



# Improving Resident Continuity Training with a Longitudinal Patient Navigator/Advocate Experience

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## Plan

Achieving effective longitudinal care training in PM&R faces numerous challenges, including a lack of standardization and limited exposure to continuity experiences. The ACGME common program requirements even lack specific standards for residents in this area.

Many institutions share the same difficulties in establishing continuity clinic encounters such as resident time constraints, faculty availability, patient recruitment, and administrative hurdles. Significant challenges arise from the complexity of conditions and injuries PM&R patients may have which demand a collaborative, team-based approach to care, often hindered by a fragmented healthcare system.

Monitoring and adjusting treatment plans for ongoing management pose another hurdle. The healthcare system's acute care focus may not prioritize chronic condition management and patients may face barriers like transportation or financial issues.

To address these issues, our project aims to implement and evaluate an educational program for residents. This initiative seeks to enhance their longitudinal care skills with the goal of improving the quality of care provided to patients with chronic disorders and disabilities.

Each resident will be able to build long-term relationships, understanding system-based practice, and gain experience in patient-centered care and "real-life" medicine.

## Goals

- 1) 20% increase in resident scores on pre- and post-testing over the first 6-12 months
- 2) 20% increase in the patient's perception of their interaction with the healthcare team as rated on the PACIC

## Do

- 1) Introduced a didactic session with case-based learning to review the concept and importance of longitudinal care
- 2) Each resident was tasked with identifying 3-5 patients with a chronic disability based on a clinical encounter (patients followed on inpatient rehabilitation unit prior to discharge)
- 3) A supervising faculty member was assigned for each patient based on the pathology, geographic location, or clinical involvement prior to discharge. The residents then were instructed to see the patients in clinic through coordination with their faculty member's schedule
- 4) In this role, the residents serve as primary contact for all disability-related concerns in between visits. This role as navigator and advocate will assist the patient in negotiating the complexities of the health care system, allow flexibility in scheduling, coordinate care with other providers, developing a thorough long-term management plan, perform home visits/assessments if needed, complete disability related forms and prescriptions, thus providing easy, consistent access to rehab care

## Study

The program was evaluated through pre- and post-surveys of residents' knowledge and attitudes towards longitudinal care as well as through use of the "Patient Assessment of Care for Chronic Conditions (PACIC) survey for pre- and post-evaluations of outcomes following initiation of the program.

### Resident Pre-Survey Data:

10 out of 12 residents responded to a 4 Question survey assessing 4 domains (Knowledge base, experience, application of key principles, and comfort level) on a scale of 1-5.

1. Knowledge base – Average score 2.85
2. Experience – Average score 3.08
3. Application of key principles – 2.78
4. Comfort level – 3.13

Average score by year of training	
PGY2	2.63
PGY3	2.79
PGY4	3.56

### Resident Post-Survey Data:

2 out of 12 residents were able to successfully follow-up with a patient (one PGY2 and one PGY3).

1. Knowledge base – Average score 3.63
2. Experience – Average score 3.25
3. Application of key principles – 3.50
4. Comfort level – 3.25

Average score by year of training	
PGY2	3.44
PGY3	3.38
PGY4	-

### Patient Survey Data:

PACIC survey results were limited to only 2 responses, likely in part to how long the residents followed with them after discharge from the hospital since the survey is meant to review the last 6 months of care but at most our residents had only 3 with the patient. Unfortunately, interpretation of these results was limited due to the low number of responses. However, those that were completed showed appreciation of the care in relation to in decision support, goal setting, and follow-up/coordination of care.

## Act

Residents seem to have a baseline understanding in longitudinal care which increases over the course of their residency training. However, further improvement can be seen with a combination of education in systems-based practice and patient centered care.

We are continuing this project to collect more data as the academic year goes on and plan to instill further expectations starting next academic year in how many patients each resident will follow from each rotation. Even though the feedback was limited thus far, we do expect greater improvement in results from both resident and patient surveys. The residents also expressed appreciation from the added didactic education though requested increased guidance in selecting and following up with patients. Therefore, we are drafting a handbook to explain the expectations and process more clearly. We also may link the continuity experience with the current mentorship program to ensure consistent attending support.

### Limitations:

Only 2 out of 12 residents completed the project so interpretation of survey results is limited. To improve outcomes, it would be recommended that dedicated faculty support, identification, and follow-up of appropriate patients. Many patients were missed in the pilot phase of this project which we assume could be improved if expectations were in place from the start of residency, as many of our more senior residents had less inpatient time and less opportunities to find patients to follow.

## References

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# Increasing Diversity in Residency Applicant Interview Pool

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## BACKGROUND

There is national level awareness and push to increase the diversity, equity, and inclusion of women and underrepresented minorities in medicine (URIM) within the field of physical medicine and rehabilitation (PM&R). Recent data from the AAMC show among first-year PM&R residents for 2021-2022, that 38% are female, 10% Black or African American, and 8% Latin, Hispanic or of Spanish Origin (Careers in Medicine, AAMC). Additional data show this trend continues at the faculty level within academic PM&R (Sanchez et al). During the Match 2023 cycle, our residency program interviewed 47 candidates for 5 residency slots (4 categorical, 1 advanced). Of these candidates, the breakdown was as follows: 19 women (40.4%), 28 men (60%), and 7 URIM (14.8% - 3 Black or African American, 4 Latino, 1 Native American, \*one applicant identified as both African American & Latino) candidates.

## PLAN

Identify application screening measures to increase the number of women and URIM candidates interviewed for a residency program position for the Match 2024 cycle. The longer-term goal of this project is to match more female and URIM candidates for the residency program.

## DO

Review current filter settings used on ERAS for initial applications, residency program scoring rubric for areas to adjust criteria and/or weight of characteristics, and study how to attract desired applicants. Initiate these changes for Match 2024 cycle applicants and analyze differences and institute a required anti-bias training of application reviewers.

## STUDY

Compare 2023 with 2024 Match cycle to assess for changes in number of URIM and women applicants interviewed for residency program as a percentage of total applicant interviews. Goal to increase by 10 percentage points to 50% female and 25% URIM interviewed.

