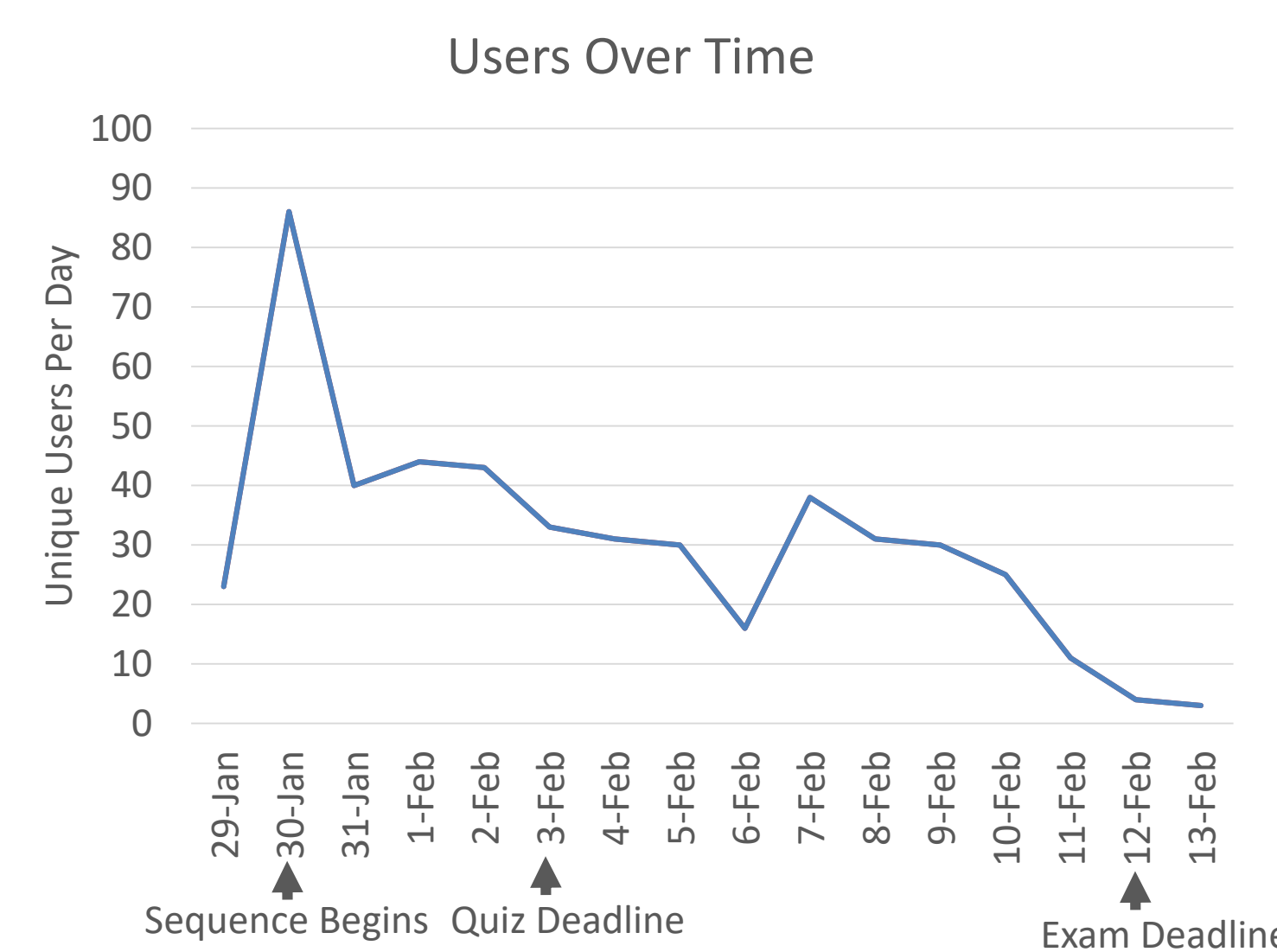
The two faculty directors of the course were provided University-sponsored educational materials regarding Piazza and used a sandbox environment to familiarize themselves with the features. Students were given a fifteen-minute orientation to Piazza describing its functions and how to enroll; they could still use email to communicate with the directors if preferred. The course directors answered questions on Piazza, trying to only address questions when a student had attempted an answer first. If a question remained unanswered, they would answer directly. After course completion, usage statistics were collected and students were surveyed.

WHAT IS PIAZZA?

Annotations on the screenshot:

- Questions can be searched, filtered, and tagged
- Question and answer history can be replayed
- Graphics and equations are supported
- Questions and answers can be posted anonymously
- Students respond collaboratively
- Instructors endorse or modify students’ answers

RESULTS



Average Response Time **1.1 Hours**

Student-First Response Rate **64%**

Students liked:

- “Asking questions to the instructor and the class at the same time”
- “Viewing others’ questions because sometimes I had the same ones”
- “Testing my knowledge by seeing if I could answer others’ questions”

Students disliked:

- “Having yet another resource to check”
- “The barrage of emails”

RESULTS (cont’d)

57% of 73 total respondents noted Piazza to be beneficial to their learning in the Endocrine course, with most of the negative responses from students who did not try the platform. Nearly one-quarter of the class (22%) logged in per day. Usage was highest before a quiz or exam and lowest on the weekends. A total of 47 questions were asked over the two weeks. Of these, 64% were answered first by students rather than instructors; if weekends were excluded the student-first response rate increased to 71%. The average time from question to response was 1.1 hours. Specific praise students had for Piazza centered on the platform allowing them to see when others had the same question and on how it enabled them to test their knowledge by answering others’ questions. Criticisms focused on how it was yet another electronic resource for students to check.

LESSONS LEARNED

Students perceive Piazza to be beneficial for learning, not only due to clarification of areas of uncertainty, but also due to the opportunity to assess their own knowledge by answering other people’s questions. Student participation was high for a system that is designed to be used on an as-needed basis. The number of questions answered first by students was particularly encouraging, as it demonstrated a level of student engagement that email cannot under any circumstances provide. Additionally, the crowdsourced answering allowed for a faster response time than could be provided by the directors alone. Finally, the number of anonymous questions was higher than expected, indicating that student-professor interaction anxiety may depress question asking under an email-only system.

NEXT STEPS

To further assess how Piazza can increase student engagement and enhance learning, students will be surveyed regarding their experience with the pilot. To deploy Piazza across all sequences, all course directors must be familiarized with the platform and consent to its usage, a significant obstacle. Going forward, we hope to compare overall levels of student engagement and satisfaction with the curriculum between incoming M1s (who would have used Piazza from the beginning) and the current M1s (who would not have used Piazza in some sequences).

Perceptions of debriefing after adverse patient events: a cross-sectional survey of Pediatric residents

M Govindan MD¹, N Malas MD MPH^{1,2}

¹Department of Pediatrics and Communicable Diseases, University of Michigan, Ann Arbor, MI.

²Department of Psychiatry, University of Michigan, Ann Arbor, MI.



Background

- Residents commonly experience adverse patient events as part of their training.
- These events can engender strong emotions in physicians, and can negatively affect physician well-being and the care they provide.
- Benefits of debriefing after adverse experiences include positive impacts in teamwork, end of life care and physician stress.^{1,2}
- Junior physicians have reported the greatest need for emotional support after difficult experiences,³ yet there is no existing model to educate pediatric resident on debriefing after adverse events.

Methods

- Cross-sectional quality assurance study and needs assessment.
- Pediatric and Medicine-Pediatric residents participated in an online Qualtrics survey and focus groups.
- Audio recordings were obtained during focus groups to allow for accurate capturing of elicited themes.
- Project deemed exempt by the University of Michigan IRB and formal consent was obtained for recordings.

Results

Table 1: Number of Distressing Events Experienced by Level of Training (N=48)

Level of training		# of distressing patient care events in past 12 months					Total
		0	1-3	4-6	7-9	10 +	
Level of training	HO-1	3	12	1	0	0	16
	HO-2	1	8	3	2	0	14
	HO-3	0	6	5	1	0	12
	HO-4	0	1	1	0	4	6
	Total	4	27	10	3	4	48

Figure 1: Importance of Debriefing (N=45)

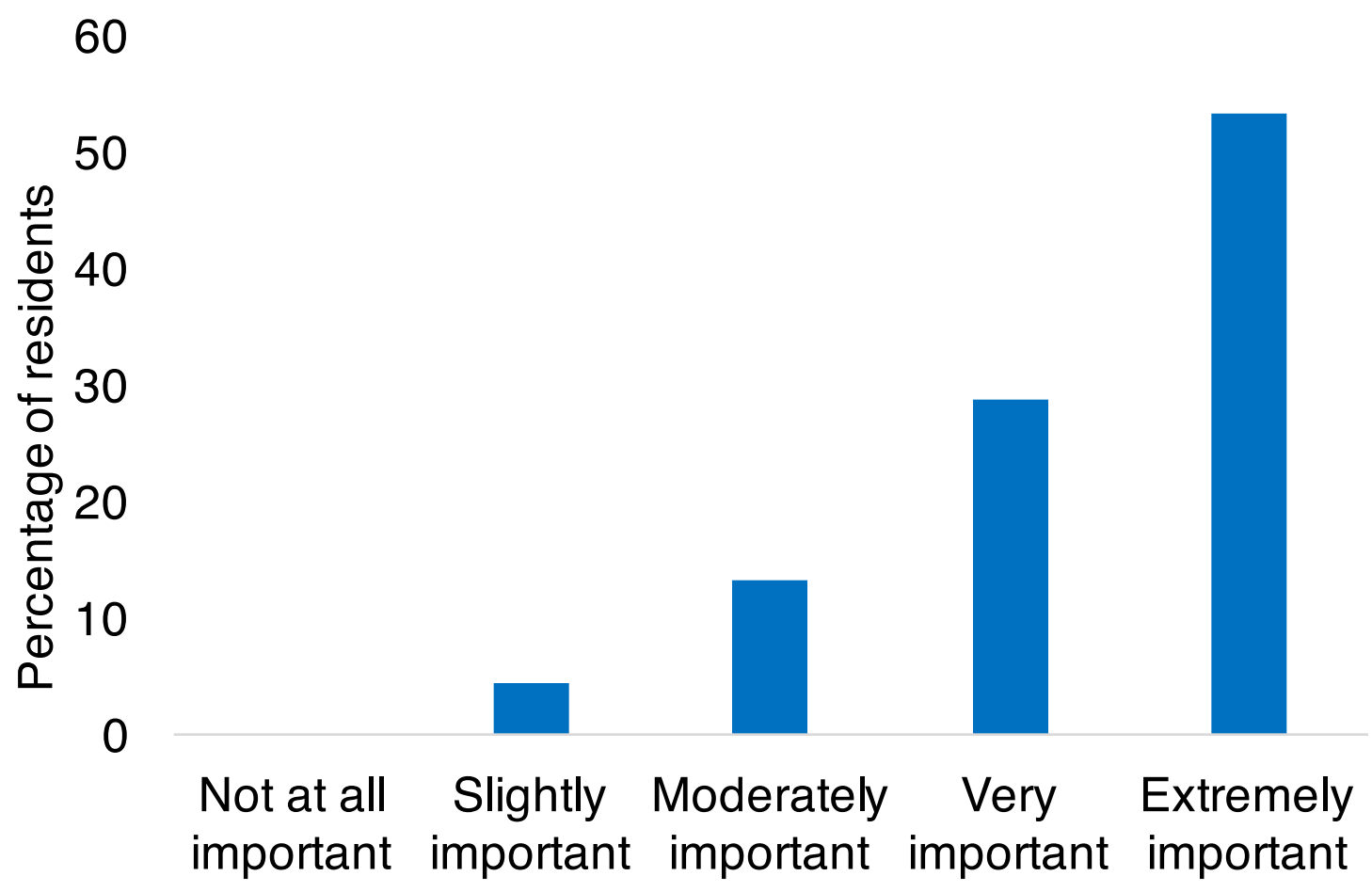


Figure 2: Importance of Having Skills to Debrief (N=45)

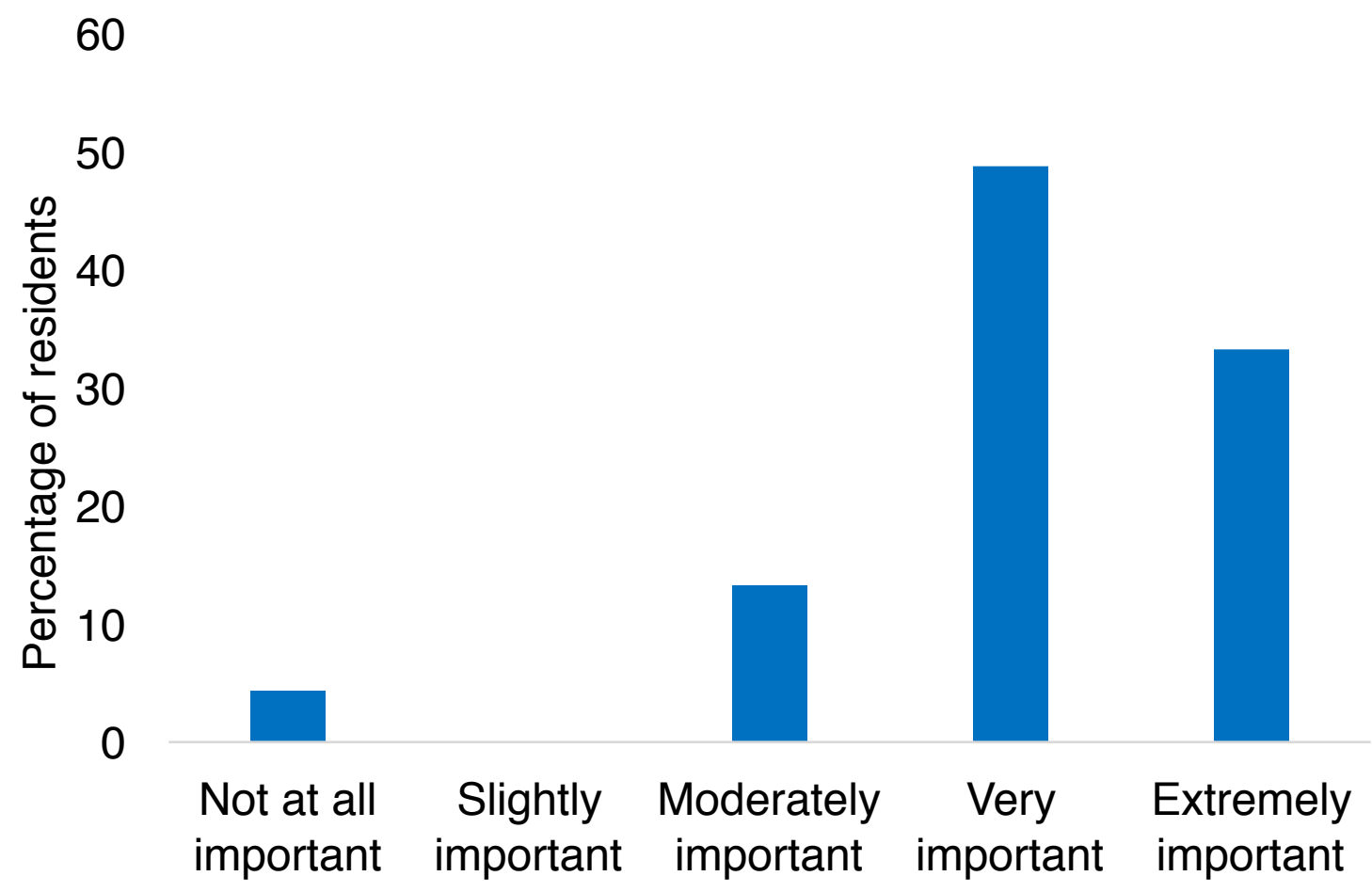


Figure 3: Confidence in Leading Debrief (N=45)