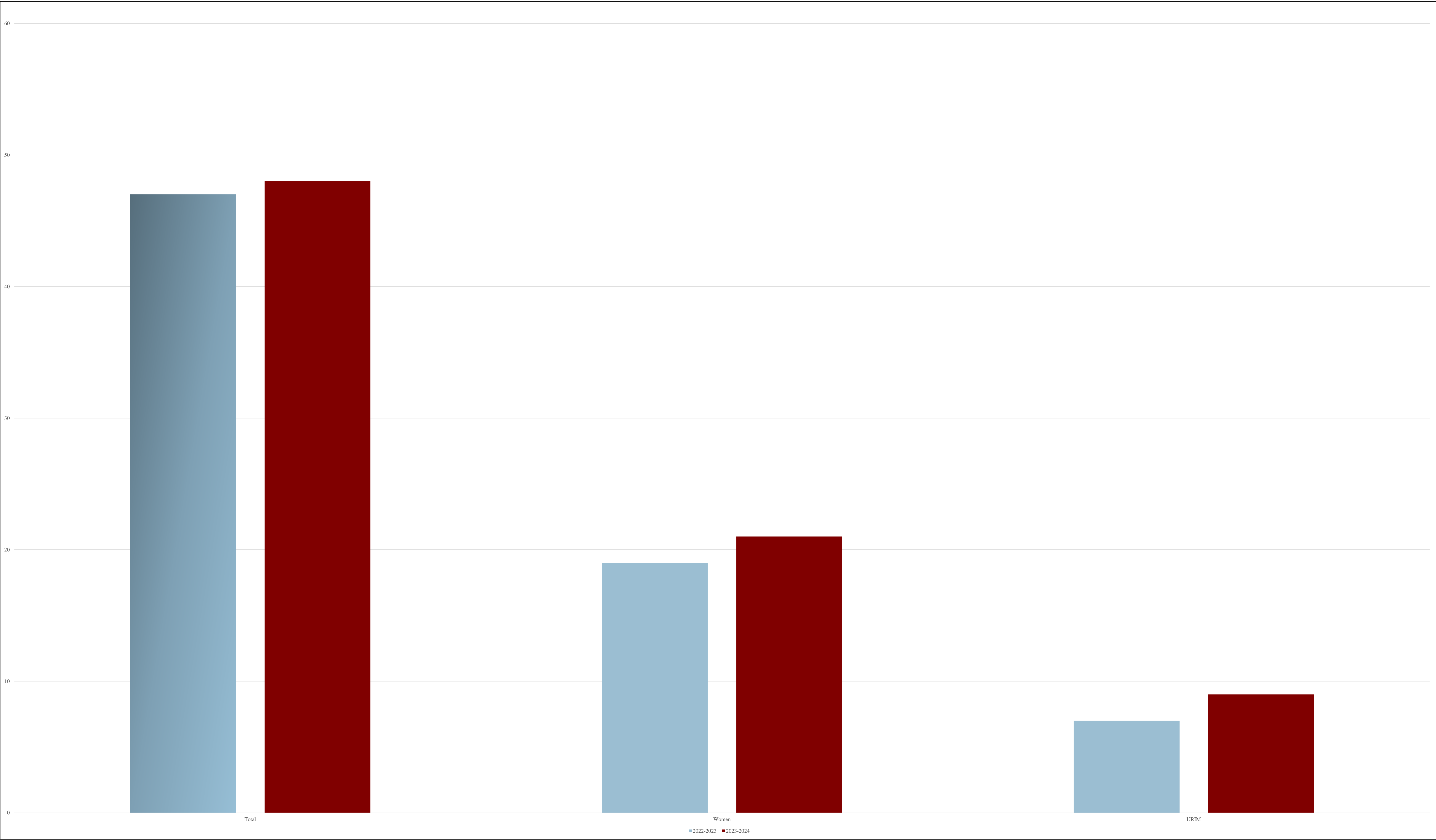
## ACT

- Implement changes to the review and scoring of residency program rubric
- Educate and train application reviewers on scoring rubric and residency program goals
- Implicit bias and anti-bias training for application reviewers
- Increase social media visibility and content with women and URIM members of residency program
- Explored applicants’ MSPE for demographics, personal history

## DISCUSSION/ NEXT STEPS

Despite changes to scoring rubric, training and education of reviewers, and social media strategy, the number of women and URIM interviewed was only mildly impacted for the Match 2024 cycle. There was a specific barrier to identifying women and URIM due to institutional GME’s policy of blinding of applicants’ pictures and demographics. Another limitation may be residency program’s religious affiliation, which may affect number of applications received. In addition, interview slots were not increased. Future efforts may include further expansion in social media reach, direct connections with student groups (e.g. Latino Medical Student Association, Student National Medical Association, American Medical Women’s Association), and recruitment at HBCU or other mission-specific medical schools.

Comparison between Match 2023 and 2024 Interviewed Applicants



**Total # of  
Interviewed  
Applicants**

2023 | 47  
2024 | 48

**Total # of  
Interviewed  
Women**

2023 | 19 (40.4%)  
2024 | 21 (43.7%)

**Total # of  
Interviewed  
URIM**

2023 | 7 (14.8%)  
2024 | 9 (18.7%)

### Project Scope

The University of Michigan Physical Medicine and Rehabilitation residency training program currently has **required rotations in spine/pain, musculoskeletal/sports medicine, and procedures**. These rotations constitute **five months of the residents' outpatient clinical care** and vary in their timing between post graduate years two through four and are not sequential to each other. Clear learning objectives are provided during these rotations though there is often **limited ability to discuss overlapping concepts** addressed in these rotations, have dedicated **time for image review**, or have a **forum where clinical practice differences can be explored**. In particular, recognition of clinical practice differences and highlighting these differences within an educational setting provides an **opportunity for a discussion regarding treatment philosophy and decision making**. Involved parties, including both residents and attendings, have the opportunity to identify key concept misconceptions through group analysis and would have the chance to evaluate concept application within treatment paradigms. With the increasing diversity of the University of Michigan musculoskeletal, sports, pain, and spine faculty there is an opportunity for challenging our current treatments schema and improve our understanding of pathology allowing for the development of personalized patient care.

### The Breakdown

4 Month Trial Period

14 of 16 Sessions

7 residents on rotation +1 Off rotation

5 topics selected

100% Increase in Clinical Confidence

### Goals

1. Develop a multi rotational learning opportunity for PM&R residents in which core concepts, imaging, and procedures can be openly discussed.
2. Improve resident perception of focus teaching on rotations.
3. Provide a framework for both musculoskeletal and spine imaging interpretation.
4. Increase attending knowledge base on subject matter outside of primary area of practice.

### The Residents Perspective

### Future Considerations

1. Expansion for off-rotation residents
2. Cross division learning opportunity
3. Development of a neurorehab model

### Finding the Time to Learn

#### 1 Week Prior to Rotation

Email introduction

Determine group topic (27 options)

#### Week 2

Topic Discussion

#### Week 4

Understanding Why: Clinical Scenarios

Self Study and Knowledge Review

#### Week 1

Imaging Review

#### Week 3

Post Rotation Survey

#### 1 Week Post Rotation

## Improving Trainee Understanding of Musculoskeletal Pain and the Lasting Impact of Language

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### Background

A significant percentage of PM&R trainees pursue subspecialty training in Sports Medicine, Interventional Spine & Musculoskeletal Medicine, or Pain Medicine. These fields regularly participate in the non-operative management of a wide variety of musculoskeletal diagnoses, ones that are also encountered in almost all physiatric patients. While PM&R residency training programs offer rotations in musculoskeletal medicine, there seems to be a paucity of formalized didactic training on understanding the nuances of musculoskeletal pain as well as specific verbiage to use (or not to use) with patients (Ashar 2022, Chester 2018, De Raaij 2018, George SZ 2018). It is well-established that patient perceptions regarding their pain can impact overall outcome (Louw 2016, Testa 2016) and words can affect pain perception (Lena 2022). Additionally, patients often interpret common medical terms differently than providers intend, often with negative connotations (Barker 2009).

The aim of this project was to both provide formal didactics to residents regarding the above while also surveying both residents and patients regarding the most common terms used/heard.

#### References:

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2. Chester R, et al. Psychiatric factors are associated with the outcome of physiotherapy for people with shoulder pain: a multicentre longitudinal cohort study. *BMJ Open*. 2018;8(8):e020125.  
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### Desired Outcomes

- To have trainees complete a recorded lecture on multifactorial contributions to musculoskeletal pain and the role of language
- To survey trainees on the utility of formal didactics on these topics
- To assess the frequency of usage of common terms amongst trainees (survey)
- To have trainees survey patients on the frequency of encountering common terms

7/ 10 residents on musculoskeletal blocks in the month of December viewed the video and participated in surveying patients. 1 non-MSK rotator also viewed the video and took the resident survey. Of the 8 residents surveyed:

PGY	Specialty	Exposure (MSK blocks)
5 (62.5%) PGY-4	4 (50%) ISMM/Pain	5 (62.5%) > 3 blocks
1 (12.5%) PGY-3	2 (25%) Sports	1 (12.5%) 3 blocks
2 (25%) PGY-2	1 (12.5%) TBI	1 (12.5%) 1 block
	1(12.5%) general	

All 7 rotators were able to survey multiple patients during the 2 weeks. All 8 residents who viewed the lecture felt it met its stated objectives, were very likely to include formal training as part of didactics, 7/8 felt that the lecture material was very relevant to clinical practice and very likely to influence/change the way they counsel MSK/Spine patients; 1 resident was “relevant” and “likely”.

The terms most frequently used by the 8 residents in the list provided were:

- Arthritis (6; 75%)
- Needs more strengthening (6; 75%)
- Wear-and-tear/degenerative (5 ; 62.5%)
- Normal age-related changes (5 ; 62.5%)
- We can work around this/ you can get better (4; 50%)

### Methods and Implementation


#### Lecture and Resident Survey



Youtube Link

A 40 minute lecture was prerecorded and shared with the residents of the Rutgers New Jersey Medical School Residency covering the following topics:

- Central sensitization
- Pain catastrophizing
- Fear Avoidance/Kinesiophobia
- Placebo/Nocebo
- Words and their potentially deleterious effects on pain perception
- Patient understanding vs provider intention with medical terms

Subsequently, residents were surveyed  SurveyMonkey

1. What year of training are you in?  
☐

2. What is your intended area of focus within PM&R?  
☐

3. How many outpatient MSK / Spine rotations have you had at this site?  
☐

4. Are you currently in a rotation where you see musculoskeletal / spine patients?  
☐

5. Have you ever had a formal didactic lecture on musculoskeletal pain regarding the subjects that were covered?  
☐

6. Have you ever been provided specific recommendations on specific verbiage to be used during musculoskeletal patient encounters?  
☐

7. Were you able to administer at least 1 survey during the data collection period?  
☐

8. Do you feel the lecture met its stated objectives?  
☐

9. Have you been able to implement some or all of the suggestions put forth in the lecture?  
☐

10. How likely are you to want to include this type of lecture as a formal part of residency education?  
☐

11. How likely is this lecture / type of education to change the way you counsel MSK/Spine patients in the clinic?  
☐

12. Which phrases have your your team used the **MOST** frequently when counseling MSK / spine patients? **Please select up to 3**  
☐ Needs more strengthening  
☐ We have to live with this  
☐ We can work around this/ You can get better  
☐ Replicable harm  
☐ Pull  
☐ Tear  
☐ Damage  
☐ Pain  
☐ Swelling  
☐ Bone-on-bone  
☐ Wear-and-tear/ Degenerative  
☐ Unstable/Instability  
☐ Bulge/herniation  
☐ Disease  
☐ Bruise/Swelling  
☐ Chronic  
☐ Diagnostics  
☐ Normal age-related changes

#### Patient Survey

A simple questionnaire was given to patients presenting for outpatient musculoskeletal care to assess the terms they most commonly encountered (whether for their chief complaint or prior musculoskeletal complaints). Terms used for the survey were taken from Stewart 2018 as shown below. These terms were also used for the resident survey. Data collection took place over 2 weeks in December of 2023.

#### Sticks and Stones: The Impact of Language in Musculoskeletal Rehabilitation

TABLE	TYPICAL WORDS TO AVOID AND ALTERNATIVES FOR PATIENTS	PATIENT QUESTIONNAIRE
<b>Words to Avoid</b> Chronic degenerative changes Negative test results Instability Wear and tear Neurological Don't worry Bone on bone Tear Damage Painful sensation Tapped nerve Lordosis Kyphosis Bulge/herniation Disease Effusion Chronic Diagnostics You are going to have to live with this	<b>Alternatives</b> Normal age changes Everything appears normal Needs more strength and control Nervous system Everything will be okay Numbness/tingling Pull Replicable harm Altered sensation Tight, but can be stretched The normal curve in your back The normal curve in your back Bump/swelling Condition Swelling It may persist, but you can overcome it X-ray or scan You may need to make some adjustments	RESIDENT PHYSICIAN: _____ DATE OF SERVICE: _____ CHIEF COMPLAINT/DIAGNOSIS: _____ CIRCLE ONE: NEW PATIENT FOLLOW UP PLEASE CIRCLE THE 5 TERMS YOU HAVE HEARD THE MOST OFTEN: a. Needs more strengthening b. Live with this c. We can work around this d. Replicable harm e. Overuse f. Tear g. Pull h. Arthritis i. Bone-on-bone j. Wear-and-tear / degenerative k. Unstable / Instability l. Bulge/ herniation m. Bump/ Swelling n. Disease o. Damage p. Normal age-related changes

### Results

Over 2 weeks, 41 patients were surveyed. Each was instructed to choose up to 5 terms heard most commonly from the list below:

Top 5 Terms Encountered by Patients	Others
<b>Arthritis : 34 (82.9%)</b>	Overuse : 15 (36.5%)
<b>Wear-and-tear/degenerative : 31 (75.6%)</b>	Pull : 9 (22%)
<b>Bulge/herniation : 23 (56%)</b>	<b>We can work around this : 8 (19.5%)</b>
<b>Damage : 18 (43.9%)</b>	Unstable/Instability: 8 (19.5%)
<b>Needs more strengthening : 16 (39%)</b>	<b>Normal age related changes : 8 (19.5%)</b>
<b>Bone-on-bone : 16 (39%)</b>	Live with this : 7 (17%)
	Tear: 7 (17%)
	Disease : 3 (7.32%)
	Bump/Swelling : 2 (4.9%)
	Reparable harm : 1 (2.4%)

#### Distribution of patient chief complaints:

Spine pain: 14 (34%)  
Knee/hip: 14 (34%)  
Shoulder/elbow: 9 (22%)  
Other: 4 (9.8%)

### Discussion

Overall, there was congruency over some of the most common terms resident physicians use and those that patients report hearing most frequently. The majority of both groups report using/hearing “arthritis,” “wear-and-tear/degenerative,” and “needs more strengthening.” However, these terms also have negative connotations and may impact outcomes if not contextualized or clearly explained to patients.

Other terms patients frequently encounter include: “bulge/herniation,” “damage,” and “bone-on-bone.” Given the even distribution of spine pain and knee/hip pain in this sample, it is understandable that these terms are used, but they may negatively impact patient pain perception and outcome. Consideration should be given to replacing these terms with others or ensuring that patients’ understanding of these terms matches the physician’s.