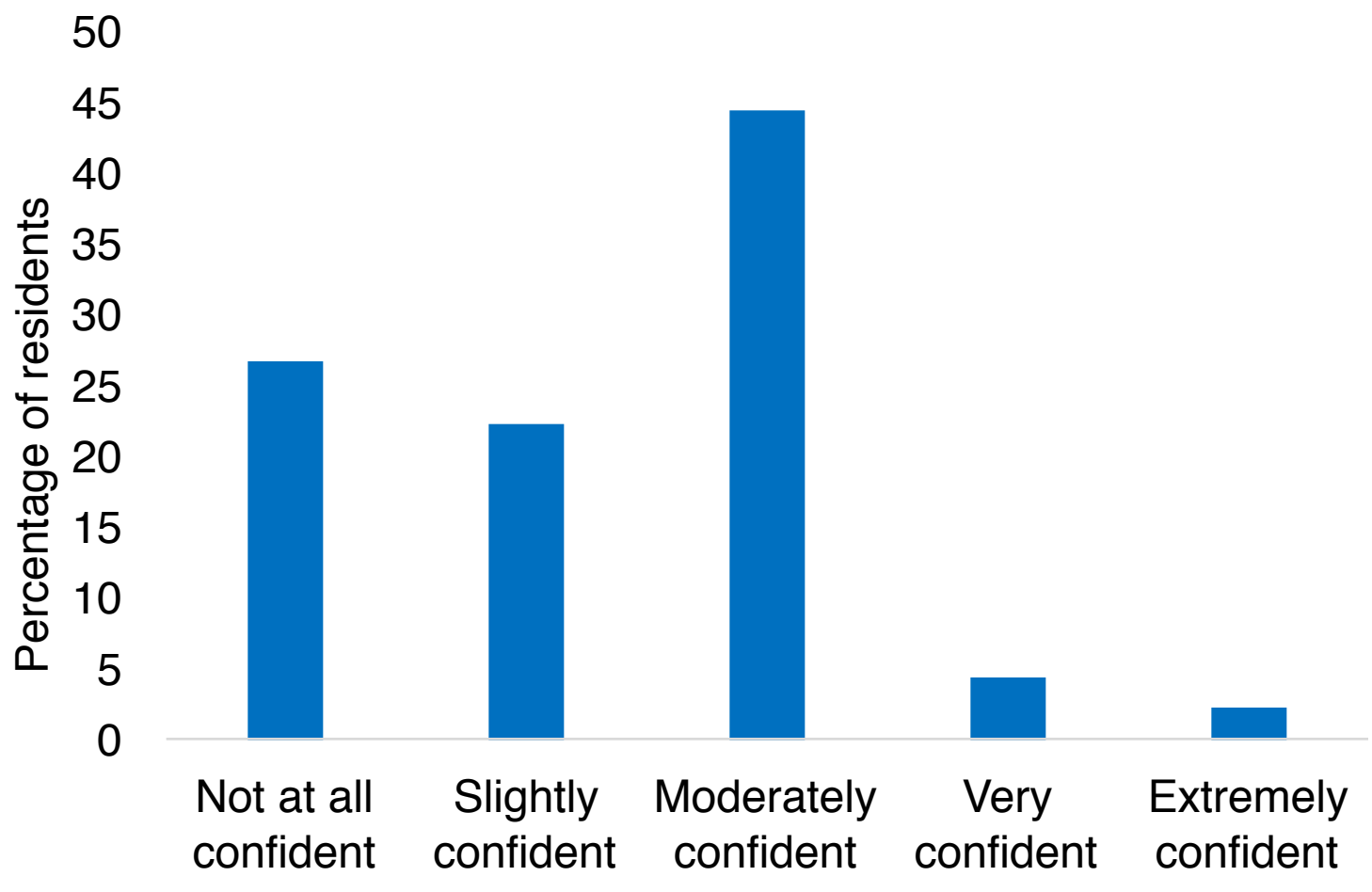
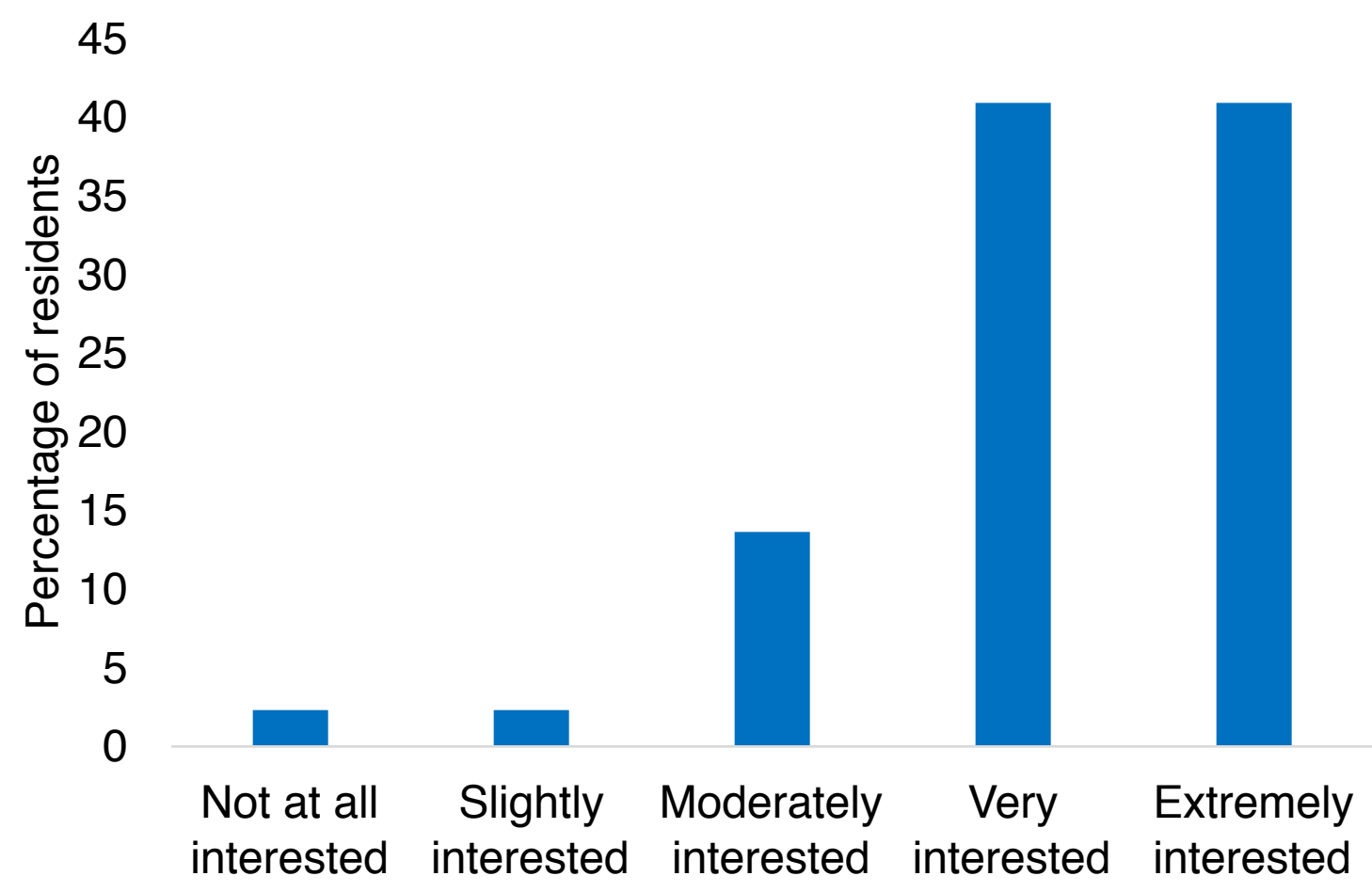


Figure 4: Interest in Debriefing Training (N=45)



Conclusions

- The majority of Pediatric residents believe it is important to debrief after adverse events, yet debriefing takes place infrequently.
- Only half of residents feel confident to lead a debrief, and few have received formal training.
- The majority of residents are interested in receiving training on debriefing.

Next Steps

- Pilot workshop in April 2017 to teach 2nd year Pediatric and Medicine-Pediatric residents the components and skills to lead debriefing sessions after adverse events.
- We are building an online repository of educational materials to strengthen longitudinal learning and practice.

For More Information

- Please contact Morgen Govindan at morgenlf@med.umich.edu.

References

- Bateman ST, Dixon R, Trozzi M. The wrap-up: a unique forum to support pediatric residents when faced with the death of a child. *J Palliat Med.* 2012;15(12):1329-1334.
- Keene EA, Hutton N, Hall B, et al. Bereavement debriefing sessions: An intervention to support healthcare professionals in managing their grief after the death of a patient. *Pediatr Nurs.* 2010; 36:185-189.
- Redinbaugh EM, Sullivan AM, Block SD, et al. Doctors' emotional reactions to recent death of a patient: Cross sectional study of hospital doctors. *British Medical Journal.* 2003; 327:185-191.

Doctors of Tomorrow: Enabling High School Students to Ignite Change Within Their Community

Jessa Miller, BS¹, Andrea Matthew, BS¹, Jonathan Silverberg, BS¹, Kylie Steenbergh, BS¹, Carol Noronha BS¹, William Sturdavant, BA¹, Lauren Phillips, BS¹, Emily Flagler, BS¹, Paula Ross, PhD¹, Gurjit Sandhu, PhD², Jonathan Finks, MD²
University of Michigan Medical School¹, University of Michigan Department of Surgery²

Mission Statement

Doctors of Tomorrow (DoT) was founded in 2012 to increase diversity among medical students and physicians by inspiring and enabling under-represented youth to pursue careers in medicine.

Background

- Partnership between the University of Michigan Medical School (UMMS) and Cass Technical High School (CTHS) in Detroit, MI
- 9th grade students paired with first-year medical student mentors
- Hands-on clinical experience:
 - Physician shadowing
 - Anatomy lab
 - Simulation center

Objectives

- Community Health Capstone Projects were introduced to the program in Fall 2015
- Through the capstone projects, 9th grade students:
 - Develop crucial skills for pursuing careers in medicine
 - Gain a better understanding of healthcare disparities
 - Act as agents of change within their community

Methods

- 5 capstone group topics:**
 - Nutrition
 - Inequity in Healthcare
 - Hunger
 - Obesity
 - Youth Violence
- Each capstone group consisted of:**
 - 1-2 medical student capstone leaders
 - 7 medical student mentors
 - 7 high school students
- Capstone groups collaborated with community organizations:**
 - Artesian Farms
 - Neighborhood Service Organization
 - Detroit Food Academy
 - American Indian Health and Family Services
- Project Implementation:**
 - With the help of mentors, 9th grade students researched their community health topic
 - Collectively, groups brainstormed viable interventions
 - Developed an action plan that addressed the assigned topic
 - Contacted and visited community partner organizations
 - Executed student-designed projects at CTHS
 - Designed posters to present at an end-of-year research symposium

Outcomes

- In Spring 2016, the capstone groups successfully carried out interventions within the CTHS community
- Projects included:
 - Construction of a vertical garden
 - School-wide assembly on obesity prevention and healthy lifestyles
 - Organization of a food drive
 - Health fair which addressed nutrition, physical health and mental health
- End-of-year research symposium highlights:
 - Student synthesis of capstone projects into posters
 - Delivery of oral presentations
 - Keynote speaker: Dr. Abdul El-Sayed, Health Officer for the City of Detroit

Conclusions

- Students learned critical thinking skills and executed viable solutions to healthcare disparities affecting their community
- Students gained a better understanding of the healthcare challenges that impact urban cities

Acknowledgements

- CTHS Administration
- Community organizations: Artesian Farms, Neighborhood Service Organization, Detroit Food Academy, American Indian Health and Family Services
- Funding support: Jeffrey Cappo and the Victory Automotive Group
- Funding support: UAW

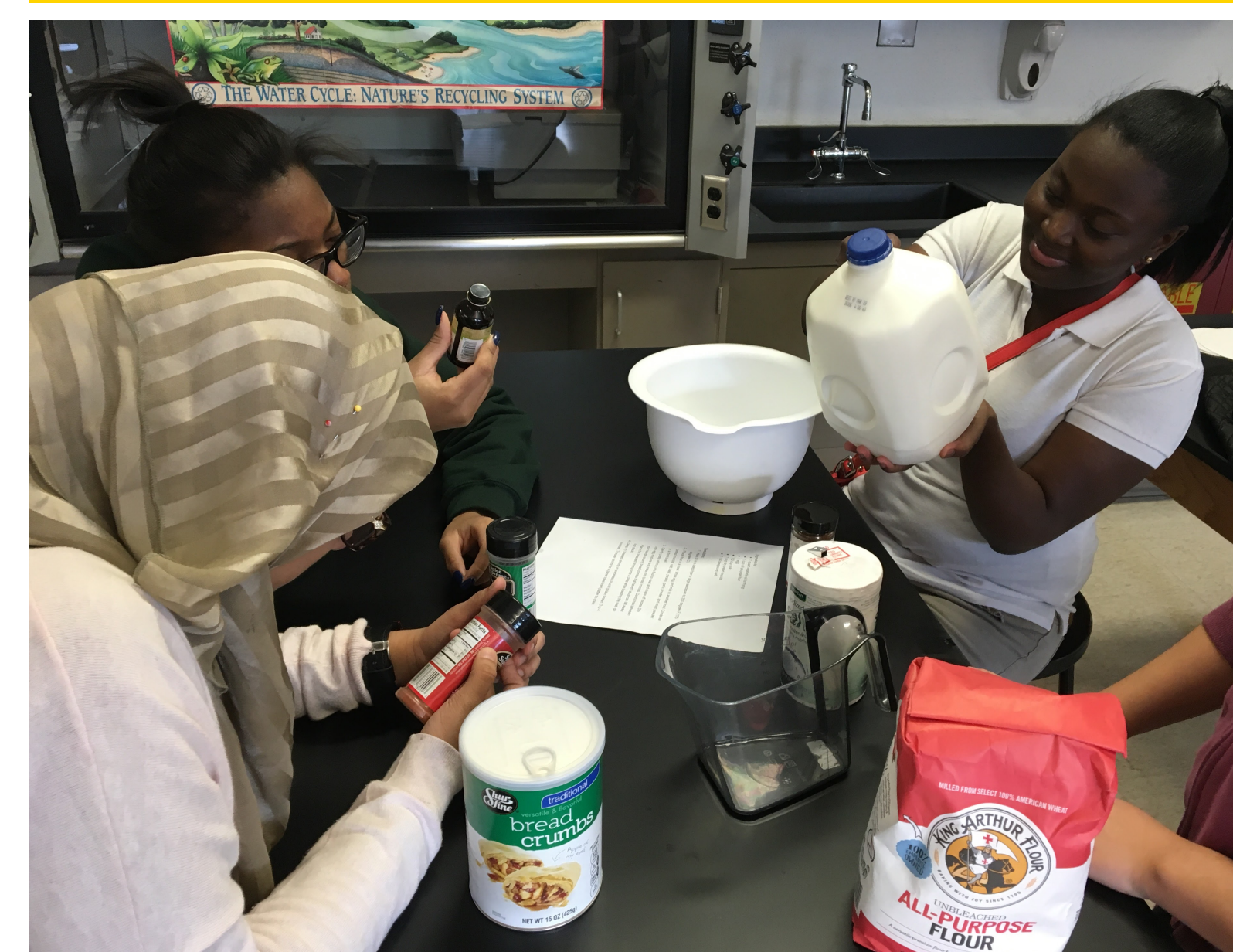
Vertical Garden



SIM center



Nutrition Capstone Group



Research Symposium



Health Fair



“From Pipeline Program to Recruitment (and Retention) Services”

A Pipeline Program for Healthcare Leadership
 U-M Summer Enrichment Program (UMSEP)
 University of Michigan School of Public Health | Ann Arbor, Michigan

Background

- Since its first summer cohort in 1986, the University of Michigan Summer Enrichment Program (UMSEP) has served as the premiere health professions pipeline program designed to attract and educate future leaders who are committed to eliminating racial, ethnic, and socioeconomic health inequalities.
- Every summer 18-25 undergraduate students are placed in eight-week paid internships at hospitals and public health programs in the Southeast Michigan and Metro Detroit area for experiential learning. Each student is supervised by a preceptor who has leadership responsibilities in the organization.
- Throughout the program, UMSEP participants attend a series of site visits to a wide range of health-care and public health organizations, as well as attend graduate level lectures and professional development workshops that not only expose them to the field but also increase their interest in public health.

Aims

- Attract students from all parts of the country and provide them with airfare, housing, rental vehicles for carpooling, and three stipends while exposing them to health management and policy.
- Provide, free of charge, a graduate record examination (also known as GRE) preparation course to bolster participants’ graduate school applications as well as increase retention and recruitment rates to first UM and secondly to other Schools of Public Health.

Methods

- Cohort Model – Surveyed & gauged the perceived likelihood of students receiving a graduate education in public health, before and after their summers at SEP.
- 258 program alumni were surveyed, focusing on 3 main outcomes: 1) How many pursued careers in Health Management & Policy(HMP) & how many at Michigan 2) How many pursued other Public Health disciplines 3) How many pursued other disciplines in general

Results

*As an academic pipeline, over 90% of the UMSEP program alumni obtained a post - graduate degree. The study also showed that 20 program participants have completed or are currently completing a doctoral degree. These results are a only a few indicators that the UMSEP has built a strong academic pipeline. When it comes to creating a diverse pipeline into the healthcare field, the study found that over 65% of the UMSEP alums are currently in health management and policy positions

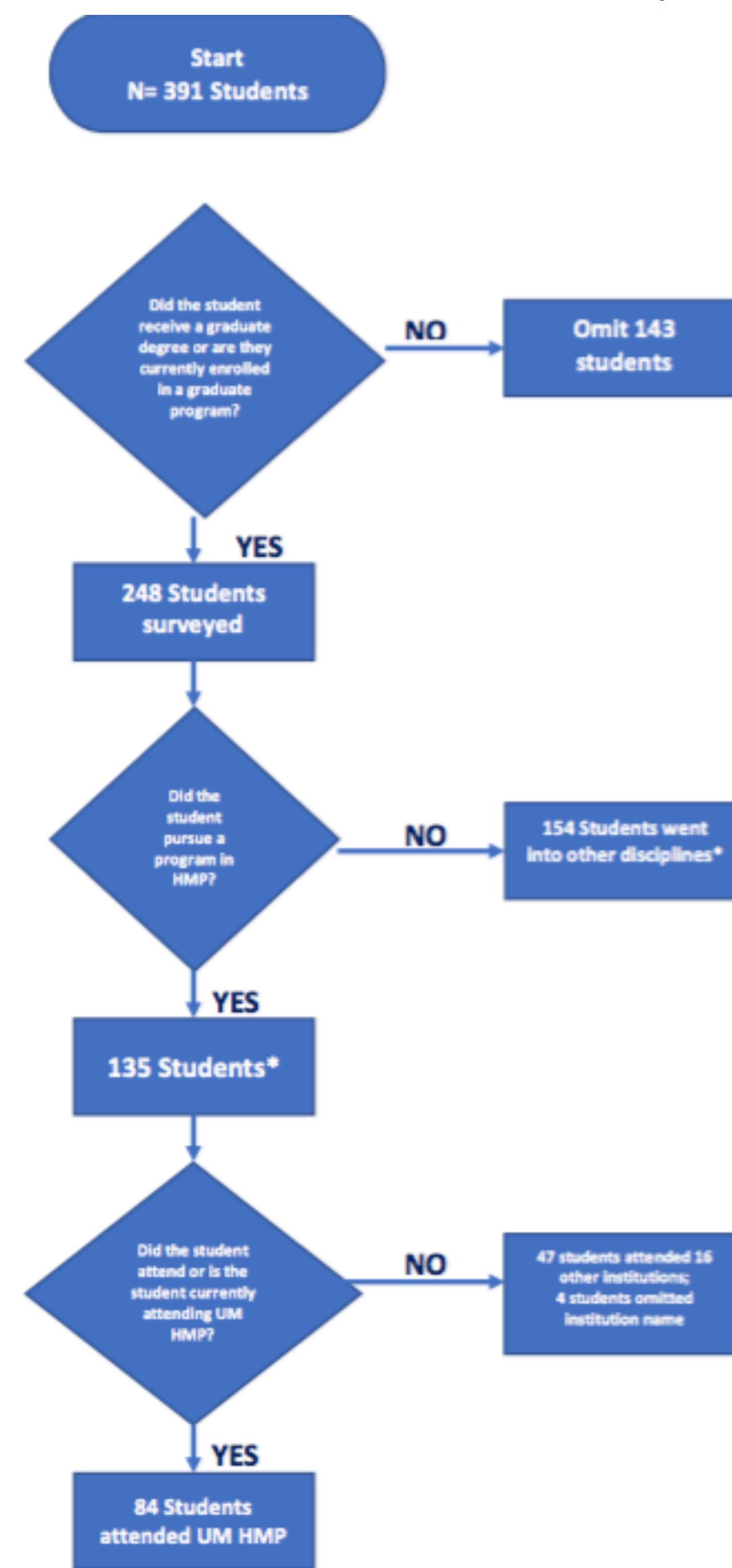
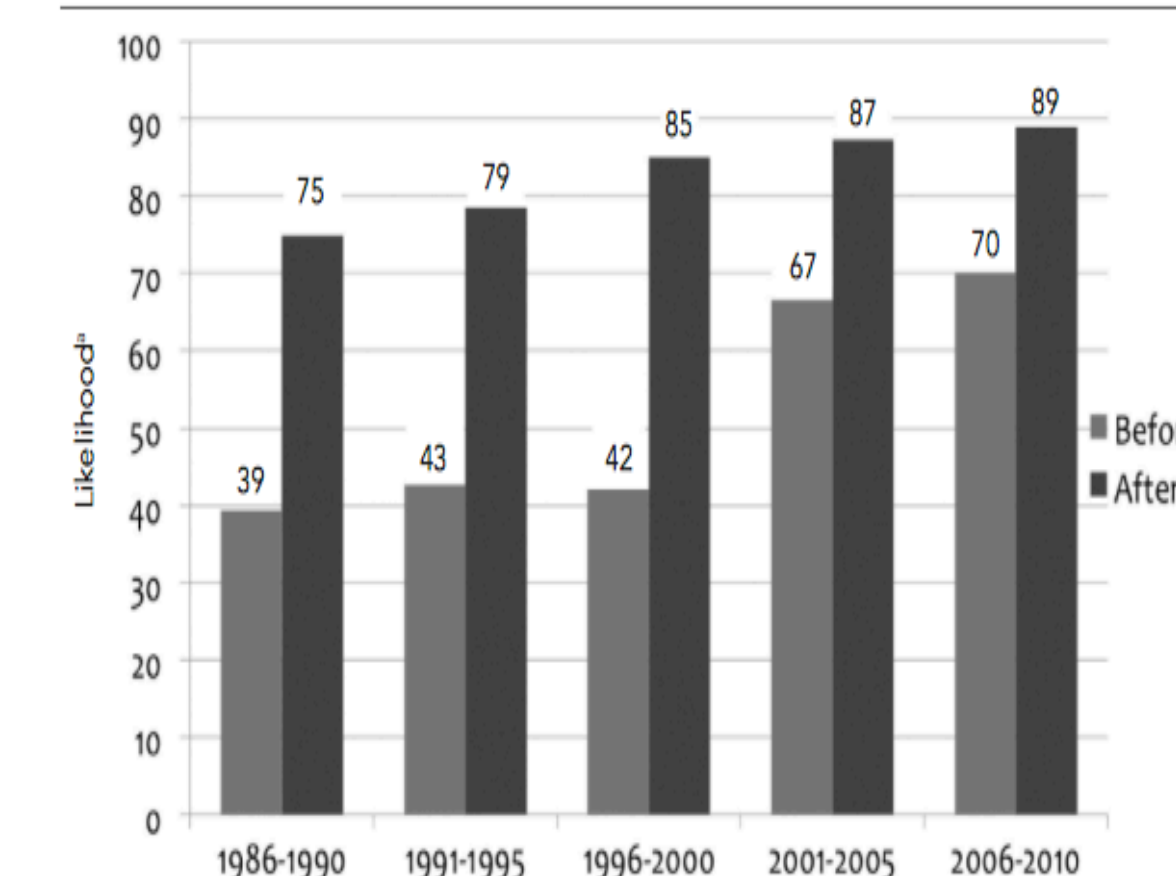
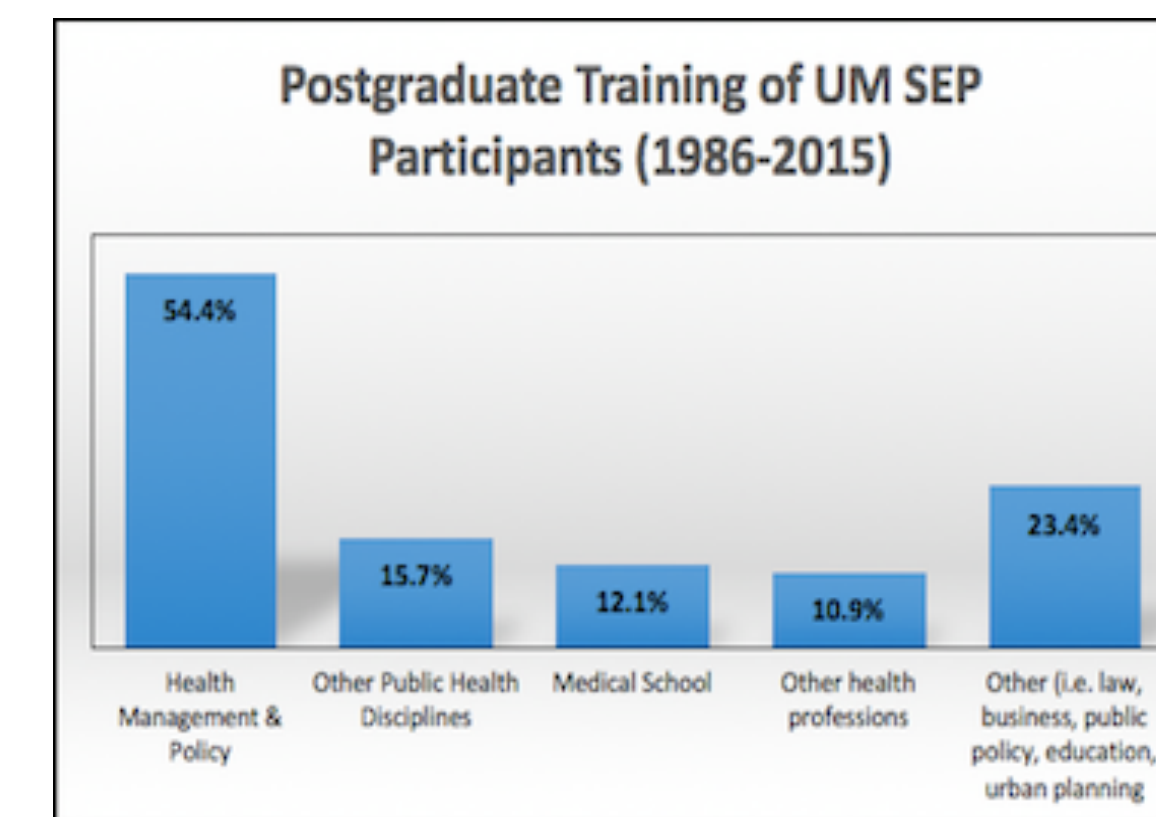