Some terms with positive connotations (“we can work around this,” “normal age-related changes”) were less often encountered in the patients surveyed, despite being among the more frequently used terms by residents.

The sample sizes of both groups was small and further investigation is needed to more accurately assess both the frequency of use of these terms and their effects on patient pain and perception, including subgroup analysis of terms by patient complaint. Lastly, resident physicians found the didactic material relevant and likely to influence their patient counseling.

Thank you to my mentors Dr. Steven Kirschblum and Dr. Adam Tenforde for their help!

# PM&R Resident Instruction of Emotional Intelligence

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## Plan

Residents do not obtain any formal emotional intelligence (EI) training, and EI is important for leadership skills.

Therefore, we developed an EI curriculum in our residency program.

While there are 2 distinct types of EI, trait EI (or emotional self efficacy) is a type that can be measured by self-report. Ramaswamy et al. developed a Ten-Item Personality Inventory (TIPI), and this is able to be divided into 4 categories: well-being, self-control, emotionality, and social ability.

## Do

We assessed residents' EI through a TIPI self-assessment in July. The quality improvement survey was optional to complete, and residents' individual responses were kept confidential (done via Research Electronic Data Capture, REDcap). It was confirmed that this was IRB exempt.

We then gave three, one-hour lectures on EI, each with a specific example emphasizing how to respond and not react, or to control one's emotions. The ripple effect, or possible downstream consequences of words and actions, were reviewed.

In early December, the TIPI REDcap survey was repeated. Furthermore, subjective comments were sent to inpatient leaders, to assess if they had noticed any improvements post-intervention.

*We hypothesized that the emotional intelligence self-assessment scores would improve over the course of the fall semester, after 3 formal resident teaching lectures.*

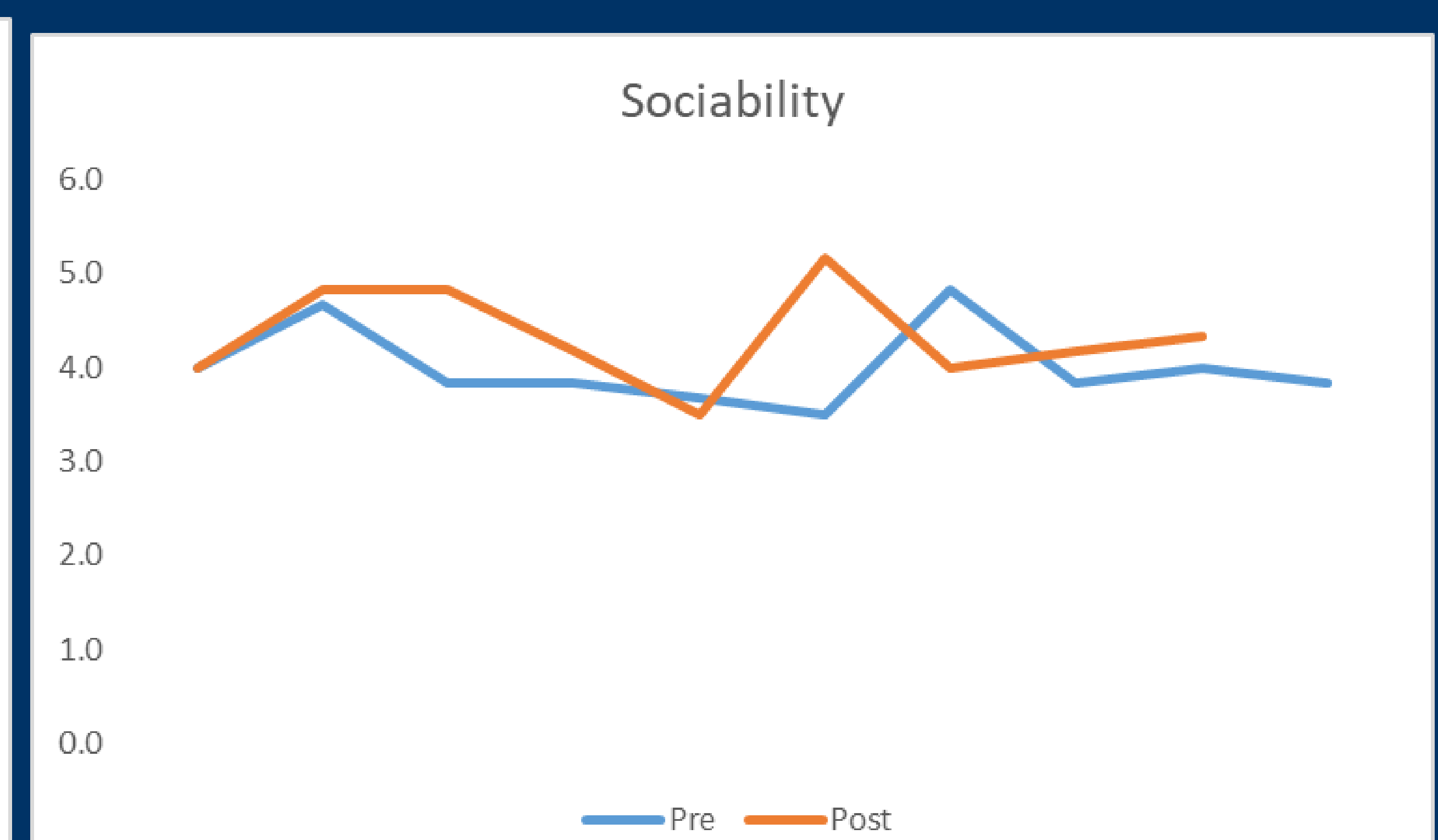
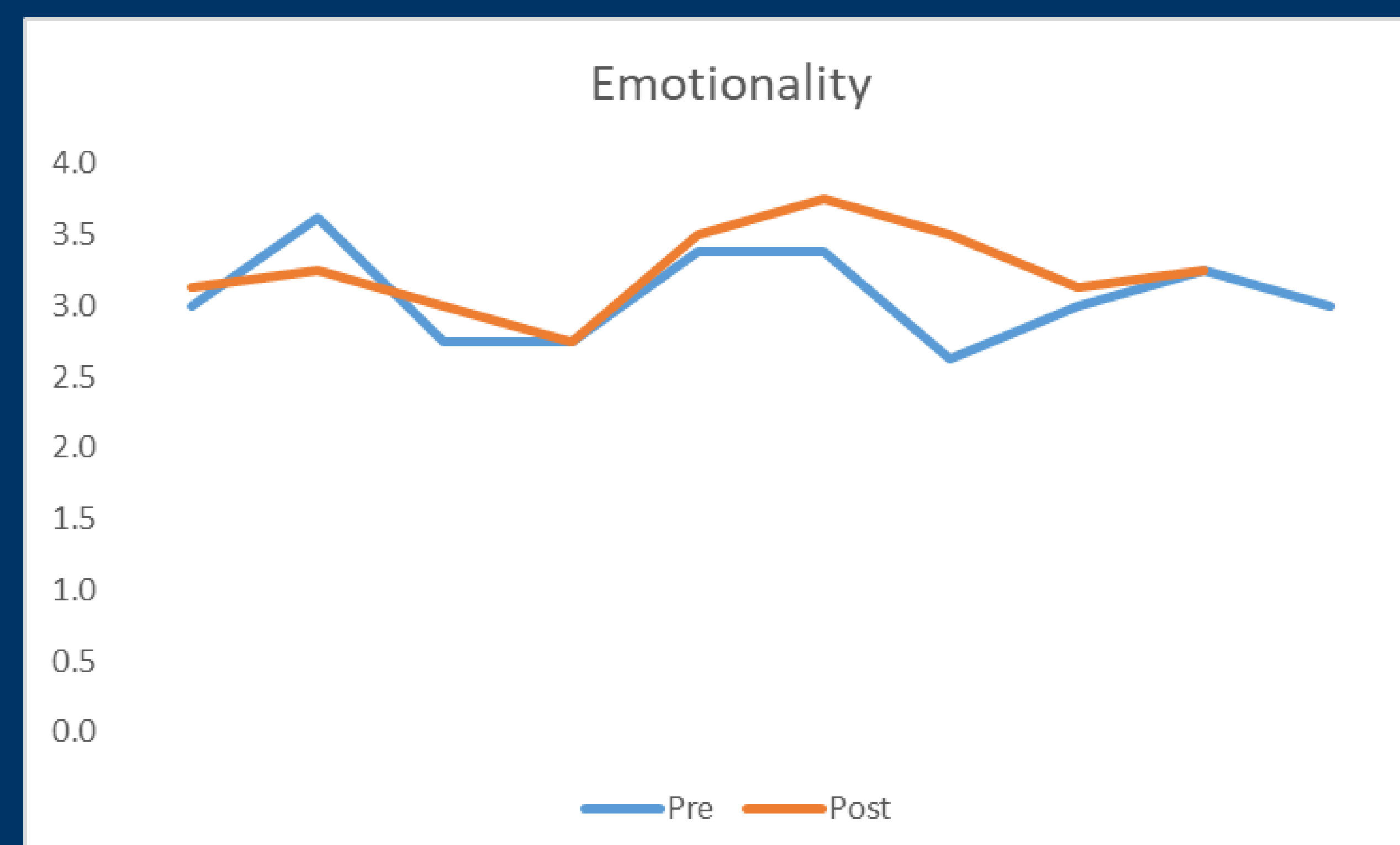
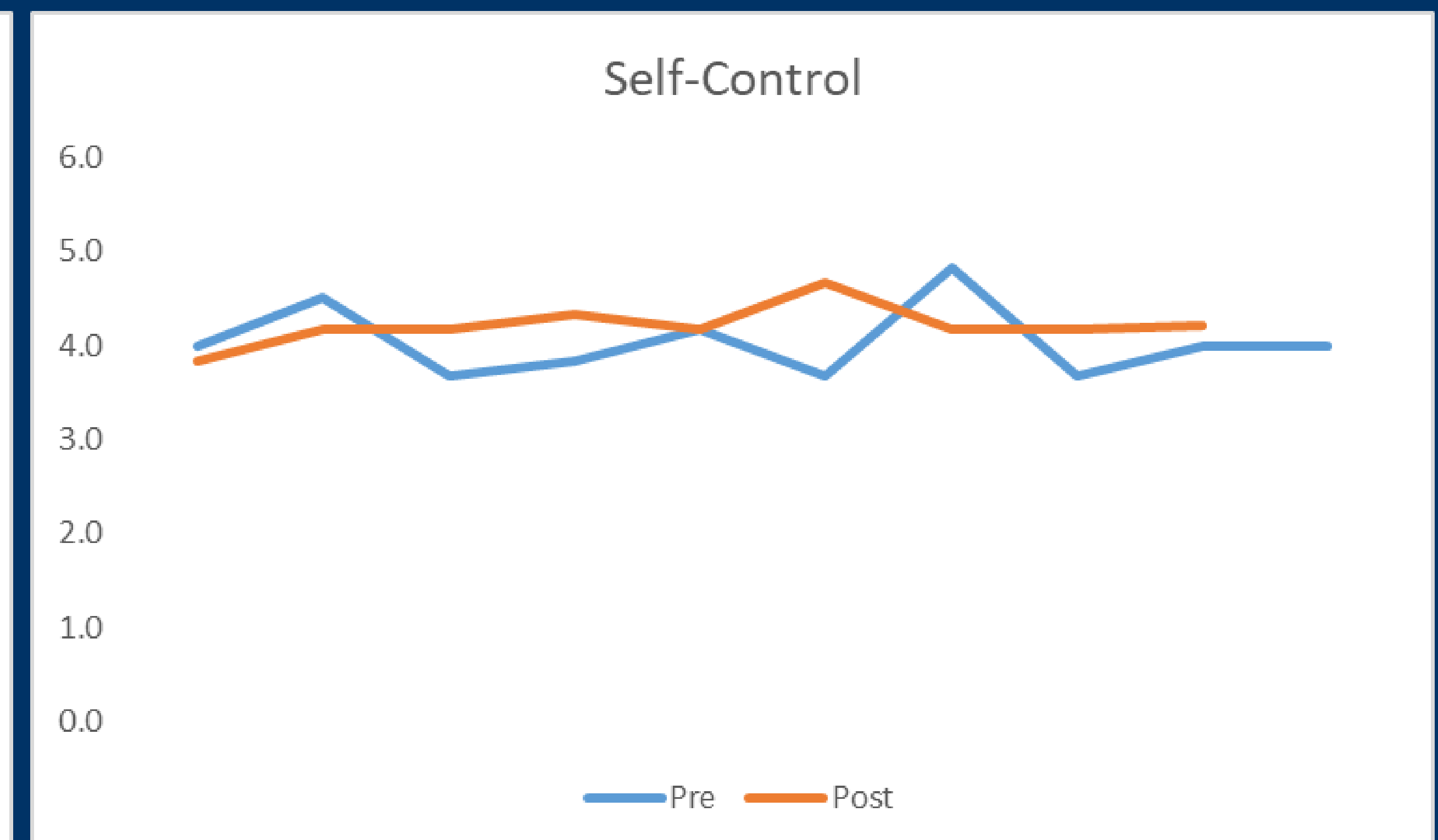
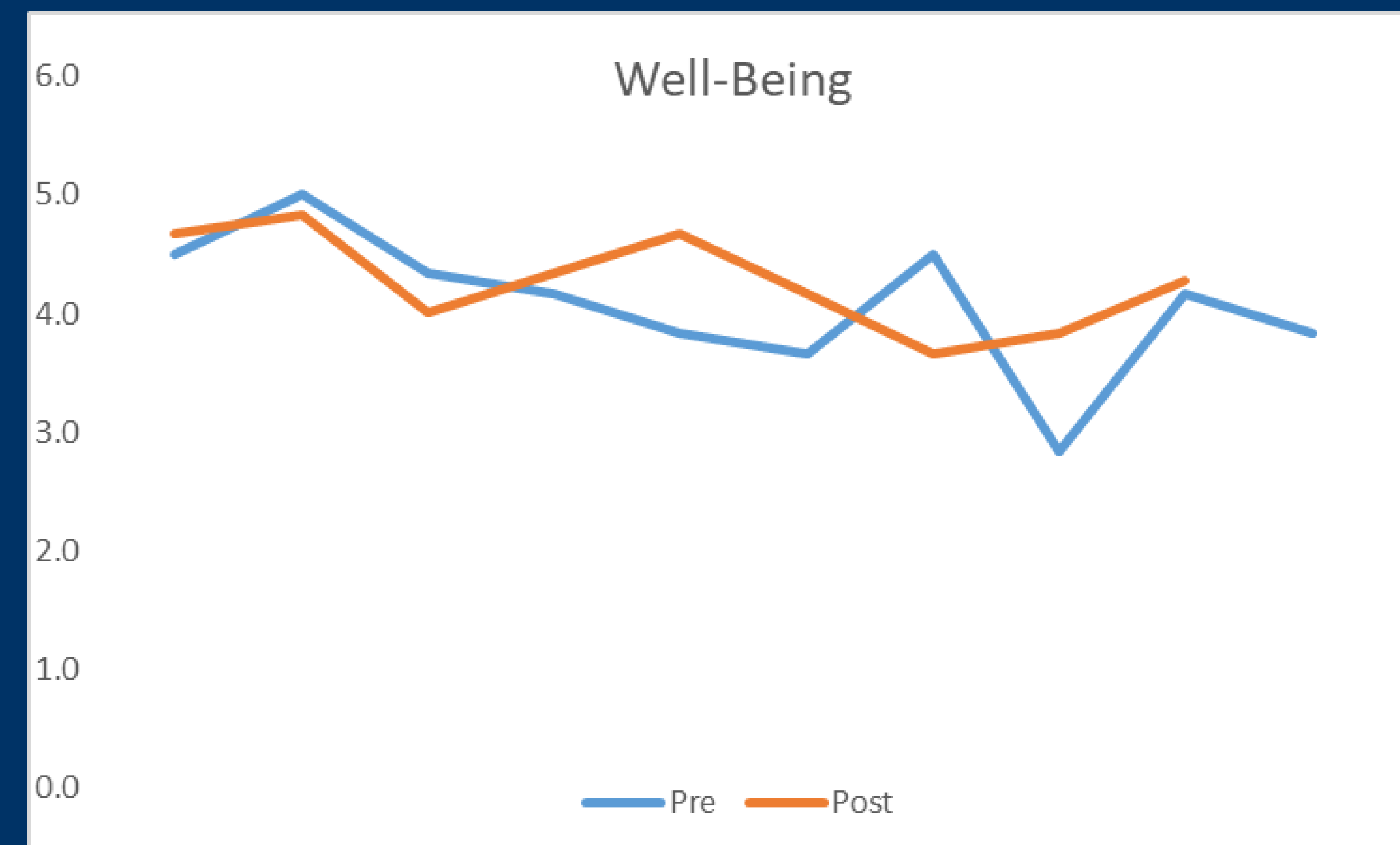
## Results