Figure. Perceived likelihood of students attending a graduate program in public health (specifically, health management and policy) before and after participating in UMSEP (n=281, p<0.001); University of Michigan, Ann Arbor, Michigan, 1986-2010



Postgraduate Training of UM SEP participants (1986-2015) N = 248*		
Graduate/professional programs attended**	N	Percent (%)
Health Management & Policy	135	54.4%
University of Michigan, Ann Arbor	84	33.9%
16 Other Institutions (<4 per institution)	47	19.0%
Institution omitted	4	1.6%
Other Public Health Disciplines	39	15.7%
University of Michigan, Ann Arbor	10	4.0%
11 Other Institutions (<5 per institution)	28	11.3%
Institution omitted	1	0.4%
Medical School	30	12.1%
Other health professions	27	10.9%
Other (i.e. law, business, public policy, education, urban planning)	58	23.4%

*143 students omitted who have not received graduate degrees
 **Some students received multiple graduate degrees



Conclusion & Moving Forward

Pipeline programs are an effective way to recruit students, if:

- Use cohort model approach
- Student experiences tied to social issues
- Infrastructure uses faculty and program alumni
- Active student tracking system in place
- Retention services target pipeline program students

Designing and developing scalable recruitment and retention programs aimed at increasing student and professional diversity should be a top priority for:

- Graduate Schools with low rates of minority applicants and student body
- Institutional diversity leadership
- Health Sciences Disciplines

References

Lichtenstein R.
[25 years of promoting diversity in public health leadership: the University of Michigan's summer enrichment program in health management and policy.](#) Public Health Rep. 2013;128(5):410-6.

Acknowledgements

We want to thank and acknowledge the following collaborators:
 Faculty & Staff: Ebbin Dotson, Christopher Clarke
 Research Assistants: Aaron Hopkins, Leslie Cerpa, Erica Gynn, Lauren Murphy-Moore



Development and Implementation of a Surgical Ethics Curriculum for Residents

M Barrett, MD¹; L Leininger, MPH¹; PG Gauger, MD¹; DT Hughes, MD¹; CJ Vercler, MD, MA^{1,2}; G Sandhu, PhD^{1,3}; PA Suwanabol MD¹

¹University of Michigan, Department of Surgery, Section of General Surgery; ²University of Michigan, Department of Surgery, Section of Plastic Surgery; ³University of Michigan, Department of Learning and Health Sciences



Background

The importance of ethics in surgery is universally acknowledged. Despite ACGME support to integrate ethics education into residency training, ethics curricula has yet to be codified—in either content or format.

Objective

Characterize resident needs in ethics education to inform development of a department-wide learner-centered ethics curriculum.

Methods

Needs Assessment:
Anonymous and voluntary online survey of residents on preferred ethics topics and format

Post-Session Evaluation:
Anonymous survey assessing session strengths and areas for improvement



NEEDS ASSESSMENT

- 45/125 (36%) of residents completed the initial needs assessment
- 87% (N=39) stated ethics education was important to training
- 38% (N=17) residents happy with current ethics education
- Most residents desired a quarterly case-based curriculum

Results

POST-SESSION EVALUATIONS

	Engaging Presentation	Relevant to Career	More confident with ethical decision-making
Session 1: Truth Telling in Surgery			
Strongly Agree	29.0%	64.5%	32.0%
Agree	64.5%	35.5%	62.3%
Disagree	6.5%	0.0%	6.5%
Strongly Disagree	0.0%	0.0%	0.0%
Session 2: Ethics of End of Life Care			
Strongly Agree	35.7%	64.3%	35.7%
Agree	57.1%	35.7%	64.3%
Disagree	7.1%	0.0%	0.0%
Strongly Disagree	0.0%	0.0%	0.0%
Session 3: Ethics of Surgical Innovation			
Strongly Agree	41.7%	41.7%	75.0%
Agree	58.3%	58.3%	25.0%
Disagree	0.0%	0.0%	0.0%
Strongly Disagree	0.0%	0.0%	0.0%

STRENGTHS

- *"The small group discussions and the ability to decompress"*
- *"Thought provoking... prompted us to comfort people when vulnerable"*
- *"Knowing hospital policy is actually quite helpful"*
- *"Small groups facilitated excellent discussion"*

AREAS OF IMPROVEMENT

- *"Less didactic time"*
- *"Case presentation without concrete strategy"*
- *"Need to include ICU attendings" for end of life discussion*



Surgical residents from multiple programs (vascular, cardiac, plastics, general surgery) engaging in case-based ethics discussion.

90%

Rated the sessions as "good" or "excellent"

97%

Found the sessions to be engaging and felt more confident

100%

Stated topics were relevant to their career

Conclusions

- Resident survey resulted in creation of a learner-centered curriculum focused on the ethical challenges identified and encountered by surgical residents.
- This curriculum is relevant to 100% of residents and increases knowledge and confidence with application of ethical principles.
- With only 38% of residents satisfied with ethics training prior to session attendance, a 90% positive rating of sessions reflects improvement.
- This feedback suggests curricula founded in case-based discussion utilizing small group structure is most profitable for ethics education.

Background

- Internal medicine residents often provide end of life (EOL) care for hospitalized, critically ill patients.
- EOL care is a core curriculum for ACGME accreditation, although residents report having less experience in EOL discussions in the primary care setting.¹
- Patients prefer EOL discussions to occur earlier in the disease course with physicians with whom they have developed a relationship over time, which would occur in the clinic setting.²
- The Institute of Medicine (IOM) reported deficiencies in office-based skills in EOL management of the elderly patient population in recent graduates of US training programs.³
- More attention within graduate medical education to outpatient EOL care may lead to improved management of the aging US population.³

Objectives

- To assess the current knowledge, attitudes and behaviors of internal medicine, medicine-pediatric, and family medicine residents in engaging in EOL discussions with patients in the inpatient and outpatient settings.
- To identify knowledge gaps or patterns of behavior that could serve as a platform for a new curriculum for improving EOL discussions in the outpatient setting.

Design

Cross-sectional, online self-report survey

Subjects

Ninety-five out of 197 eligible Internal medicine, medicine-pediatrics, and family medicine resident physicians at a single university center

Characteristic	Count	Percentage
Gender	Male	40 (48%)
	Female	40 (48%)
Program	Internal medicine	55 (66%)
	Family Medicine	11 (13%)
	Medicine-Pediatrics	17 (20%)
Training Year	PGY-I	33 (40%)
	PGY-II	32 (39%)
	PGY-III	14 (17%)
	PGY-IV	4 (5%)
Clinic site	University Hospital	23 (28%)
	VA Hospital	16 (19%)
	Community Clinic	43 (52%)
Average age (years)	28	

References

- Bernacki RE, Block SD, for the American College of Physicians High Value Care Task F. Communication about serious illness care goals: A review and synthesis of best practices. *JAMA Internal Medicine* 2014;174:1994-2003.
- Pfeifer MP, Sidorov JE, Smith AC, Boero JF, Evans AT, Settle MB. The discussion of end-of-life medical care by primary care patients and physicians. *Journal of General Internal Medicine* 1994;9:82-8.
- Eden J, Berwick D, and Wilensky G. Graduate Medical Education That Meets the Nation's Health Needs. The National Academies: Institute of Medicine. 2014.
- Prober CG, Khan S. Medical Education Reimagined: A Call to Action. *Academic Medicine* 2013;88:1407-10.

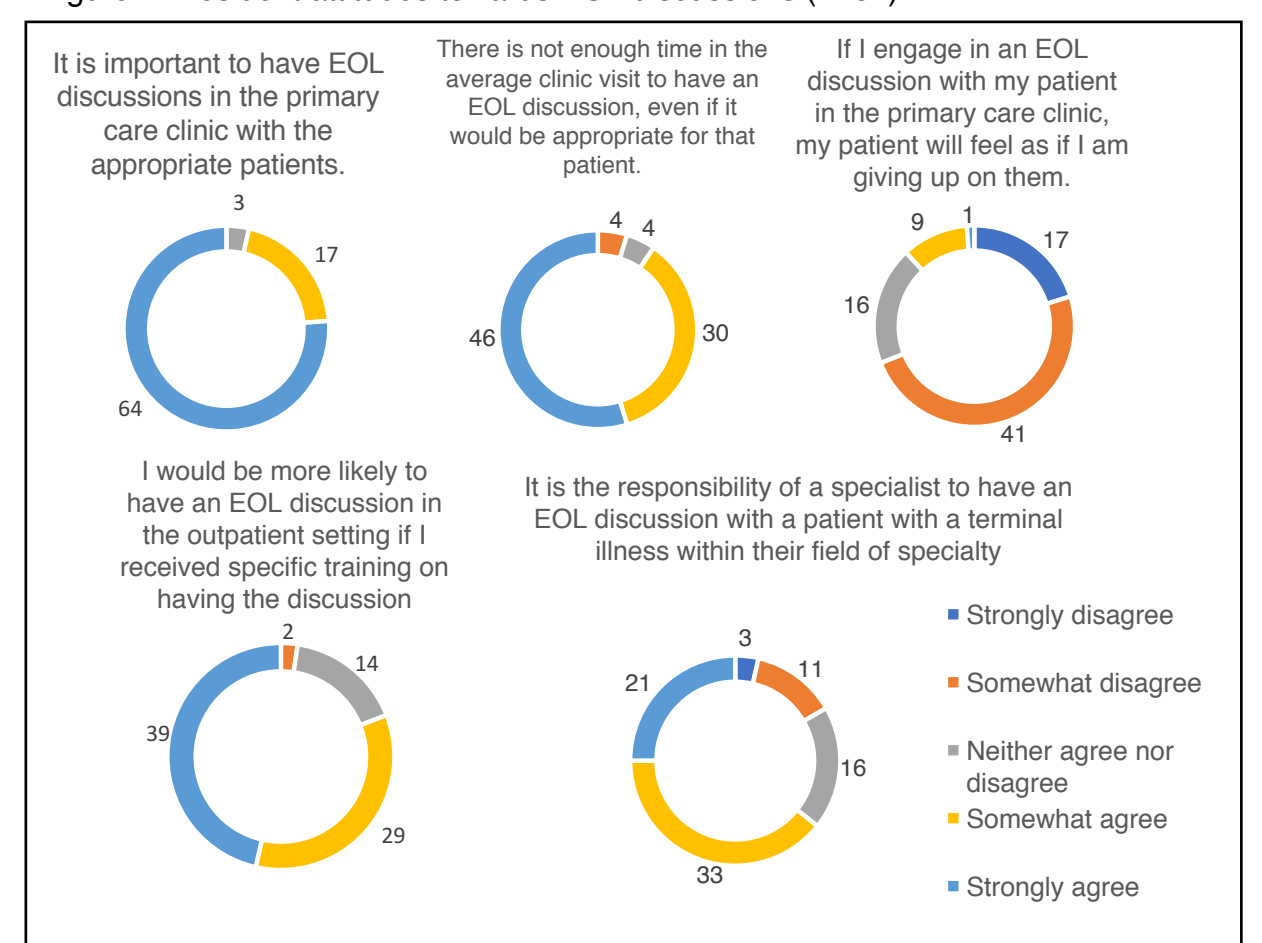
Results

Survey item	Rating, 1 = not confident at all; to 5 = very confident					average
	1	2	3	4	5	
when the patient is clinically stable	6	14	33	31	11	3.3*
when the patient is clinically unstable	4	7	29	35	20	3.6*
when the patient presents in the clinic setting	12	39	26	14	4	2.6**
when the patient presents in the hospital or ICU setting	2	6	22	39	26	3.9**

Survey item	Rating, 1 = not confident at all; to 5 = very confident					average
	1	2	3	4	5	
Identification of patients in the inpatient setting that are appropriate for EOL discussions.	1	5	18	51	20	3.9**
Identification of patients in the outpatient setting that are appropriate for EOL discussions.	8	33	32	17	5	2.8**
Answer basic questions regarding care for patients during an EOL discussion, such as what is hospice care, or how to complete an advanced directive.	3	18	41	25	8	3.2
Discuss hospice/palliative care referral with a patient	0	9	32	36	18	3.7

*P = .02, **P < .001

Figure 1: Resident attitudes towards EOL discussions (n=84)

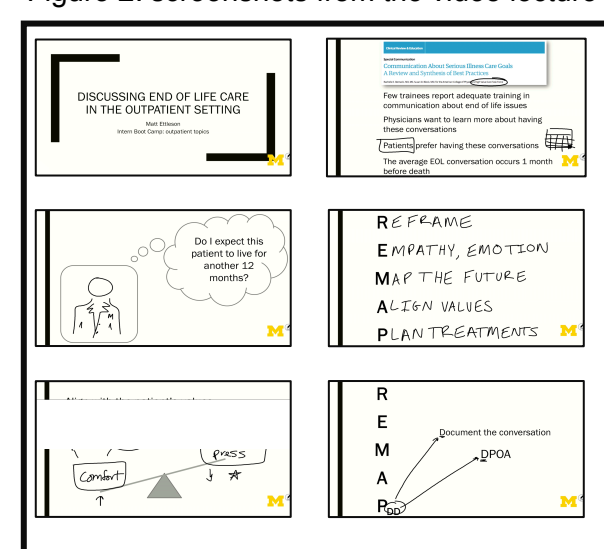


- Residents were significantly more confident in having EOL discussions with patients that are in the hospital and clinically unstable.
- Residents were more comfortable identifying patients appropriate for EOL discussions in the inpatient setting than the outpatient setting.
- 96% of residents agree that it is important to have EOL discussions in the clinic setting with the appropriate patients.
- The majority of residents believe they would have more EOL discussions in clinic with specific training and longer appointment times.

Lessons Learned & Next Steps

- There is a need in the internal medicine residency program to improve confidence and skills in discussing EOL decisions in clinic.
- A flipped classroom model with a follow up workshop would allow residents to practice conversational skills in an educational setting.⁴
- A follow up questionnaire will assess the utility of the video lecture and workshop.