- 10 residents completed the initial survey and 9 residents completed the second survey, of a total of 11 residents in PGY-2, 3, and 4 years.
- An improvement was observed across all 4 of the Trait EI factors that were analyzed, but the improvement was very small and not statistically significant.

## Conclusion

- Formal teaching of emotional intelligence was subjectively reported to be helpful for our residents to become future physician leaders. However for this project, the impact was very small and not statistically significant.
- Our results were limited by the small sample size.

	Average $\pm$ standard deviation			
	Pre-		Post-	
Well-Being	4.1	$\pm 0.6$	4.3	$\pm 0.4$
Self-Control	4.0	$\pm 0.4$	4.2	$\pm 0.2$
Emotionality	3.1	$\pm 0.3$	3.3	$\pm 0.3$
Sociability	4.0	$\pm 0.4$	4.3	$\pm 0.5$



## REFERENCES

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# Improving the Care of Pediatric Patients with Disorders of Consciousness

Marina Ma, MD (TCH/BCM)

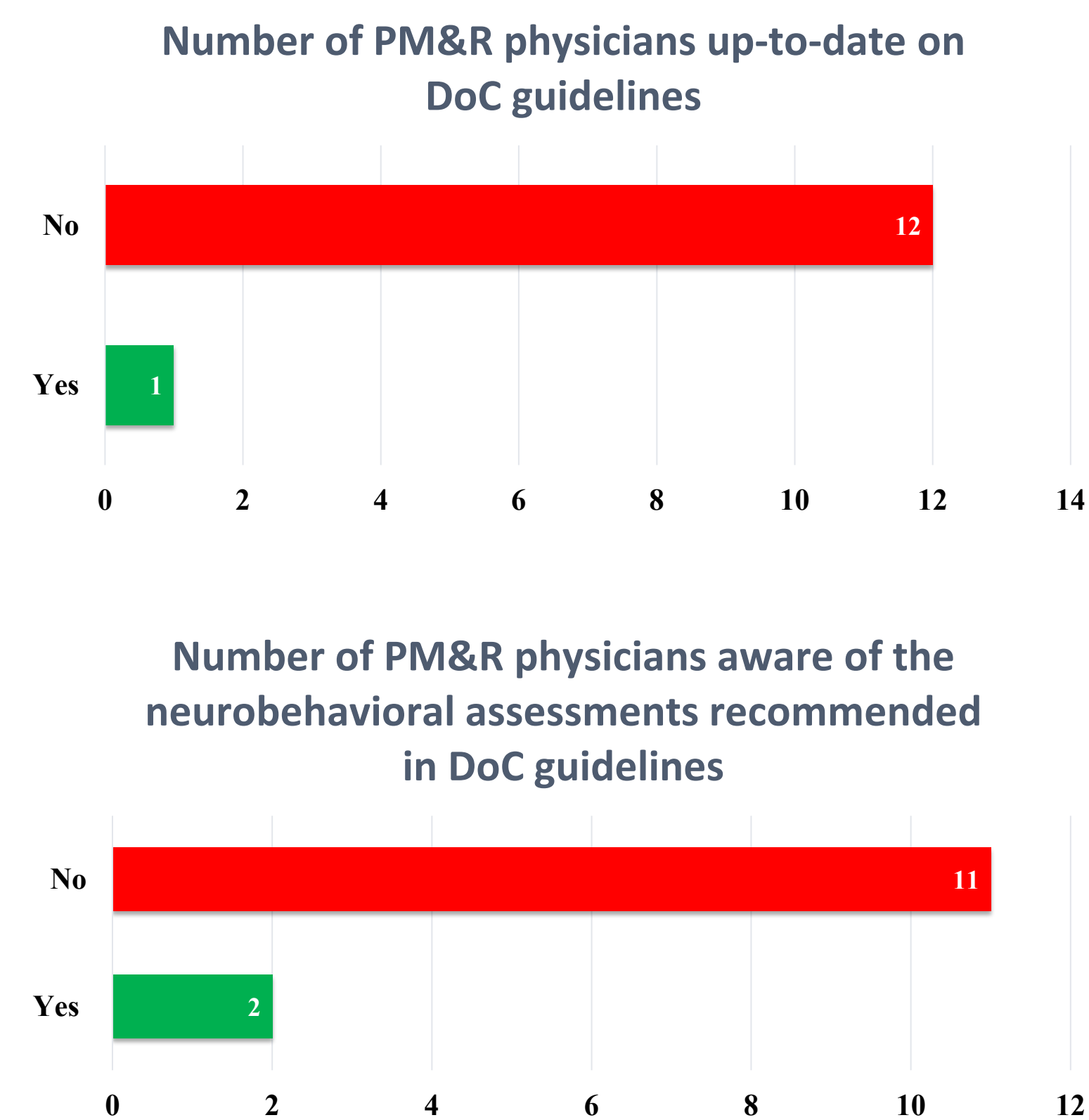
External mentor: Lisa Ruppert, MD (MSKCC) Internal mentor: Christian Niedzwecki, MD (TCH/BCM)