Figure 2: screenshots from the video lecture

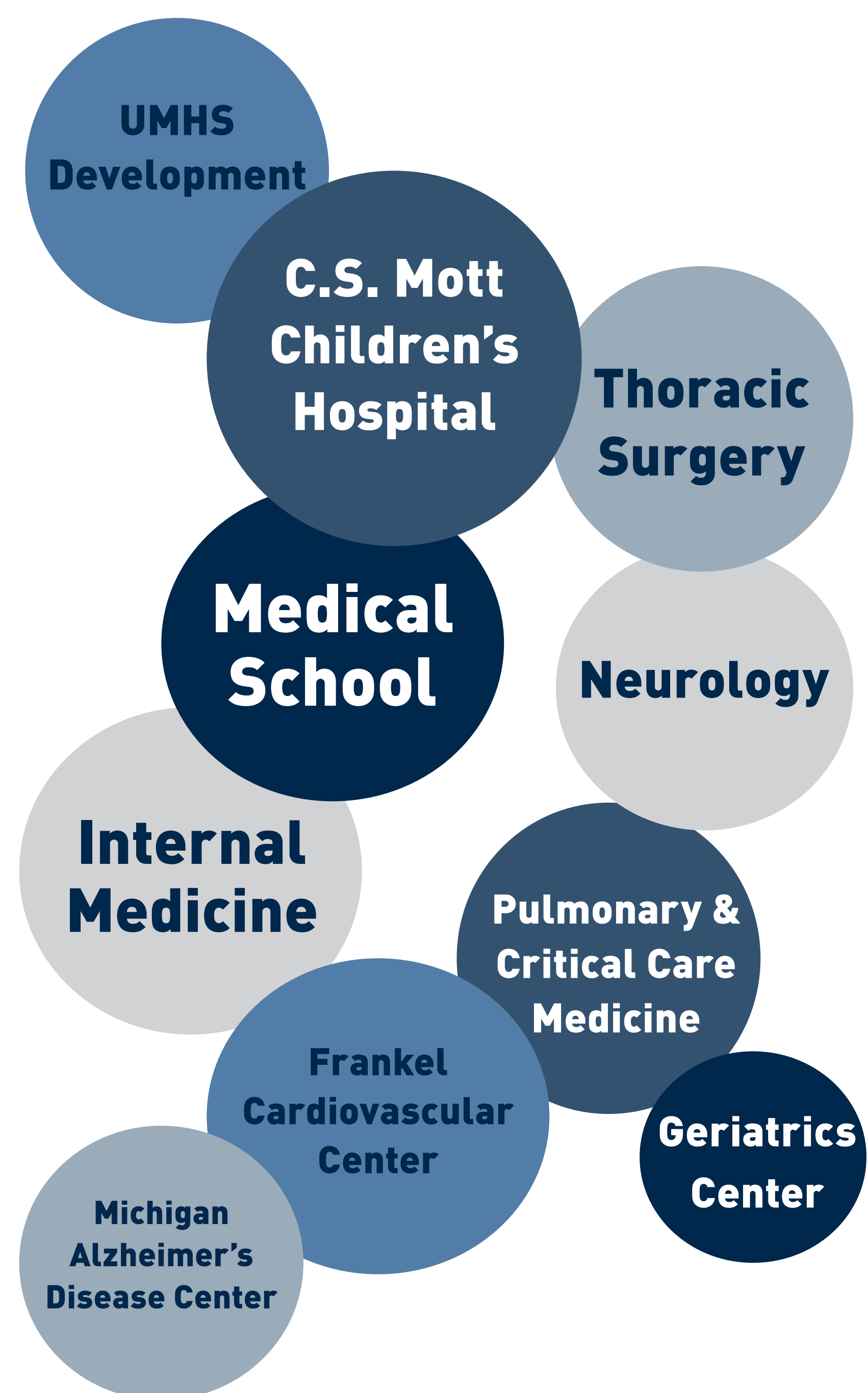


BACKGROUND

Patients educating patients is a powerful tool. Sharing their stories allows present and future patients, medical students, and families to better understand the patients' journeys.

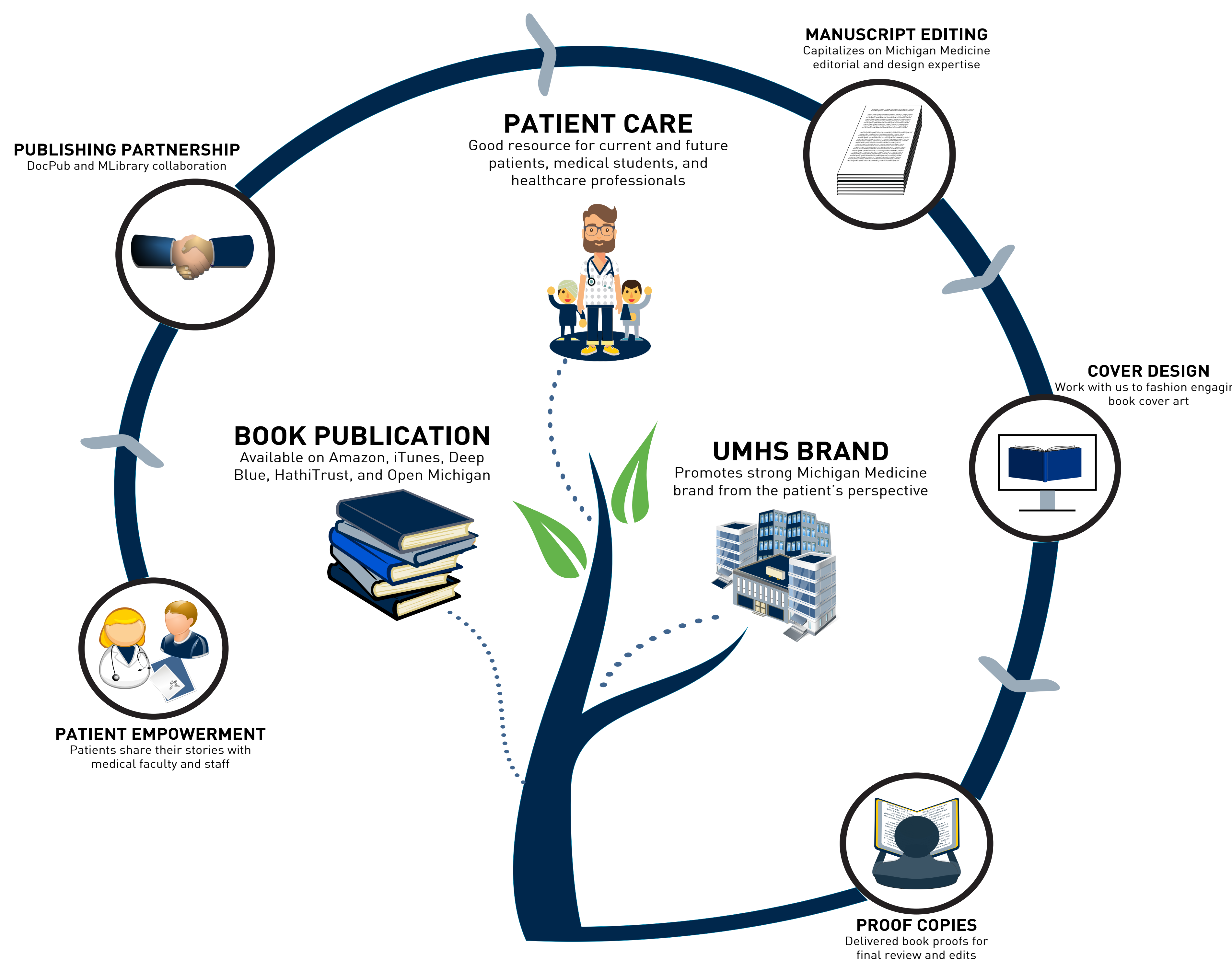
ACTIONS

Documentation and Publishing (DocPub) partners with MPublishing and Michigan Medicine faculty, staff, and students to develop a channel for U-M patients to share their experiences and perspectives through the written word.



**Empowering Patient Voices:
*Publishing Patient Stories***

Karen Kost, Publisher
Marissa Taylor, MSI, Publishing Editor



RESULTS

**128
Patient Stories**

**6 Adult
Books**

**2 Children's
Books**

**71 F / 54 M
Patients**

**9 Book
Editors**

**22 Writers
from within
Departments**

**13 Faculty
& Staff
Positions**

BENEFITS

Patient storytellers have powerfully honest and timeless voices. Their stories offer an engaging way to equip clinical faculty, healthcare professionals, and medical students with a better understanding of their patients' experiences.

LOOKING FORWARD

As patient stories continue to develop as a genre, DocPub will use innovative technologies to make these stories more accessible to patients, healthcare workers, medical students, and readers.

Improving the Inter-Professional Oral Health Care Environment of a Federally Qualified Health Center

J. Girdwood, PhD¹; M. Fontana, DDS, PhD¹; R. Wallace, DO²; G. K. Peabody, DDS^{1,2}; D. Frederick, DA²; B. Piskowski, DDS¹; H. Hamerink, DDS¹; S. Pratap, MPH³; I. Alem, MHSA³; C. Farrell, RDH, BSDH, MPA⁴; J. Johnston, DDS^{1,5}
¹University of Michigan School of Dentistry; ²Muskegon Family Care; ³Altarum Institute; ⁴Michigan Department of Health & Human Services; ⁵Delta Dental of Michigan

BACKGROUND

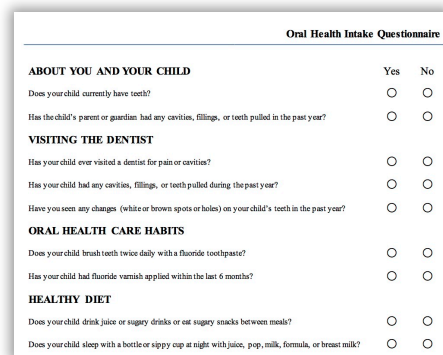
- M** The Michigan Caries Prevention Program (MCP) is a 3-year grant-funded effort to **reduce Early Childhood Caries (ECC)**.
- M** MCP trained physicians how to provide oral health: (i) screening; (ii) fluoride varnish; (iii) patient education; and (iv) referral to a dentist.
- M** Muskegon Family Care (MFC) is a Federally Qualified Health Center (FQHC) that **offers both medical and dental care** to patients.
- M** University of Michigan School of Dentistry (UMSoD) students complete a **Community-Based Dental Education (CBDE)** rotation at MFC.

METHODS

INTER-PROFESSIONAL WORKFLOW DIAGRAM

- M** 10-month pilot study encompassing **1,323** medical well-child visits for children ages 0-3 years
- M** **QUALITY IMPROVEMENT** effort to deliver (a) efficient; (b) effective; (c) patient-centered care
- M** **246** parent/caregiver survey responses about their child's oral health risk factors
- M** **INTER-PROFESSIONAL EDUCATION** collaboration between UMSoD/CBDE/FQHC
- M** **28** medical-to-dental referrals tracked (20 EHR; 8 manually)

STUDENT/FACULTY CREATED ASSESSMENT TOOL



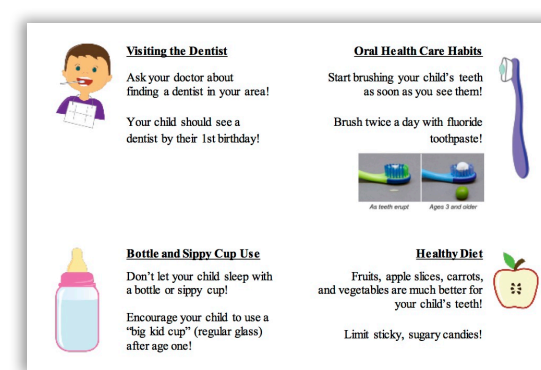
Parent completes risk assessment survey in waiting room before visit

STUDENT/FACULTY CREATED INFORMATIVE MATERIAL



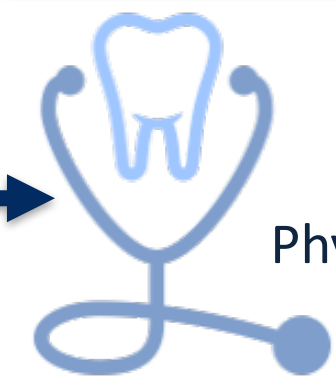
Medical clinician applies fluoride varnish based on oral screening

STUDENT CREATED EDUCATION HANDOUT



Medical clinician educates patient based on needs

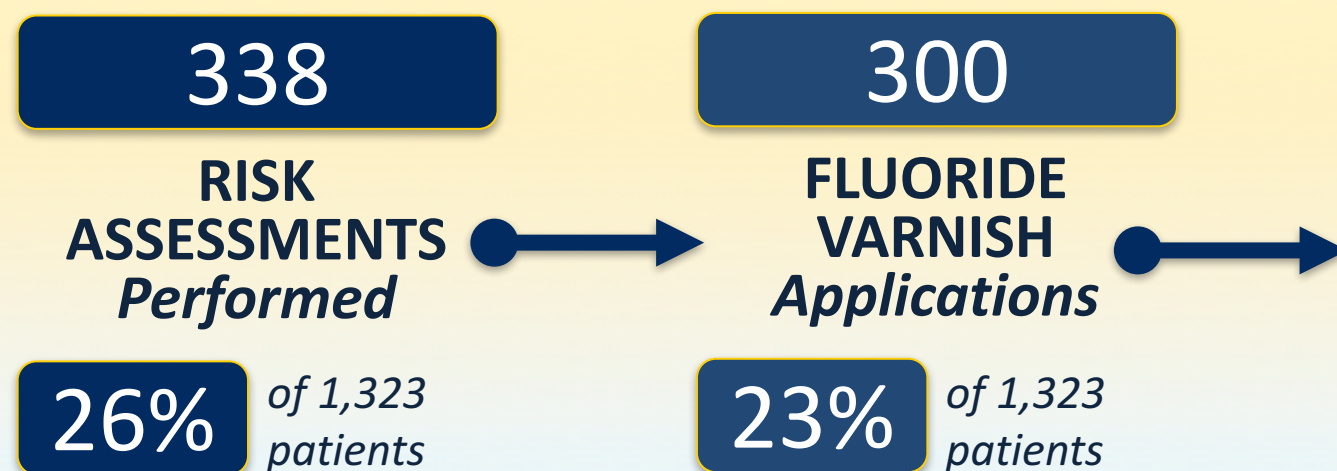
STUDENT/COACH GETS DENTAL REFERRAL



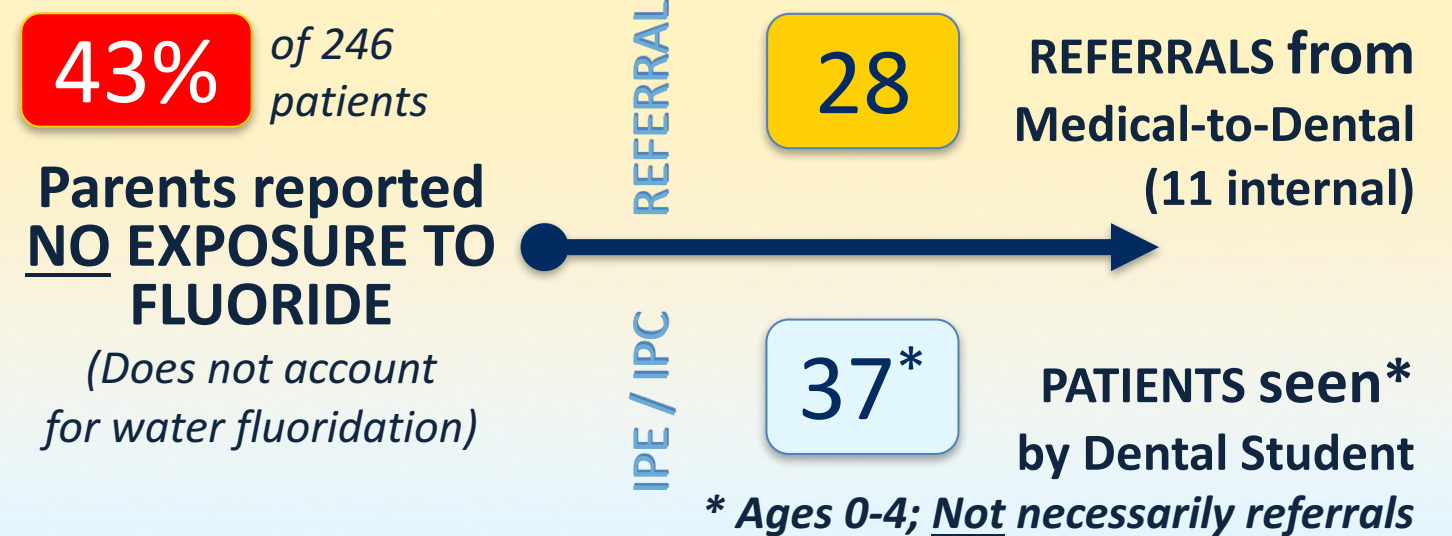
Physician refers patient to dentist or dental coach

RESULTS

PROVISION



SURVEY



DISCUSSION

INCREASED EFFICIENCY

M Student created new tool to improve quality making care provision more **timely** and **efficient**

PATIENT-CENTERED CARE

M UMSoD student created educational handout that providers could give patients **based on patient needs**

INCREASED EFFECTIVENESS

M IPE Team created 2 short videos about fluoride varnish** that educated parents on an **evidence-based** treatment to prevent early childhood caries
 ** 203 YouTube views in 2 months

NEXT STEPS

Muskegon Family Care improved quality in many ways during this study. However, there are opportunities to improve the referral process from medical-to-dental, ensuring fluid patient care transitions.

DENTAL STUDENTS can receive more referrals from medical providers at FQHCs to increase access to care for youth at risk of developing early childhood caries.

* Dental student data includes part of May, covering 10.5 months

First Year Dental Students' Interest in Learning about Diverse Groups of Patients: A Longitudinal Analysis from 1997 to 2016

R Larson, E D'Silva, R. Ashfaq; Mentor: Marita R. Inglehart
University of Michigan - School of Dentistry, Ann Arbor, MI



ABSTRACT

Objectives: The objectives were to gain a better understanding of which factors can help to characterize the interests of D1 students in learning about communicating with patients from diverse backgrounds, and to assess how interested D1 students are in learning about these patient groups before a course, after a course, and how these interests changed over the past 20 years.

Methods: Data were collected from first year dental students in a behavioral science course focusing on communication with patients from diverse backgrounds between 1997-2016.

Results: D1 students' interests in learning about communicating with patients from diverse backgrounds at the beginning of the course centered around four themes. Theme 1 was related to an interest in providing care for patients with SHCN, Theme 2 to learning about patients from socioeconomically disadvantaged or minority backgrounds, children and older adults, Theme 3 on learning about gender and sexual orientation and Theme 4 focused on learning about addictions and chronic pain. D1s in all years were on average most interested in learning about children, older patients, and patients with mental health issues and least interested in learning about patients from LGBT backgrounds and women. Over the past 20 years, interest in learning about patients from other cultures and patients with chronic pain increased, while the interest in learning about patients with disabilities and gender issues decreased.

Conclusions: Engaging dental students in comprehensive education about patients with SHCN and from diverse backgrounds is crucial to assure that future providers are knowledgeable and comfortable with providing care for these patients.

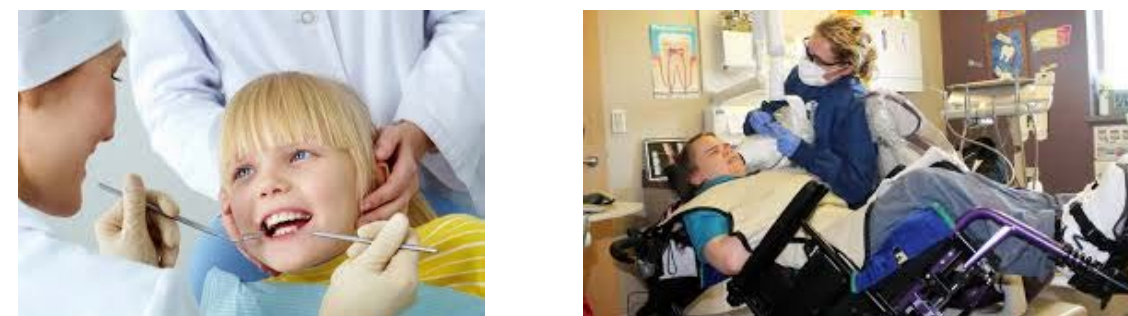
INTRODUCTION

In the year 2000, the U.S. Surgeon General published the first ever Report on Oral Health (1). This report documented that patients from socioeconomically disadvantaged and/or underrepresented minority backgrounds as well as patients with special health care needs and children were more likely to have poorer oral health and access to oral health care services. Research showed that educating future general dentists (2-4) as well as future dental specialists such as pediatric dentists (5), endodontists (6), periodontists (7) and orthodontists (8) about patients from these groups will improve these providers' attitudes concerning providing oral health care for these patients improve and increase their actual behavior. Over the past 20 years, first year students (D1s) at the School of Dentistry have taken a behavioral science course to learn about treating different populations of patients. Each year, the students fill out surveys at the beginning and end of these classes to determine their interest in learning about these patient populations.

AIMS

The objectives were to gain a better understanding of

- which factors can help to characterize the interests of D1 students in learning about communicating with patients from diverse backgrounds,
- and to assess how interested D1 students are in learning about these patient groups before a course,
- after a course and
- how these interests changed over the past 20 years.



METHODS

This study was determined to be exempt from Institutional Review Board oversight.

Respondents: Data were collected from first year dental students in a behavioral science course focusing on communication with patients from diverse backgrounds between 1997-2016.

Procedure: The students received the survey at the beginning and end of the course.

Table 1: Overview of the number of students surveyed at the beginning and end of the term by year

Year	Beginning of term	End of term	Beginning and end
# years included	12	13	9
	Number of respondents		
Academic year	Beginning of term	End of Term	Beginning and end
1997	76	-	-
2000	103	100	98
2001	103	103	103
2002	114	114	114
2003	105	105	105
2004	107	108	106
2005	106	-	-
2006	109	109	109
2007	-	97	-
2008	106	106	106
2009	105	105	-
2010	103	102	100
2013	-	101	-
2015	-	47	-
2016	105	104	101
Total	1,242	1,301	942

RESULTS

The **first objective** was to gain a better understanding of the factors that characterize D1 students' underlying interests in learning about patients from different backgrounds. Table 2 shows that 4 underlying themes explain the responses: Theme 1 was related to an interest in providing care for patients with different ethnicities /age; Theme 2 to learning about patients mental health issues; Theme 3 to learning about gender and sexual orientation; and Theme 4 on learning about addictions and chronic pain.

Table 2: Overview of the responses at the beginning of the term by year

Interest in ethnicity/age: How interested are you in learning about:	1 Not at all	2	3 Very	N Mean
- patients with different ethnicities/minority	4%	39%	57%	N=1,314 2.53
- patients from other cultures	3%	34%	52%	N=1,208 2.54
- cross cultural communication	8%	43%	53%	N=1,131 2.48
- older adults	4%	37%	56%	N=1,315 2.53
- children	4%	28%	66%	N=1,311 2.63
Interest in mental health issues:				
- patients with mental disorders	4%	35%	59%	N=1,313 2.56
- classification of mental disorders	9%	44%	49%	N=1,313 2.38
- different treatment approaches	5%	37%	56%	N=1,313 2.51
- treating patients with depression	6%	43%	49%	N=1,315 2.44
- treating patients with anxiety disorders	6%	41%	52%	N=1,313 2.47
- treating patients with eating disorders	3%	20%	21%	N=584 2.42
Interest in gender and LGBT issues:				
- gender	8%	45%	39%	N=1,240 2.34
- LGBT	15%	50%	33%	N=1,309 2.18
- HIV/AIDS	7%	31%	52%	N=1,203 2.50
Interest in addiction and chronic pain:				
- treating patients with alcohol / drug addictions	5%	39%	54%	N=1,313 2.50
- treating patients with chronic pain	5%	38%	55%	N=1,314 2.51

Legend: 1 The answers ranged from 1 = "not at all interested", 2 = "moderately interested" to 3 = "very interested".

The **third objective** was to explore D1 students' interest in learning about these groups at the end of the course. Table 3 shows that the average interest in learning about children and older adults remained high, while the interest in learning about gender and LGBT issues was again on average very low. Interest in learning about patients with addictions and chronic pain remained rather high.

The **fourth objective** was to explore how these interests changed over the 20 year period. Table 4 shows that learning about patients from other cultures and patients with chronic pain increased, while the interest in learning about patients with disabilities and gender issues decreased.

The **second objective** was to assess the average interest in learning about these patients at the beginning of the course. Table 2 shows that D1s in all years were on average most interested in learning about children, older patients, and patients with mental health issues, and least interested in learning about patients from LGBT backgrounds and women.

Table 3: Overview of the responses at the end of the term by year

Interest in ethnicity/age:	1 ¹	2	3	N Mean
- patients with different ethnicities/minority	7%	50%	43%	2.37
- patients from other cultures	9%	69%	22%	2.13
- cross-cultural communication	9%	57%	35%	2.27
- older adults	5%	48%	47%	2.42
- children	5%	35%	60%	2.55
- patients from socio-economically disadvantaged backgrounds	3%	55%	43%	2.40
Interest in mental health issues:				
- patients with mental disorders	5%	45%	50%	2.45
- classification of mental disorders	14%	51%	35%	2.21
- different treatment approaches	11%	50%	39%	2.29
- treating patients with depression	7%	50%	43%	2.36
- treating patients with anxiety disorders	6%	47%	47%	2.41
- treating patients with eating disorders	7%	44%	50%	2.43
- treating patients with schizophrenia diagnosis	0%	39%	61%	2.61
- treating patients with special health care needs	5%	42%	54%	2.49
- treating patients with disabilities	4%	46%	50%	2.46
Interest in gender and LGBT issues				
- gender	14%	55%	32%	2.18
- LGBT	24%	49%	27%	2.04
- HIV/AIDS	4%	49%	47%	2.43
Interest in addiction and chronic pain				
- treating patients with alcohol / drug addictions	5%	44%	50%	2.45
- treating patients with chronic pain	5%	46%	49%	2.44

Legend: 1 The answers ranged from 1 = "not at all interested", 2 = "moderately interested" to 3 = "very interested".

Table 4: Correlations between the year in which the course was taken and the beginning and end responses

Ethnicity/race & age	Before	End
- treating patients from minority groups?	-.09***	.01
- treating patients from other cultures?	-.07*	-.40***
- cross cultural communication?	.07*	.01
- treating older patients?	-.02	-.03
- treating children?	-.03	-.02
Mental health content:		
How interested are you in		
- treating patients with mental disorders?	-.05	-.04
- classification of mental disorders?	-.02	-.06
- different tx for mental disorders?	.05	-.36***
- treating depressed patients?	-.03	-.05
- treating patients with anxiety disorders?	.05	-.01
- treating patients with eating disorders?	.13**	.65***
- treating patients with special needs		.03
- treating patients with disabilities?		-.49***
Gender & LGBT		
- treating women/gender issues?	-.13**	-.10**
- treating patients with LGB orientations?	-.02	-.05
- treating AIDS patients?	.02	.50***
Addictions & chronic pain		
- patients with alcohol/drug addictions?	-.00	-.01
- treating patients with chronic pain?	.06*	.73***

Legend: Note: * = p<.05; ** = p<.01; *** = p<.001

DISCUSSION

The findings show that there was broad general interest in all of the topics covered by this course, with means between 2 (interested) and 3 (very interested) for every topic. Students were generally most interested in issues relating to SHCNs and least interested in Gender/LGBT issues. Over the past 20 years, interest in chronic pain has increased which might be a reflection of increasing awareness of this issue in society at large. Meanwhile, interest in learning about the role of gender and about patients from LGBT background declined which could be an indication that students might consider themselves as knowledgeable about these issues and do not think they need additional instruction. Interest in treating patients from other cultures increased over the past 20 years probably reflecting increases in cultural awareness.

CONCLUSIONS

Dental students are generally very interested in learning about dealing with diverse patient populations. The specific topics that dental students are most interested in change over time, perhaps reflecting broader social changes. Dental education must prepare students to deal with needs of different groups of patients and educate them on topics of current interest.

REFERENCES

- U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000.
- Dao LP, Zwetckkenbaum S, Inglehart MR. General Dentists and Special Needs Patients: Does Dental Education Matter? Journ Dent Educ. 69(10):1107-15. 2005 Oct.
- Smith CS, Ester TV, Inglehart MR. Dental Education and Care for Underserved Patients: An Analysis of Students' Intentions and Alumni Behavior. Journ Dent Educ. 70(4):398-408. 2006 Apr.
- Rich III JP, Staffron L, Inglehart MR. General Dentists and Pediatric Dental Patients – The Role of Dental Education. J Dent Educ. 2006; 70: 1308-1315.
- Weil TN, Inglehart MR. General and Pediatric Dentists' Professional Attitudes and Behavior Concerning Patients with Autism – Does Dental Education Matter? Journ Dent Educ. 2010; 74(12):1294-307.
- Inglehart MR, Schneider BK, Bauer P, Dharia MM, McDonald NJ. Providing Care for Underserved Patients: Endodontic Residents', Faculty Members' and Endodontists' Educational Experiences and Professional Attitudes and Behavior. J Dent Educ. 2014;78(5):735-744.
- Garfinkle AJ, Richards PS, Inglehart MR. Providing Care for Underserved Patients – Periodontists' and Periodontal Residents' Educational Experiences, Attitudes and Behavior. Journal of Periodontology, 81(11):1-9. 2010.
- Brown BR, Inglehart MR. Orthodontists' and Orthodontic Residents' Education about Treating Underserved Patients – Effects on Professional Attitudes and Behavior. J Dent Educ. 2009; 73(5):550-562.

ACKNOWLEDGEMENT

We want to thank all the students who participated in the surveys.



MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

Implementing a Developmentally-Focused Clinical Competency Committee for Assessment of Senior Medical Students

Kevin Kuo, Sally Santen, Anita Shelgikar, Carrie Braun, Michael Englesbe, David Hughes, Joel Heidelbaugh, Michelle Daniel, Jocelyn Schiller, Jennifer Stojan, Katherine Klein, Helen Morgan

University of Michigan Medical School



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

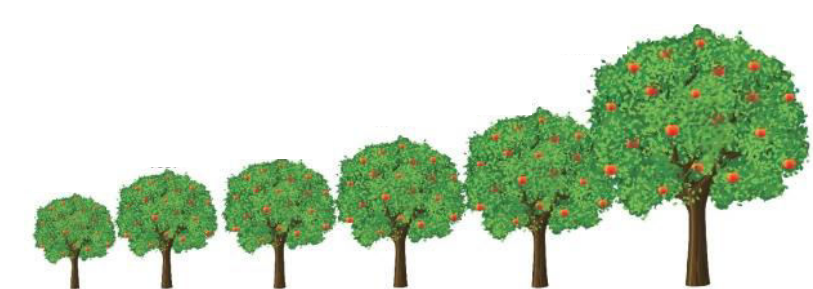
BACKGROUND

- Graduate medical education (GME) utilizes competency-based assessment,¹ with clinical competency committees (CCC) managing learner assessments
- Assessment practices within undergraduate medical education (UME) are more variable, generally focusing on struggling students versus competency-based developmental assessments

Figure 1. Two Approaches to designing a CCC²



VS.



Problem Identification

Developmental Focus

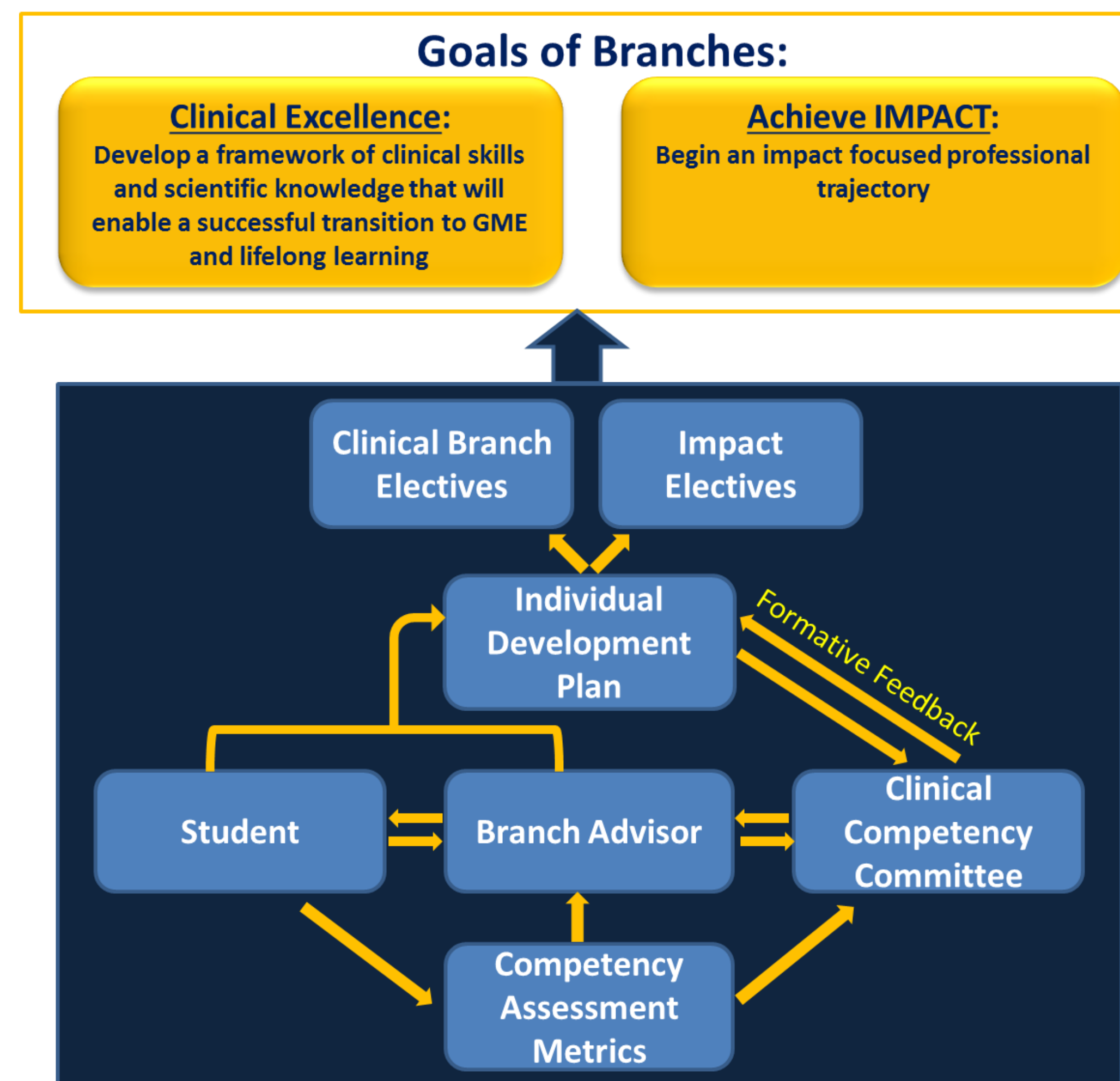
- This creates a gap in which neither learners nor GME programs have a good understanding of learner competencies as they transition from UME to GME

METHODS

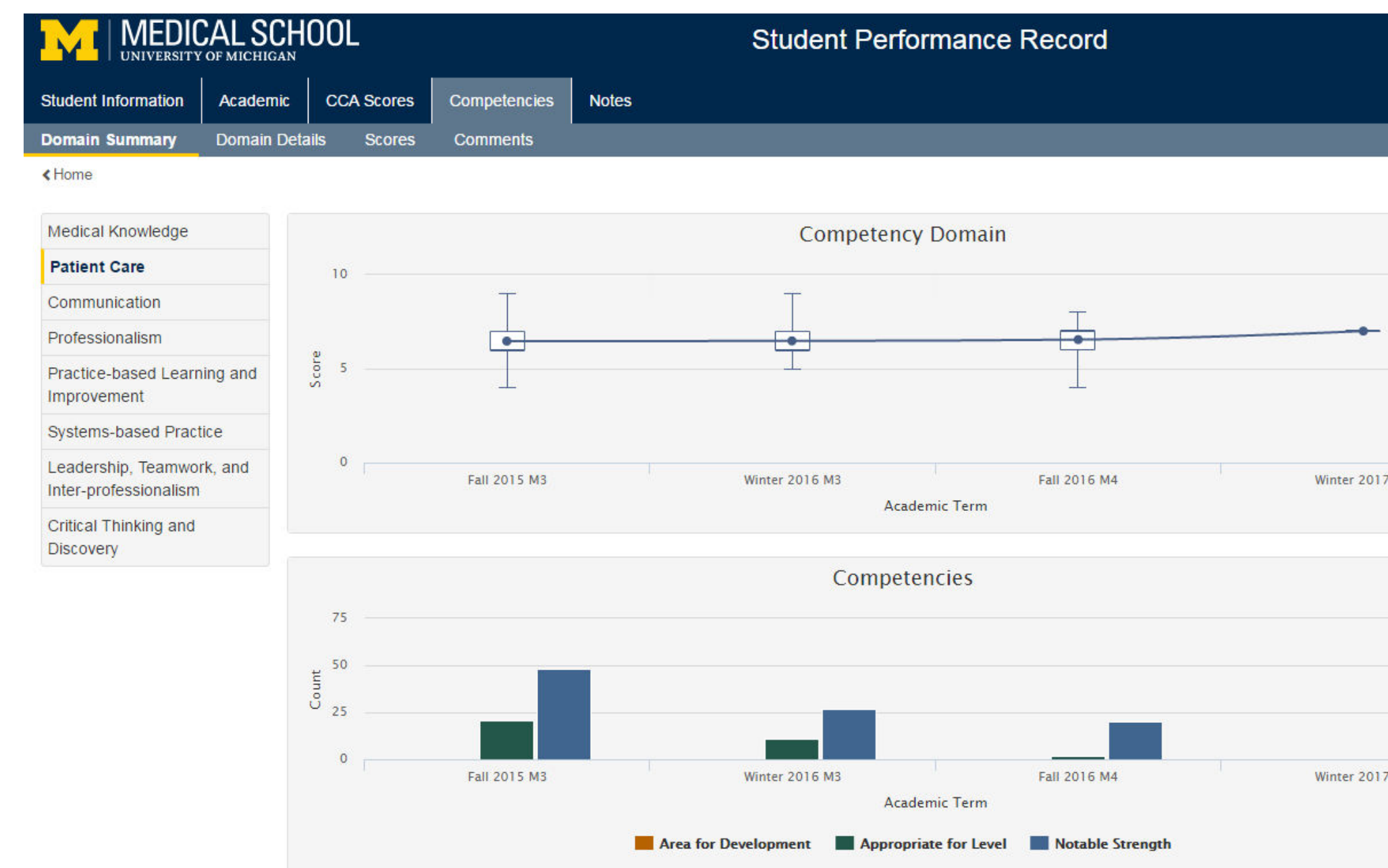
- We piloted a CCC to oversee assessment of 48 senior medical students
- CCC members included faculty and staff from the Dean's office, assessment and evaluation teams, and specialty-specific advisors
- With the guidance of their advisors, students completed an online competency-based individual development plan (IDP)
- Members of the CCC reviewed each student's performance data and IDP and provided comments utilizing a standardized online form
- The CCC met bimonthly to review students, assess development, and provide feedback

IMPLEMENTATION

Figure 2. Schematic of Branch Assessment



Online Student Performance Record



- Clinical competencies over time
- Clinical grades and comments
- Comprehensive Clinical Assessment Scores
- USMLE scores

Figure 3. Sample CCC Review Form

Student Performance Dashboard		Academic Summary Tab Click on link to left and go through tabs to assess student. Put comments in row below					Student Google File		R/Y/G/B		TO BE FILLED OUT DURING THE CCC MEETING						
Name of Student (Click link for student SFE)	Branch (Click link for IDP folder)	Name of Reviewer	Grades Summary	CCA Strengths	CCA Development	Competency Strengths	Competency Areas of Development	Individual Development Plan (IDP)	Progress on Impact Project	Advisor	R	Y	G	B	Risk Notes	Sufficient Progress to graduate?	Summary of current review and formative comments
Jane B Doctor	Procedures Based Care	Kuo	All Honors except one HP (Phedrix) 300 Step 1. Name focus on surgical resident clinical experiences	Medical Knowledge, Communication	Encounter Notes	Medical knowledge, professional, communication skills	Clearly very proficient but could speak up more, constructive comments	Completed, interested in new surgical resident	Working on new surgical resident for medical students	Margaret G	R	Y	G	B		Sufficient Progress	Making excellent progress with strong performance in clinical settings. May focus on speaking up and using resources to broaden clinical experience. Impact project progressing well.