**Project Aim: Increase the administration of Coma Recovery Scale-Revised (CRS-R) on pediatric patients suspected of having Disorders of Consciousness by 50% by December 2023**

## Background

- National guidelines for patients with DOC recommends a neurobehavioral assessment for patients suspected of having DoC, with CRS-R being the gold standard
- Accurate diagnosis is important to prevent misdiagnosis which may lead to falsely optimistic or pessimistic prognosis leading to excessively prolonged or aggressive treatment or premature of treatment respectively
- Texas Children's Hospital (TCH) does not have a standard operating procedure (SOP) for pediatric patients suspected or diagnosed as having DoC
- Care for these patients are at the discretion of the attending physician at the specific stage in their care (intensive care unit (ICU), acute floor, inpatient rehabilitation unit (IRU), or outpatient) and the respective therapy teams
- One month chart review showed that none of the patients suspected or diagnosed as having DoC have had CRS-R administered despite being followed by Physical Medicine and Rehabilitation (PM&R) consult

## Preliminary Findings



- Survey of PM&R physician's knowledge regarding DoC
  - 1 out of 13 has up-to-date knowledge regarding available guidelines
  - 2 out of 13 have awareness of recommended neurobehavioral assessment
  - 2 out of 13 feel very comfortable managing patients with DoC, most are not
  - 11 out of 13 think DoC patients are either suffering or might be suffering
- Examples of potential suboptimal outcome when guidelines are not followed
  - Diagnosis of locked-in syndrome and delivery of a pessimistic outcome without multidisciplinary input
  - Inaccurate CRS-R administration leading to misdiagnosis of Minimally Conscious State + when family is considering withdrawal of life sustaining therapies

## Approach and Next Steps

1

Identify champions

- ✓ PM&R
- ✓ Neurology
- ✓ Radiology
- ✓ Critical Care
- ✓ Neuropsychology
- ✓ Physical therapy
- ✓ Occupational therapy
- ✓ Speech language Pathology
- ✗ Pediatric Hospital Medicine

2

Create a DoC SOP

- ✓ Identify national and international guidelines
- ✓ Identify relevant publications
- **Ongoing** - Draft SOP
- ✗ Gain hospital approval of SOP

3

Create DoC educational materials, including CRS-R videos

- ✓ Identify available CRS-R training modules
- ✓ Create DoC presentations to various stakeholders in the hospital
- ✓ Partner with TCH's ethics department to present on ethical considerations in patients with DoC
- **Ongoing** - Create video repository of CRS-R administration – ongoing
- ✗ Create an accessible educational module for the hospital

4

Disseminate knowledge regarding SOP

- ✗ Presentation of SOP to various stakeholders
  - PM&R
  - Critical Care
  - Neurology
  - Neurosurgery
  - PHM
  - Pediatric residents
  - Therapy
  - Nursing
- ✗ Create weekly DoC rounds

5

Implement SOP and measure outcome for continuous improvement

- ✗ Staged implementation of SOP
  - IRU
  - ICU
  - Acute floor
  - Outpatient
- **Ongoing** - Identify key performance indicators that will be used to ensure achievement of project aim
- ✗ Adjust approach as needed to achieve project aim

## Practices in Case-Based Learning (CBL) Presentation Feedback

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## Background

- Surveys of past medical students who have completed Sidney Kimmel Medical College's CBL curriculum suggested a need for improvement in CBL presentation related feedback
- Standard feedback occurs at the end of every block (6-8 weeks)
- Use of timely CBL presentation feedback is not currently standardized across all CBL groups

## Goals & Objectives

Overarching Goals & Objectives:

- To improve student satisfaction with the CBL presentation related feedback they receive
- To improve facilitator comfort with and utilization of providing timely CBL presentation feedback in ways that are amenable to students

Current Goals & Objectives:

- To identify current students' thoughts on the presentation feedback they currently receive and would like to receive
- To identify CBL facilitator current practices and comfort with providing timely presentation feedback
- To improve facilitator comfort and preparedness with delivering timely presentation feedback

## Study Design

- Needs assessment sent to all current CBL students inquiring about their thoughts and feelings on CBL presentation feedback and self-performance
- A faculty development session was created for Year 1 CBL facilitators based on results of the needs assessment to inform them of the result and discuss/present best practices
- Year 1 CBL facilitators were surveyed pre and post development session regarding their current practices and observations as well as satisfaction with the faculty development session

## Results

- Students were generally satisfied or neutral regarding the feedback they received though perception of timeliness of the feedback was more distributed
- The presentation areas where most students preferred feedback was in the 3 content related metrics
- Facilitator comfort with delivering feedback, years of CBL experience, or years of medical education experience were not correlated with use of timely presentation feedback measures
- Following the faculty development session, the facilitators felt more prepared overall giving timely presentation related feedback

## Discussion

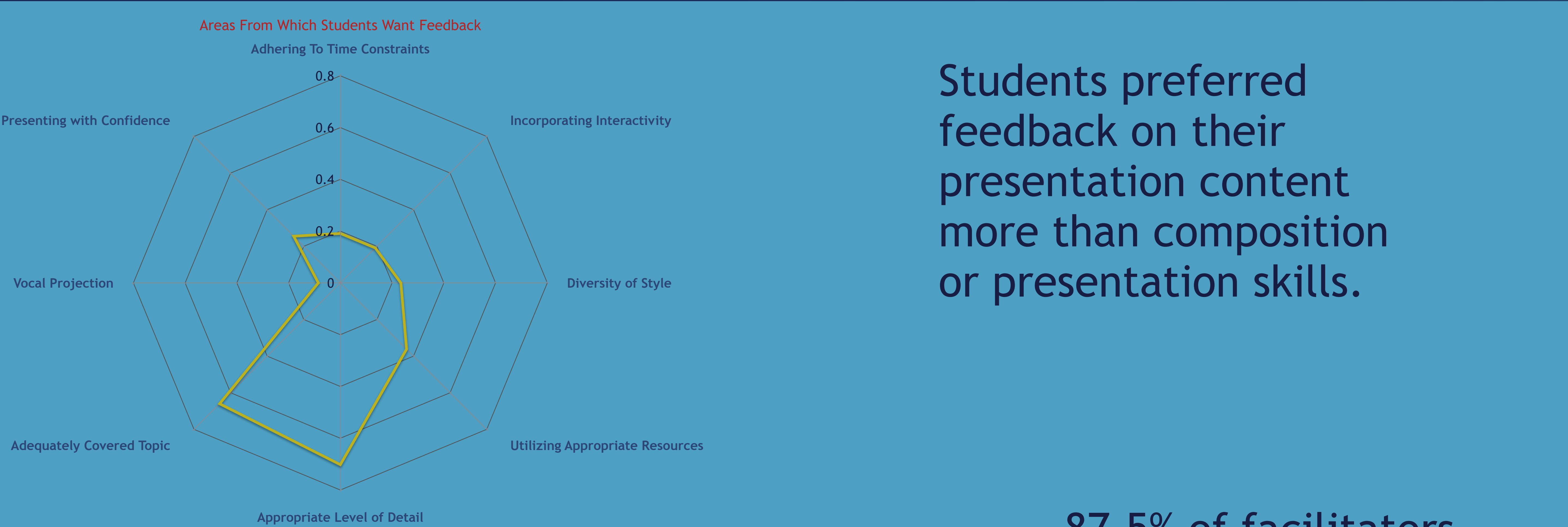
- Based on the needs assessment, we do not immediately see the need for a major overhaul of the presentation feedback curriculum
- More faculty development directed towards giving small group presentation feedback would likely be beneficial
- Student response rate was low (though similar to that of other student body surveys) so results may not represent the student body as a whole
- Only about 30% of year 1 CBL facilitators were present for and evaluated the faculty development session so results may not represent the faculty as a whole