LESSONS LEARNED

- A developmentally-focused CCC for senior medical students is feasible and can bridge the gap between assessments in UME and GME
- Assessment can promote learner development³
- Students must have ownership of their learning and their competency-based IDP
- Implementing CCC's with large number of students is logistically challenging and requires facilitative technology and robust support staff
- Faculty training in competency-based assessment and formative feedback is helpful

NEXT STEPS

- Evaluate the efficacy of our developmentally-focused CCC using student outcomes
- Evaluate the efficacy of the competency-based "educational handoff" between UME and GME
- Continue to improve the assessment process via iterative development

REFERENCES

- Nasca TJ, Philibert I, Brigham T, Flynn TC. The next GME accreditation system--rationale and benefits. The New England Journal of Medicine 2012;366:1051-6.
- Hauer KE, Chesluk B, Iobst W, et al. Reviewing residents' competence: a qualitative study of the role of clinical competency committees in performance assessment. Academic medicine : Journal of the Association of American Medical Colleges 2015;90:1084-92.
- Holmboe ES, Sherbino J, Long DM, Swing SR, Frank JR. The role of assessment in competency based medical education. Medical Teacher 2010;32:676-82.

The Lecture Feedback Pilot: A New Role For Students In Medical Education

Ilana Fischer, Lynze Franko, Maureen Fausone and Mary Oakley Strasser
University of Michigan Medical School, Ann Arbor, MI



BACKGROUND

Lectures are the cornerstone of pre-clinical medical education. At the University of Michigan Medical School (UMMS), the 15-20 hours of scheduled lectures each week easily eclipses the time allocated to all other instructional methods. To be effective, these lectures must:

- (1) Transmit *relevant content*
- (2) Follow a *clear, easily followed* format
- (3) Meet the audience's *baseline knowledge* level¹

However, students often lament that the third point is less than fully realized, leading to decreased clarity in the transmission of critical content. Medical school faculty are highly specialized experts and may overestimate or misperceive the student audience's background knowledge. This is a frustrating problem for students, professors, and administrators alike.

PILOT INTERVENTION

Given the zeitgeist of curricular reform and the tradition of quality improvement in medicine, we developed a pilot lecture feedback program and tested it with five volunteer faculty. Our goal was to *vocalize the learner's perspective* and help illuminate which visuals, organizational approaches, and turns of phrase worked best so that *lecturers could reach students* at their level of knowledge.

TIMELINE AND PROCESS

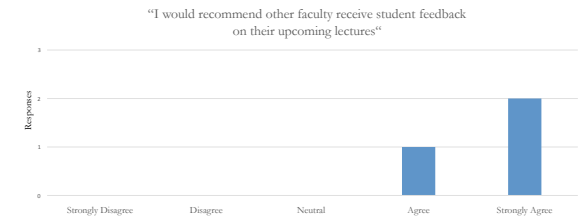


Four students, working in teams two teams of two, reviewed between one and three lectures given by each of five faculty members. This allowed us to identify trends by lecturer. Before each lecture was presented we reviewed the lecturer's slides and with faculty to discuss potential pitfalls. After watching the lecture, we provided standardized feedback with an assessment form using Likert scales to evaluate areas including: the extent to which students felt the presentation was contextualized within the organ sequence in which it was presented, and whether the material was explicitly connected to previous foundational knowledge. We also included open-ended response forms to highlight slides that introduced content significantly above student baseline level, indicate when titles or labels could be improved for clarity, and explore what contextualization or comparison could help bring students to understand challenging concepts. Unlike course or teacher evaluation surveys, this feedback was administered within days of the lecture, and gave detailed critique that was often useful to modifying immediately upcoming lectures.

OBSERVATIONS

- Lectures that began with a broad contextualization of the lecture topic within the organ system, and how it related to previous lectures (whether or not they were delivered by the different faculty) were easier to comprehend
- Lecturers who included audience participation questions caught gaps in comprehension
- Inconsistent slide labeling (ie- using the same title on multiple slides that each covered different phases of a process OR using different titles on slides that all refer to the exact same process) contributed to student confusion
- Outlines of the lecture organization were found to be very helpful
- Including summary slides after each new concept were very helpful
- Clearly defining acronyms improved student comprehension

RESULTS



- 100% of faculty members (n=5) responded that they applied the feedback they received to improve that particular lecture and subsequent lectures

Notable quotes:

- "I found the student feedback useful to improve my lecture and slides. Sometimes lecturers are not aware of students' knowledge gaps."
- "Rarely do we get the opportunity to have really detailed feedback on our presentations from the primary recipient (the student); so this was really fantastic."

CONCLUSION

Feedback from a brief survey of five participating faculty members revealed the benefits of this program to improve lectures. Student reviewers also benefitted from the program, honing their communications skills by identifying well-framed content and providing thoughtful, constructive feedback. Given that lectures remain a cornerstone of medical education, we suggest that medical schools incorporate student involvement in their quality improvement processes as valuable contributing stakeholders.

FUTURE STEPS

- Create pedagogically grounded form for feedback
- Recruit interested students from Medical Education Path of Excellence, as well as interested Faculty
- Develop and Monitor metrics for student learning and faculty evaluations

Surgeon Educators and Variation in Teaching Assessments: Does Gender Bias Exist?

Meredith Barrett, MD¹; Christopher P Magas, MBS¹; Niki Matusko, BS¹; Rishindra M Reddy, MD¹; Gurjit Sandhu, PhD^{1,2}

¹University of Michigan, Department of Surgery, Section of General Surgery; ²University of Michigan, Department of Learning and Health Sciences

Background

Teaching evaluations:

- Provide educators with feedback from learners.
- Used by 98% of universities to assess teaching abilities.
- Frequently cited as the most important component of ones promotion package
- Poor evaluations may prevent academic advancement.

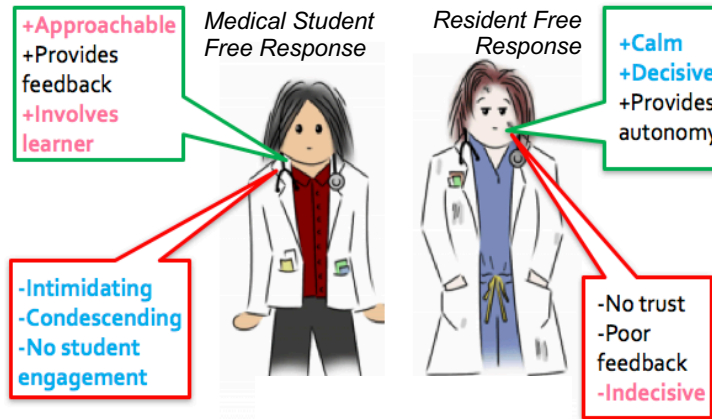
The operative classroom is a unique environment in which surgeons teach learners of all levels while maintaining the utmost care for patients.

Objective

Better understand the relationship between learner and teacher focusing on affect of **learner level** and **teacher gender** on evaluations.

Methods

- Anonymous student and resident teaching evaluations **2011-2014**
- Faculty had at least 1 resident and 1 medical student evaluation/ year
- **43 faculty** (12 women, 31 men) had sufficient evaluations and were ranked 1-43 for both medical students and residents
- Content analysis for qualitative responses



green boxes = positive teaching traits
red boxes = negative teaching traits

Blue font = historically masculine traits
Pink font = historically feminine traits

Content analysis revealed students prefer historically female traits whereas residents prefer historically male traits

Overall, both students (28th vs. 19th) and residents (26th vs. 20th) ranked women lower than men

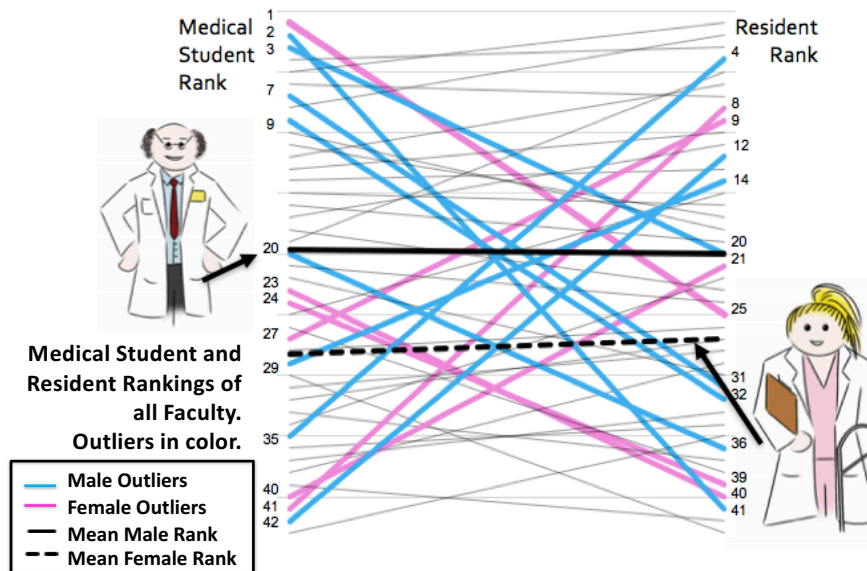
The anonymous nature of the student responses precluded studying the effects of student/resident gender on ranking

Outlier faculty were defined by a variation in student rank compared to resident rank of at least 33%

8 faculty ranked: ↑ by **students**
↓ by residents

6 faculty ranked: ↑ by residents
↓ by **students**

Results



Conclusions

- Students and residents had contrasting opinions of teaching effectiveness for one third of faculty.
- Communal traits were assessed more positively by students whereas residents appreciated agentic traits in teachers.
- Students and residents ranked women lower than men, despite varying opinions on what makes a good surgeon educator.
- Given potential for unconscious bias, caution must be used in promotional decisions based on these evaluations.

Background

Education & Advocacy within Correctional Health

During the 2016-2017 academic year, medical students at the University of Michigan Medical School established Education & Advocacy within Correctional Health (EACH). Our mission is to expose medical students and professionals to the unique health needs of incarcerated and justice-involved individuals. Through partnerships with the Michigan Department of Corrections and Corizon Health, Inc., we have established student shadowing and facility tour programs to meet this aim.

Methods

Shadowing, Tours, and Feedback Surveys

- Between October and December 2016, nine first- and second-year medical students shadowed a Corizon Health physician at the G. Robert Cotton Facility in Jackson, Michigan (MI). These one-on-one shifts lasted approximately three hours.
- In January 2017, a group of 11 medical students and one graduate student participated in a tour of the Women's Huron Valley Correctional Facility in Ypsilanti, MI. This tour was facilitated by the Michigan Department of Corrections.
- Surveys were administered to all shadowing and facility tour participants.

Results

- Survey respondents included students who participated in either shadowing (N=4) or facility tour (N=8) programs. For over half of the respondents, this opportunity marked their first visit to a correctional facility.
- Two prominent themes emerged from free-text responses: motivations of healthcare professionals and correctional staff (N=5) and end-of-life care in the prison environment (N=4).
- Overall, students felt it imperative (a mean of 9.2 on a scale of one-to-ten) that medical students be exposed to correctional healthcare.



Student Voices

Professional Motivations

"I was a little bit mortified when our guide said something along the lines of, 'Oh no, don't use that drinking fountain! That's pretty gross-and that's for the girls.'"

"Many of the staff with whom we interacted seemed 'checked out' or 'jaded' or seemed happy with the status quo at the prison. They didn't feel that anything major needed to be changed, nor did they seem to have a desire to effect policy or change at a higher level in the prison system."

"We had one interaction with a physician on staff, I can't recall his name, but he seemed to be the one person who had a larger mission of social justice in mind with his work, and it was very apparent when we chatted with him, albeit briefly. He seemed very interested in us and spoke positively about his experience in correctional health and encouraged us to be more engaged with his field."

End-of-Life Care

"I learned that when a prisoner is dying or sick, if they are not well enough to stand up and walk to the visitation room, they are not allowed any visitors. Their fellow prisoners are also not allowed to visit them. So when a prisoner is alone, sick, scared, and needing human interaction, they are denied of all of that. They are starting a new program called 'No Prisoner Dies Alone' and having fellow prisoners assigned to hospice patients so that they don't die alone. I cannot believe that this has to be a new program. Many prisoners are given a life sentence, which means the court has determined that they will die in prison. How can we let all these people, human people, die in a way that we would not wish on our worst enemy?"

Student Experience

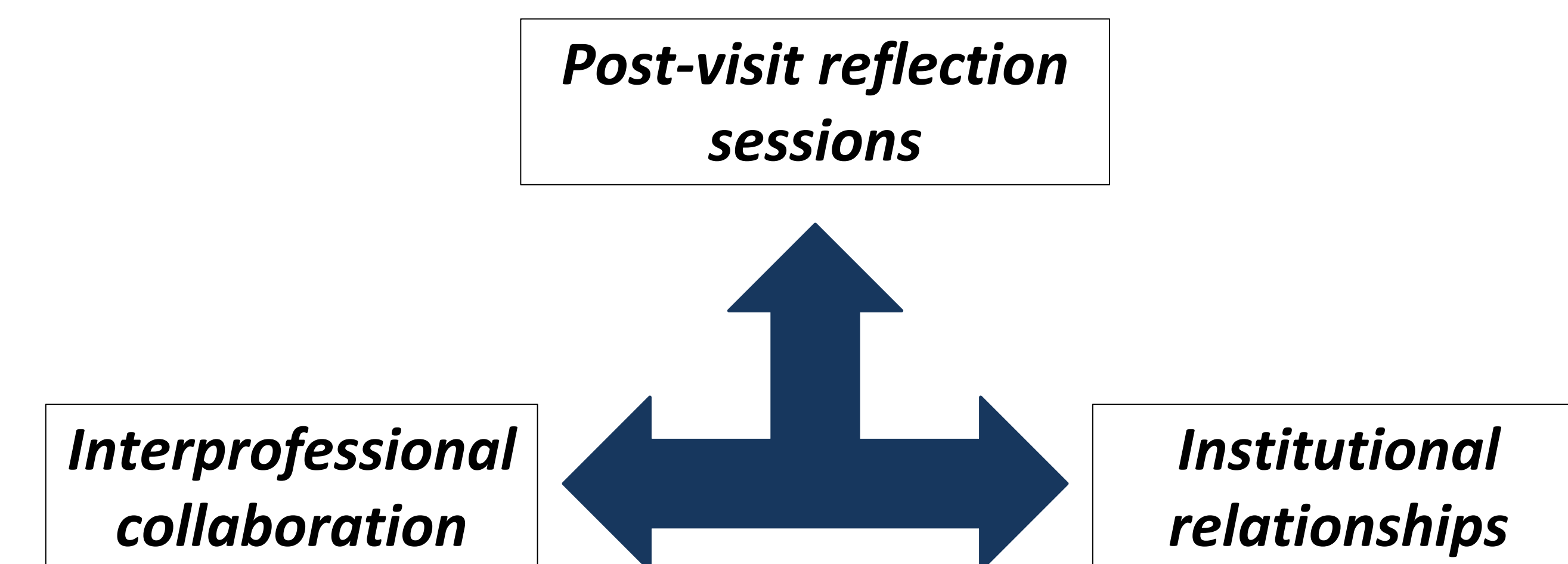
"You can read all about something, but physically being there is incredibly informative."

"I just thought it was powerful to see this kind of space, which is normally so hidden from public view."

Discussion

While based on a convenience sample, our results demonstrate an eagerness to engage with the field of correctional healthcare and justice-involved patients during medical school. Survey responses also underscore the importance of creating a forum where ethical dilemmas from the visit can be discussed and healthcare protocol questions can be further investigated.

Moving Forward



Get Involved

General education about the justice system:

- Watch "The 13th" on Netflix.
- Read Just Mercy by Bryan Stevenson and The New Jim Crow by Michelle Alexander.

Health care professionals and trainees:

- Become trained as a Certified Correctional Health Professional (CCHP) through the National Commission on Correctional Health Care.
- Join the Academic Consortium on Criminal Justice Health (ACCJH), which is free to students, and have direct access to webinars, along with various other resources.
- Start conversations with administrators about the unique health needs of justice-involved individuals and the importance of including this vulnerable population in our curricula.

Advocacy:

- Join Education & Advocacy within Correctional Health at the University of Michigan Medical School.

Current and Future Partners





MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

“Agents for Change”: Fostering Senior Medical Students to Embark Upon an IMPACT-Focused Career

Shelgikar AV¹, Morgan HK², Kuo KW³, Braun C⁴, Englesbe MJ⁵, Daniel M⁶, Mangrulkar R⁷, Santen SA⁶



1 Department of Neurology, 2 Departments of Obstetrics and Gynecology and Learning Health Sciences, 3 Department of Pediatrics, 4 Office of Medical Student Education, 5 Department of Surgery, 6 Departments of Emergency Medicine and Learning Health Sciences, 7 Departments of Internal Medicine and Learning Health Sciences, University of Michigan, Ann Arbor

PURPOSE

- Future physicians must provide excellent clinical care and lead transformation in healthcare.
- Medical students need skills and experience necessary to cultivate a lifelong impact-focused career.
- The objective of this innovation was to determine if significantly increased flexibility in the 4th year, with mentorship, goal-setting and expectations, would provide structure for students to have an impact in the area of their interest.

APPROACH/METHODS

All rising 4th year medical students at one medical school were invited to submit impact-centered proposals, resulting in:

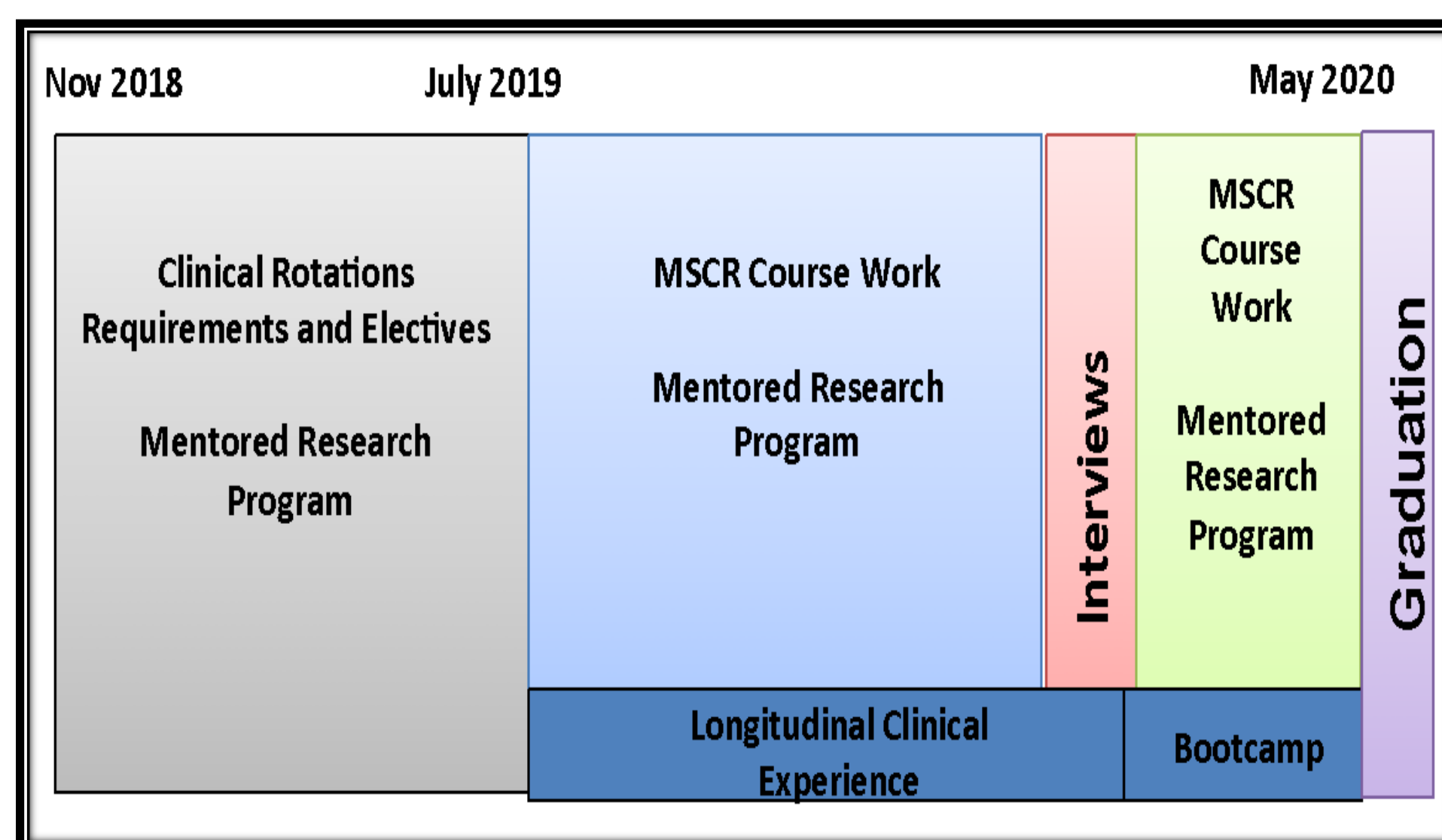
- 25 applications with presentations to curricular leadership
- 9 were selected by the committee for the IMPACT program during the 4th year of medical school.

Students selected a personally meaningful project. Project domains included:

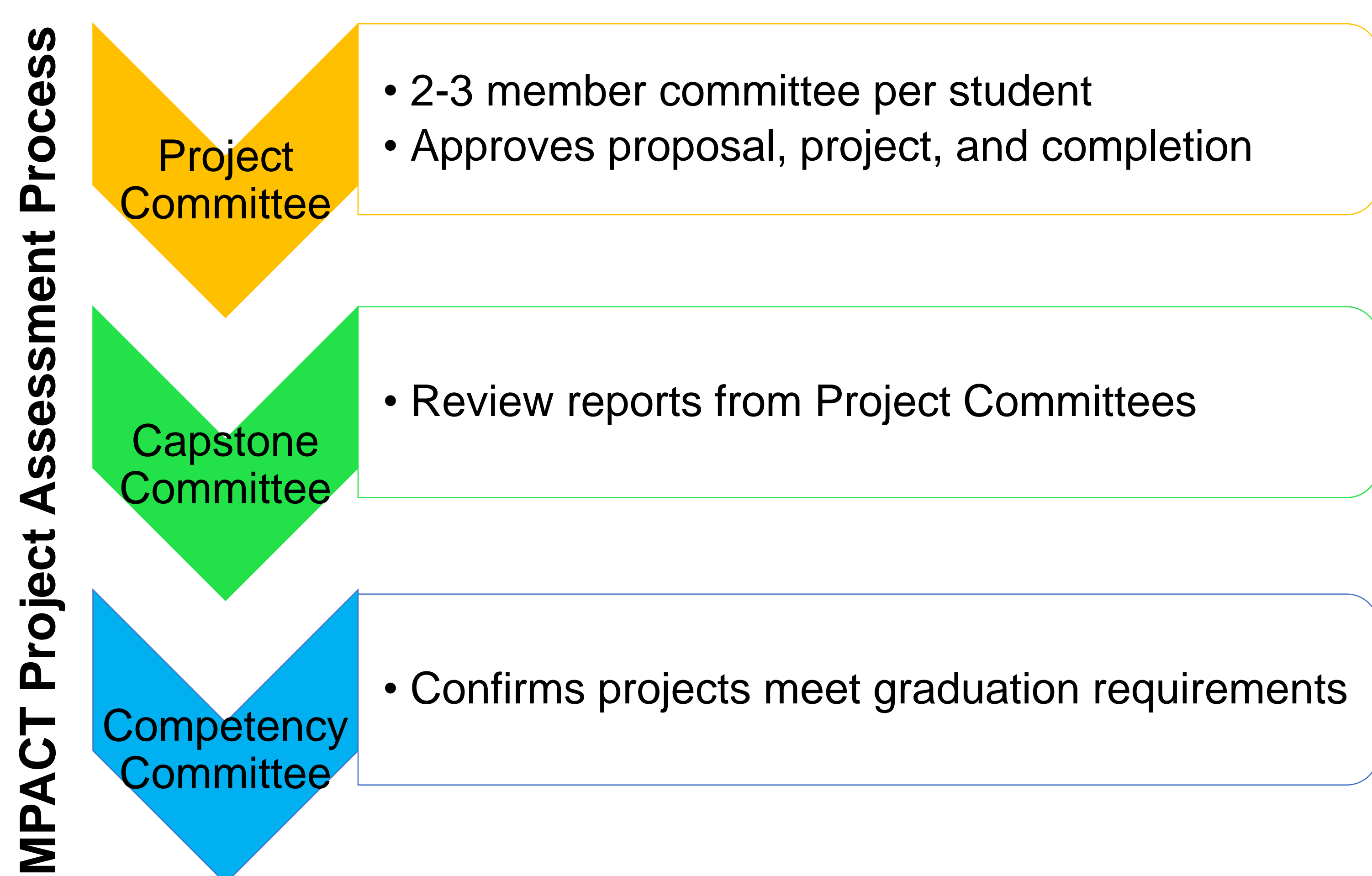
1. Scientific discovery
2. Hospital systems
3. Community health education
4. Entrepreneurialism
5. Global health

Dedicated time for IMPACT was either scheduled as a distinct rotation or as a longitudinal experience.

Example Schedule For A 4 Year Dual Degree IMPACT Project



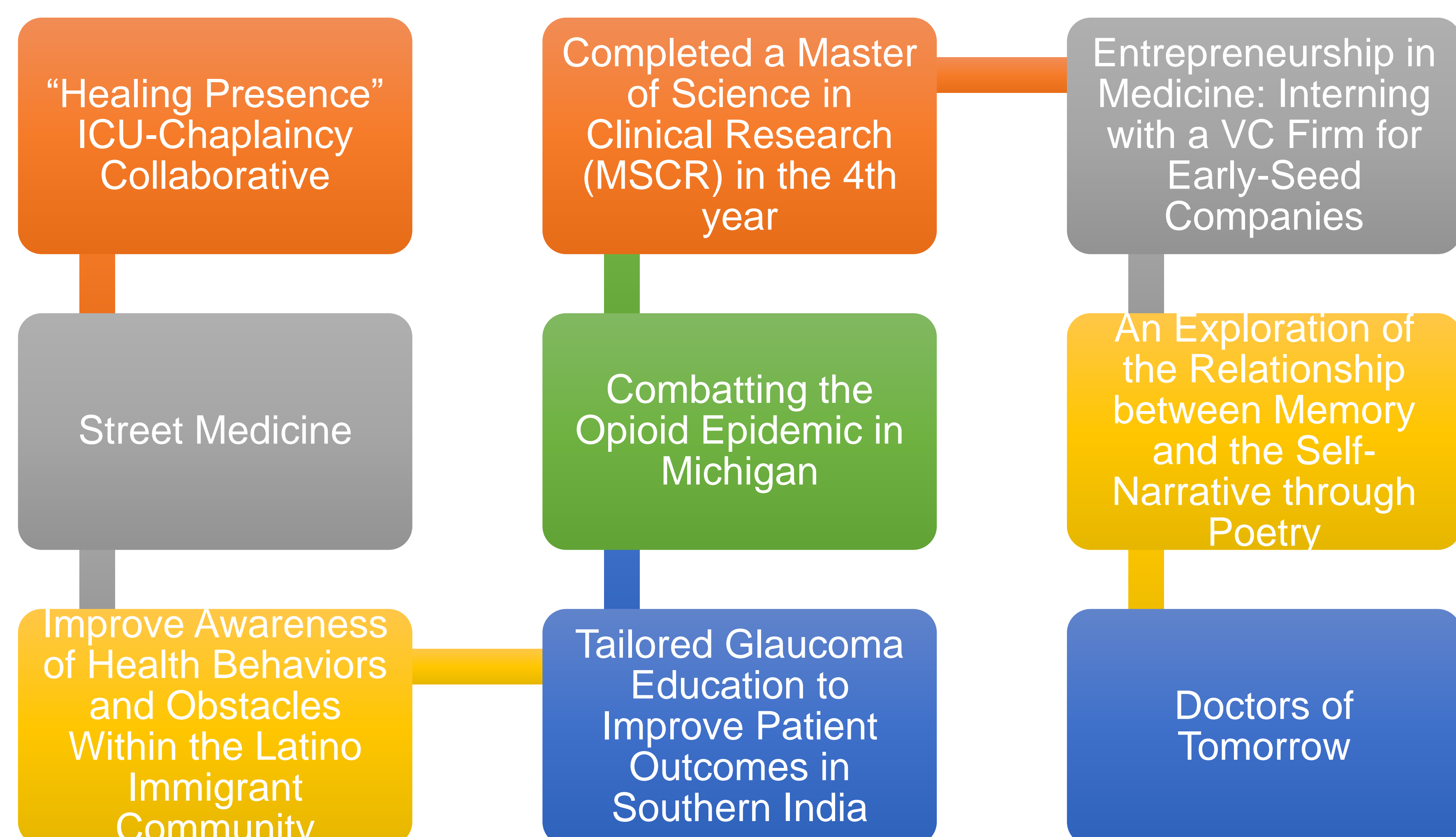
Each student was paired with a faculty mentor who helped guide project selection, progress, and completion. Students and faculty mentors met monthly to provide formative feedback on student performance, which was also assessed by the Competency Committee.



RESULTS/OUTCOMES

Project magnitude and related deliverables reflected the diversity of students' interests.

Capstone Projects Completed by IMPACT Students



- IMPACT pilot students
 - Responded favorably to individualized mentorship
 - Cited ambitions to continue seeking impact-focused opportunities during residency training and beyond
- Faculty mentors
 - Stated that the student-driven aspect fostered students' creativity in the development of their IMPACT projects
- Challenges
 - Standardized outcome assessment
 - Altering requirements so students could complete both the IMPACT project and their 4th year curriculum

DISCUSSION

- The diversity of student IMPACT projects underscored the importance of encouraging students to regard themselves as “Agents for Change.”
- IMPACT assessment criteria must be standardized enough to be applied to all students while being flexible enough to relate to a multitude of projects. Other programs have studied assessment of medical student performance in a capstone course,¹ though scant guidance exists on assessment of student-led capstone projects in undergraduate medical education.
- Future iterations of the IMPACT program require reliable, valid assessment criteria, including forward-looking components to assess career trajectory.

SIGNIFICANCE

- A medical student-driven IMPACT project can be successfully completed alongside clinical responsibilities in the 4th year of medical school.
- The IMPACT program empowers students to cultivate their interests and contribute toward meaningful change in the health and well-being of patients and society.
- Development of standardized assessment criteria will facilitate wider use of an IMPACT-focused program within undergraduate medical education.

REFERENCES

1. Clay AS, Andolsek K, Grochowski CO, Engle DL, Chudgar SM. Using Transitional Year Milestones to Assess Graduating Medical Students' Skills During a Capstone Course. J Grad Med Educ 2015;7:658-62.



MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

Professional Development Branches for Senior Medical Students

Shelgikar AV¹, Morgan HK², Kuo KW³, Braun C⁴, Englesbe MJ⁵, Heidelbaugh JJ⁶, Hughes D⁵, Klein K⁷, Maybaum J⁸, Stojan J³, Daniel M⁹, Mangrulkar R¹⁰, Santen SA⁹

1 Department of Neurology, 2 Departments of Obstetrics and Gynecology and Learning Health Sciences, 3 Department of Pediatrics, 4 Office of Medical Student Education, 5 Department of Surgery, 6 Department of Family Medicine, 7 Department of Radiology, 8 Department of Pharmacology, 9 Departments of Emergency Medicine and Learning Health Sciences, 10 Departments of Internal Medicine and Learning Health Sciences, University of Michigan, Ann Arbor



PURPOSE

The evolution of clinical medicine and patient care delivery requires that medical schools adapt accordingly to ensure that medical students are fully prepared to serve as physicians.¹

The University of Michigan Medical School has initiated a comprehensive curriculum redesign to address concerns with the current senior medical student curriculum, including:

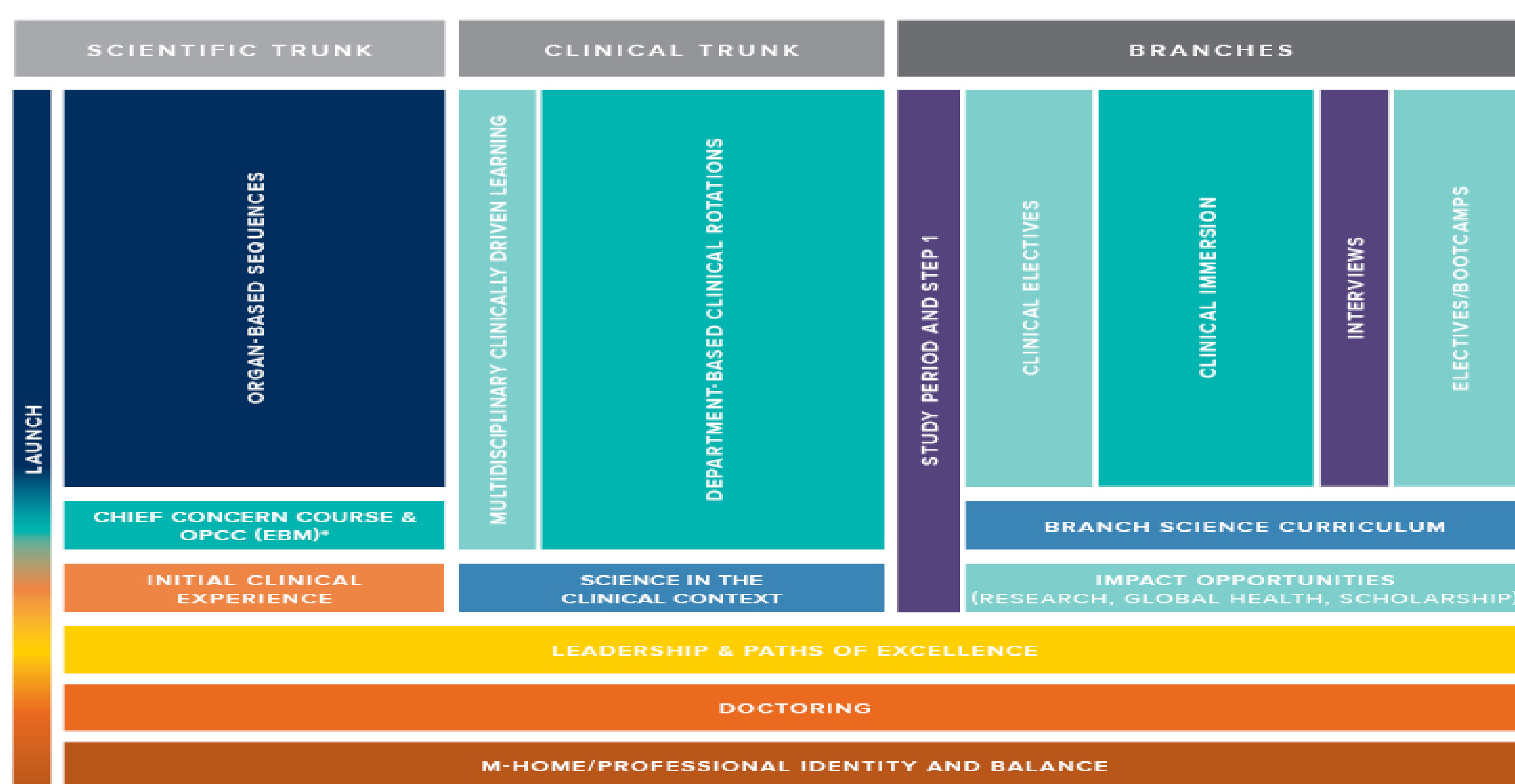
1. Disconnection between basic science and clinical experiences
2. Lack of constructive feedback to students
3. Lack of schedule flexibility for students to pursue impact-focused projects to better society's health and well-being

RESULTS/OUTCOMES

- Branch students and advisors have spoken highly of the individualized mentorship within the Branches curriculum.
- Ongoing review of the IDPs by Branch students and their advisors facilitates a competency-based transition to residency.
- Students have also valued the flexibility to create electives tailored to their interests in the context of broader career goals and report increased confidence in their ability consult scientific literature.



THE MICHIGAN CURRICULUM



Goals of the Branches:

1. Achieve clinical excellence
2. Develop further scientific understanding
3. Impact health beyond the individual patient



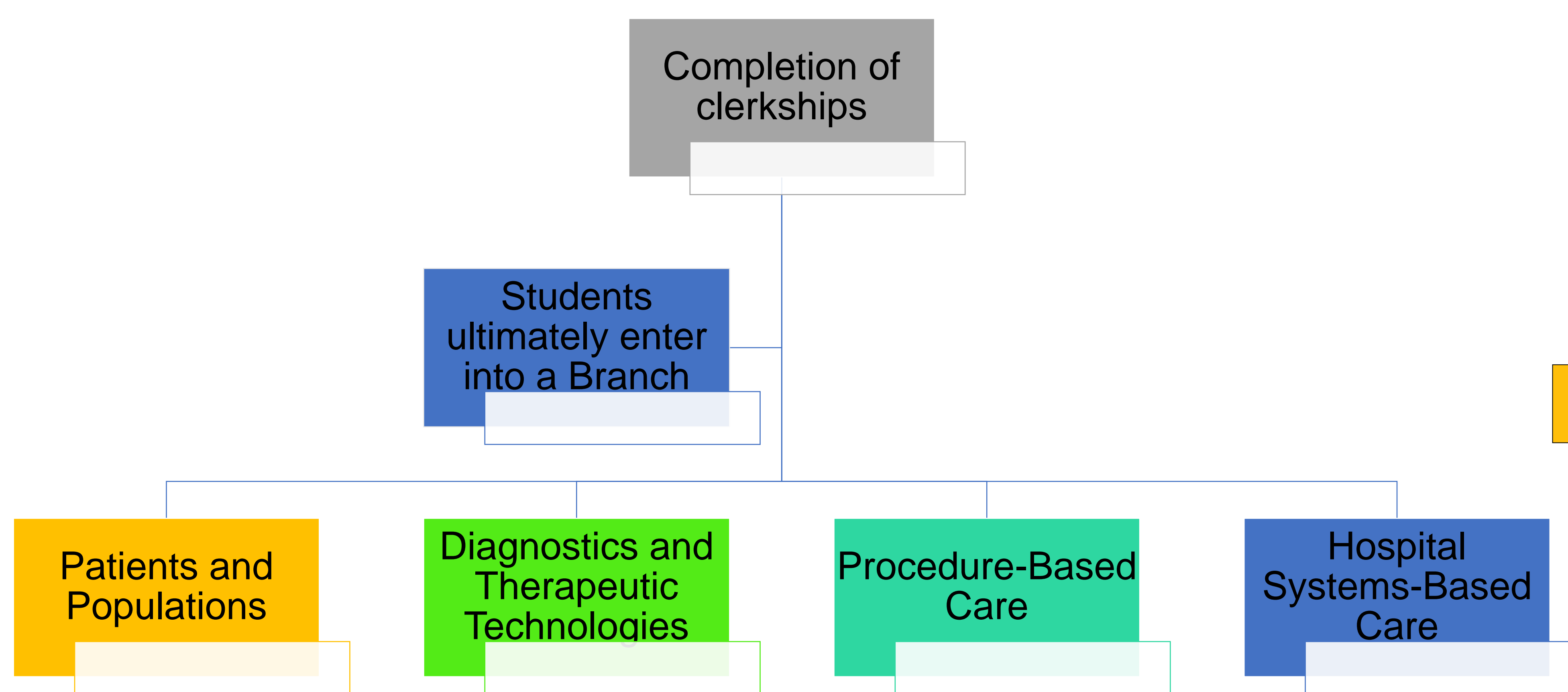
The Branches have been piloted in phases with

- 13 students in 2015
- 44 students in 2016
- 65 students in 2017

*Optimizing Patient Care Curriculum (Evidence-Based Medicine) For Incoming class of 2016. Subject to change.

APPROACH/METHODS

The new curriculum is akin to a tree, with foundational scientific knowledge and core clinical experiences in the trunk and individualized learning and career exploration in Professional Development Branches (Branches).



Branch students have flexibility to create customized electives and dedicated time to pursue career-specific science, including:

- Patient-based scientific inquiry (PBSI)
- Science of Medical Practice (SMP)

Each Branch student meets monthly with a faculty Branch advisor to:

- Review the student-maintained individualized development plan (IDP)²
- Discuss career goals
- Review rotation schedules
- Provide individualized formative feedback

The Branches clinical competency committee provides objective oversight to ensure that all Branch students are on-track for graduation.

DISCUSSION

- Logistical constraints with incorporation of PBSI and SMP ultimately led to creation of dedicated time for deeper scientific thinking across all four Branches.
- Complexities include the administrative support required to successfully facilitate the curriculum.
- As the size of the Branches expands, will need to recruit faculty to learn specifics of the curriculum and serve as Branch advisors.

SIGNIFICANCE

- Professional Development Branches (Branches) encourage senior medical students to maximize their medical school experience
 - Customized electives
 - Opportunity to achieve impact
- Longitudinal relationships between Branch students and advisors cultivate meaningful mentorship
 - Personalized feedback to help prepare for residency
- This pilot curriculum may serve as a model to for senior medical students to master career-specific scientific knowledge and start an impact-focused career.

REFERENCES

1. Lyson ML, Woolliscroft JO, Roll LC, Spahlinger DA. Health Professions Education Must Change: What Educators Need to Know About the Changing Clinical Context. *Acad Med* 2016;91:602.
2. Li ST, Burke AE. Individualized learning plans: basics and beyond. *Acad Pediatr* 2010;10:289-92.



An International Collaboration: Team-based Informationist and Physician Instruction in Ghana

Gurpreet K. Rana, MLIS¹, Emily Ginier, MLIS¹, Gabriel Ganyaglo², MB ChB, Titus Beyuo², MB ChB
Taubman Health Sciences Library¹, University of Michigan, Ann Arbor, USA
Korle Bu Teaching Hospital², Accra, Ghana



BACKGROUND

Formal information skills training is not as prevalent for residents and medical trainees in West Africa. There is a significant need for sustainable information skills capacity building.

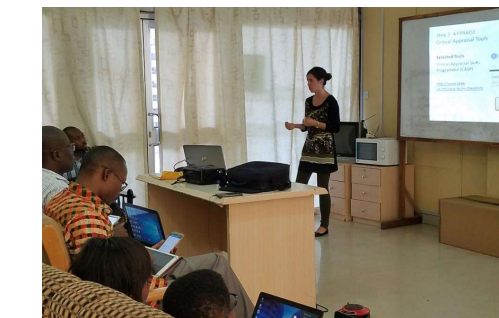
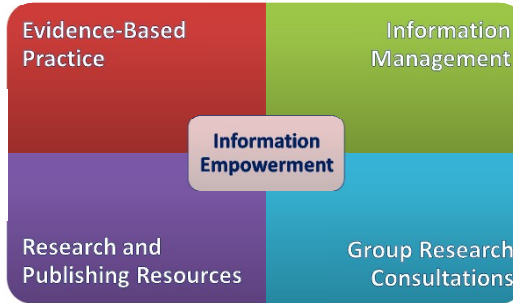
- Keeping up with information resources and strategies is key to success in an ever-changing world
- Clinicians and researchers need to continuously develop their skills in the process of identifying, appraising, utilizing and managing information in the clinical and research environments effectively and efficiently

Korle Bu Teaching Hospital (KBTH) is the largest medical center in Ghana. In addition to patient care, KBTH provides instruction for a range of trainees in the health professions. Significantly, this includes residents and an ever-increasing number of fellows in medical specialties.

In collaboration with two attending physicians at the Department of Obstetrics and Gynecology at KBTH, Taubman Health Sciences (THL) informationists developed an interactive afternoon workshop for OBGYN residents, fellows, and selected faculty at KBTH.

Information Literacy

"Information Literacy lies at the core of lifelong learning. It empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion of all nations."¹



Evidence based practice strategy instruction

Acknowledgements

Dr. Timothy Johnson, Chair, Dept. of Obstetrics & Gynecology, Michigan Medicine and the Elsevier Foundation for making this opportunity possible.

METHODOLOGY

The objectives of the workshop were to:

- Build awareness of health information resources and data sources
- Focus on strategies to find high-quality, critically-appraised evidence
- Provide an introduction to Mendeley as an information management tool to improve research workflow

The workshop was made up of two parts:

1. Didactic lecture
2. Small group interactive consultations on specific research or clinical questions



RESULTS

The workshop was extremely well-received with requests for additional instruction sessions.

Subsequent activities include surveying the residents on their use of information resources introduced during the workshop and identifying perceived impact on their clinical and research activities.

CONCLUSIONS and Future Steps

The informationists became more familiar with teaching in a comparably low resource setting. Challenges included internet speed and availability and addressing trainees' varied levels of information literacy proficiency. Additionally, some trainees were less computer literate than their colleagues. As instructors, the informationists had to be cognizant of the varied skill levels while teaching.

The team of THL informationists and KBTH physicians plan on assessing trainees' confidence and perception of information seeking skills and will consider opportunities for asynchronous digital learning.

Sources:

1. International Federation of Library Associations; UNESCO. The Alexandria Proclamation: *Beacons of the Information Society - Alexandria Statement on Information Literacy and Lifelong Learning*. High level Colloquium on Information Literacy and Lifelong Learning, Bibliotheca Alexandrina, 6-9 November 2005. <<http://www.ifla.org/publications/beacons-of-the-information-society-the-alexandria-proclamation-on-information-literacy>> Accessed on March 8, 2013.

Impacting reproductive health training in Ethiopia: building information skills capacity in an international setting

Gurpreet K. Rana, MLIS¹, Lia Gebremedhin Tadesse, MD, MHA², Berhanu Gebremeskel, MD, MPH, MSCE (c)²
 Taubman Health Sciences Library¹, University of Michigan
 Center for International Reproductive Health Training², Michigan Medicine,
 Ann Arbor, Michigan, USA

BACKGROUND

U-M Center for International Reproductive Health Training (CIRHT) and the Taubman Health Sciences Library (THL) are collaborating to build information skills capacity in obstetrics and gynecology training and research within a network of Ethiopian medical schools.

The overall objective of the interdisciplinary collaboration is to enhance information literacy and bring awareness of information resources in reproductive health research and clinical care in developing country setting.

INTERVENTION

THL's global health informationist began working with CIRHT in 2016 to:

- plan on-site information skills training
- develop synchronous and asynchronous online learning opportunities
- consult on integrating evidence-based practice resources in reproductive health curricula and research training
- connect CIRHT with U-M Library's experts (e.g. publishing, technology)
- network with information professionals in Ethiopia
- work as member of a CIRHT systematic review development team



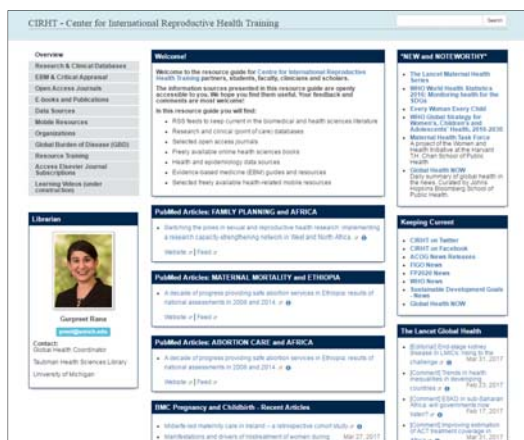
RESULTS

Collaborative activities have included:

- assessment of information skills perception, behavior and needs in cultural context
- investigation of integration of information seeking skills in pre-clinical service educational competencies in Ethiopia
- leveraging information skills training strategies and resources
- educating faculty and clinicians on quality online information resources accessible in the research and clinical settings

LESSONS LEARNED

- Librarians are not as integrated in the clinical or research settings as commonly in Ethiopia as in the United States
- Due to the recognition of information seeking proficiency as a skill in lifelong learning of the medical professional, there is a need to build capacity and consider increased integration of informationists and librarians in health care settings and research in Ethiopian health sciences schools.



2016 CIRHT case study published and digitized by Michigan Publishing, University of Michigan Library



FUTURE APPLICATIONS and Next Steps

The ongoing collaboration between CIRHT and THL has been a successful one as CIRHT's pilot site in Ethiopia continues to actively work towards empowering women through improvement in reproductive health education.

Future activities include development of digital learning objects and continued collaboration with information professionals in Ethiopia.

Acknowledgements

Anonymous Donor
 University of Michigan
 Students and faculty of CIRHT's Ethiopia medical school partners
 Taubman Health Sciences Library

THE EDUCATIONAL VALUE OF WORKING AS A MEDICAL SCRIBE

John E. Lowry, Ph.D. Saginaw Valley State University

Background

There is a need to improve the knowledge acquisition and facilitate professional development of medical students. The purpose of this study is to present the benefits which medical students report from their medical scribe work experiences prior to medical school.

Methods

Sixteen current medical students from five different medical schools participated in semi-structured interviews about their experiences as medical scribes prior to matriculating into medical school. Their responses were analyzed qualitatively using thematic analysis to discover the common themes in the data.

Results

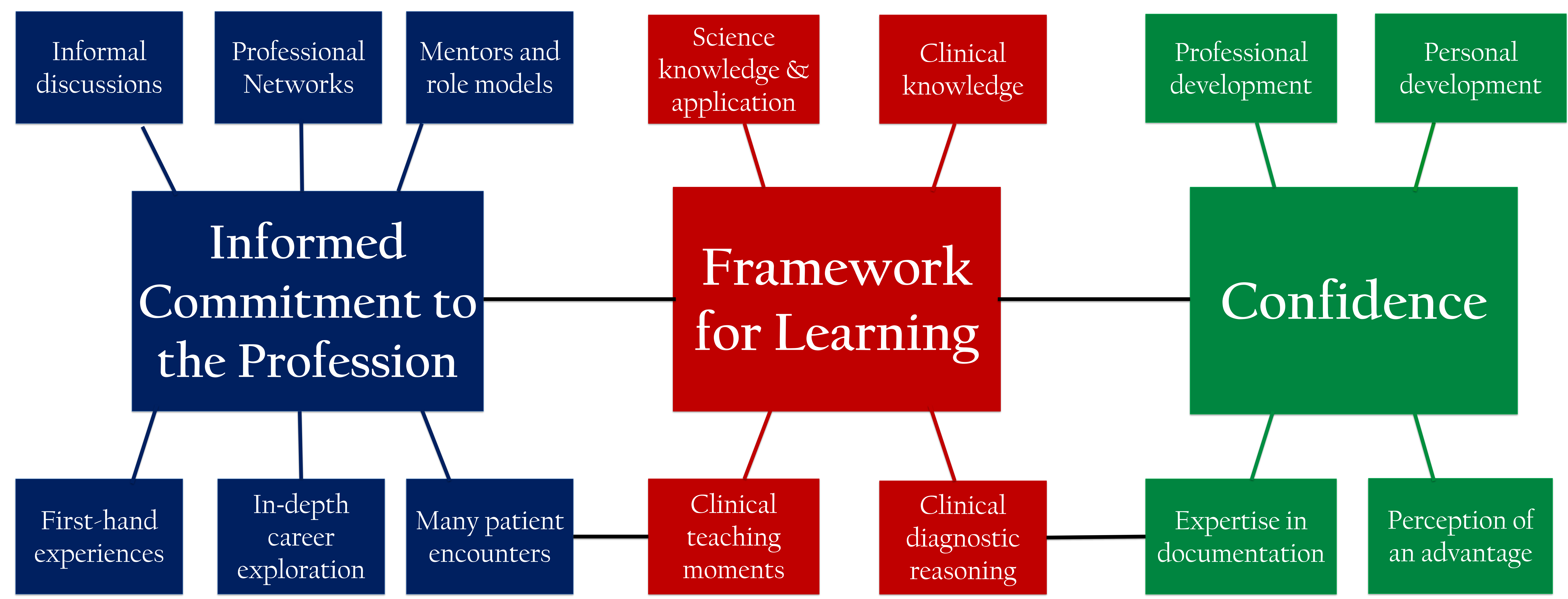
Medical students report a variety of educational, professional, and personal benefits from their medical scribe experiences. Many students reported being able to recall specific patient encounters while learning basic sciences and their applications. First year students reported reduced anxiety and increased confidence during simulated patient encounters, and advanced skill in documentation. Many students reported having many professional role models, and being able to do extensive career exploration before becoming a medical student. Other themes include developing stress/time management strategies, professional identity formation, academic and personal resilience, and an increased dedication to the profession. Every one of the participants strongly recommended the experience as a way to prepare for medical school.

Conclusions

Working as a medical scribe has the potential to offer powerful learning experiences that can enhance undergraduate medical education. Through their experiences, former medical scribes report benefits in medical knowledge and professional development. Colleges of medicine may wish to include consideration for medical scribe experience in their admission policies, or look for ways to use medical scribe experiences in the medical school curriculum.

Future Applications and Next Steps

More research is needed to learn more about the experiences of medical scribes. We need to discover more about what medical scribes learn, and how they learn. We need to examine the role of professional relationships with pre-medical students working with attending physicians, residents, and medical students. In addition, as the roles of medical scribes evolve, we will need to see if what and how they learn changes. Workplace learning provides a rich framework for further studies in these areas.





Residency Preparatory Courses for Obstetrics and Gynecology

Bethany Skinner MD, Helen Morgan MD, Anita Malone MD, David Marzano, MD, Maya Hammoud MD

University of Michigan Department of Obstetrics and Gynecology

Background



Residency Preparatory Courses:

- Facilitate medical students' transition from medical school to residency
- Provide a learner handover tool from medical school to residency based upon competencies.

No data exist regarding the prevalence and characteristics of RPC's.

Purpose:

- To describe the prevalence, structure, and content of Obstetrics and Gynecology RPC's.
- To determine if student performance assessments were fed forward to Program Directors.

Methods

- Electronic survey of OB/GYN Clerkship Directors via the Association of Professors of Gynecology and Obstetrics email distribution list.
- Descriptive statistics were tabulated for multiple-choice responses.
- Deemed "not regulated as human subjects research" by the IRB.



Results

44.2% (96/217) response rate

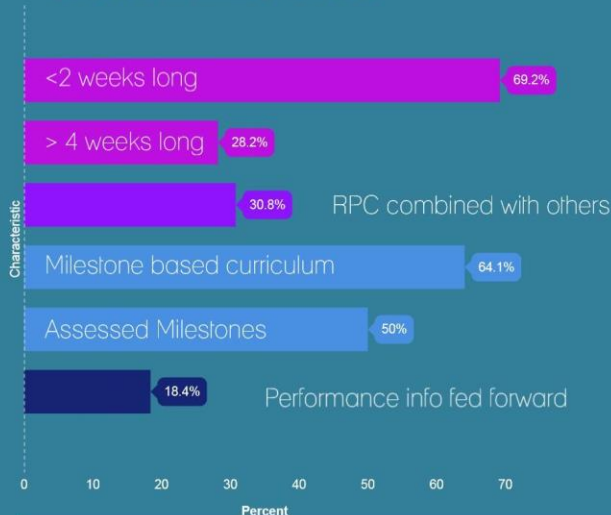
59.4% (57/96) did not offer RPC's

40.6% (39/96) offered RPC's

Reasons for not offering RPC's



Characteristics of RPC's



Conclusions

- Less than half of OB/GYN Clerkship Directors surveyed currently offer RPC's.
- The structure and content of RPC's vary widely.
- Only half of RPC's actually assess competency required for day one of internship, and this information is rarely fed forward to residency Program Directors.
- Further development of RPC educational content, performance assessments to document competency for day one of internship, and transfer of this information to residency Program Directors should be areas of focus for medical educators.