## Future Plans

- Deliver the faculty development session to year 2 CBL facilitators
- Develop more detailed faculty development sessions relating to small group presentation feedback
- Consideration of implementing a formal standardized change in the feedback curriculum regarding delivery of timely presentation related feedback
- Survey students on their thoughts & feelings relating to any future curriculum change

## Acknowledgements/Approvals

- University IRB was consulted and approval was obtained
- JeffMD Phase 1 curriculum committee approval was obtained
- Extreme thanks to both my internal and external mentors for all their support and guidance



Facilitator use of timely presentation feedback methods was not correlated with facilitator years of medical education experience( $\chi^2=1.17$ ), years of Case-Based Learning experience( $\chi^2=0.33$ ), or comfort with delivering feedback ( $\chi^2=1.23$ ).



Poster & Surveys



Students preferred feedback on their presentation content more than composition or presentation skills.

87.5% of facilitators were satisfied with the faculty development session and felt more prepared to give presentation feedback after the faculty development session.

## Data

Response Rates			
Survey	N Completed	N Received	Rate
Student Needs Assessment	47	540	8.7%
Faculty Pre-Survey	23	27	85.2%
Faculty Post-Survey	8	27	29.6%

Student Timely Feedback Reception					
	Always	Most of the time	About Half of the time	Sometimes	Never
Year 1	4	4	3	8	2
Year 2	6	5	3	9	6
Total	10	9	6	17	8

Presentation Feedback Satisfaction					
	Extremely Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Extremely Dissatisfied
Year 1	5	10	4	2	1
Year 2	5	7	14	3	0
Total	10	17	18	5	1

Areas Students Prefer Feedback			
	Metric	Total	Percentage
Composition	Adhering To Time Constraints	9	19.1%
	Incorporating Interactivity	9	19.1%
	Diversity of Style	11	23.4%
Content	Utilizing Appropriate Resources	17	36.2%
	Appropriate Level of Detail	33	70.2%
	Adequately Covered Topic	31	66.0%
Oral Skills	Vocal Projection	4	8.5%
	Presenting with Confidence	12	25.5%

Facilitator Presentation Feedback Methods		
Method	Total	Percentage
Direct, Individual, Realtime, In Front of The Group	6	26.1%
Direct, Individual, Realtime, Confidential	2	8.7%
Group Feedback, End of Session	7	30.4%
Individual, End of Session, Confidential	2	8.7%
Individual, End of Block, Confidential (Standard Formalized Feedback)	22	95.7%
Other	0	0.0%
None	0	0.0%
Only End of Block (Standard)	11	47.8%
Any Timely Method	12	52.2%

Facilitator Medical Education Experience					
	1-5	5-10	10-15	>15	Total
Any Timely Feedback	2	3	4	3	12
Only Standard End of Block Feedback	4	1	2	4	11
All	6	4	6	7	23

Facilitator CBL Experience						
	<1	1-2	3-4	5-6	>6	Total
Any Timely Feedback	1	2	3	2	4	12
Only Standard End of Block Feedback	1	3	2	1	4	11
All	2	5	5	3	8	23

Facilitator Comfort with Delivering Feedback						
	Extremely Comfortable	Somewhat Comfortable	Neutral	Somewhat Uncomfortable	Extremely Uncomfortable	Total
Pre Session: Any Timely Feedback	8	2	1	1	0	12
Pre Session: Only Standard End of Block Feedback	4	5	1	1	0	11
Pre Session: All	12	7	2	2	0	23
Post Session: All	7	1	0	0	0	8

Post Development Session Facilitator Data						
	Extremely Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Extremely Dissatisfied	Total
Development Session Satisfaction	6	1	0	1	0	8
	Definitely Yes	Probably Yes	Neutral	Probably Not	Definitely Not	Total
Feel More Prepared to Give Feedback	3	4	0	0	1	8

# Improving Journal Club in our PM&R Residency



Department of  
Orthopedics and Rehabilitation  
UNIVERSITY OF WISCONSIN  
SCHOOL OF MEDICINE AND PUBLIC HEALTH

Michelle Poliak-Tunis, MD| Internal Mentors: Walton Schalick, MD, PHD<sup>1</sup>, External Mentor: Sarah Eickmeyer, MD<sup>2</sup>  
<sup>1</sup>University of Wisconsin <sup>2</sup>University of Kansas

## Background

Journal Club sessions are vital for Physical Medicine and Rehabilitation (PM&R) residents and faculty for several reasons. First, they provide a structured platform for residents to engage with current research literature, enhancing their critical appraisal skills and staying up-to-date with evidence-based practices. Second, these sessions promote active discussion and knowledge exchange among residents and faculty, fostering a collaborative learning environment. Third, Journal Clubs help bridge the gap between research and clinical practice, enabling residents to apply relevant findings to patient care.

However, conducting effective Journal Club sessions can be challenging due to time constraints, varying levels of research literacy among participants, and the need to select articles that are both relevant and accessible. Additionally, facilitating productive discussions and ensuring that the sessions contribute meaningfully to residents' education requires careful planning and leadership. Nevertheless, overcoming these challenges can lead to more informed, research-savvy, and clinically proficient PM&R professionals.

## Plan

We currently host monthly Journal Club sessions in which two residents each present a scholarly journal article. These articles are distributed to both faculty and residents in advance of the meeting to allow for preliminary review. In light of the ongoing COVID-19 pandemic, our educational activities, including Journal Clubs, have transitioned to a virtual format. Regrettably, there has been a noticeable decline in participation in this virtual setting.

It has come to my attention that there is considerable variability in the quality and evidence base of the articles selected for discussion. Additionally, it has been observed that residents may lack clear guidance on the selection process and the proper structure for presenting a Journal Club. During a recent discussion at the AAP meeting with fellow Program Directors, it became evident that different programs employ varying approaches to conducting Journal Club sessions.

As Program Director, my primary objective is to enhance the overall quality of articles chosen for discussion, refine the presentation style, and ultimately increase participation and satisfaction among both residents and faculty members.

## Do

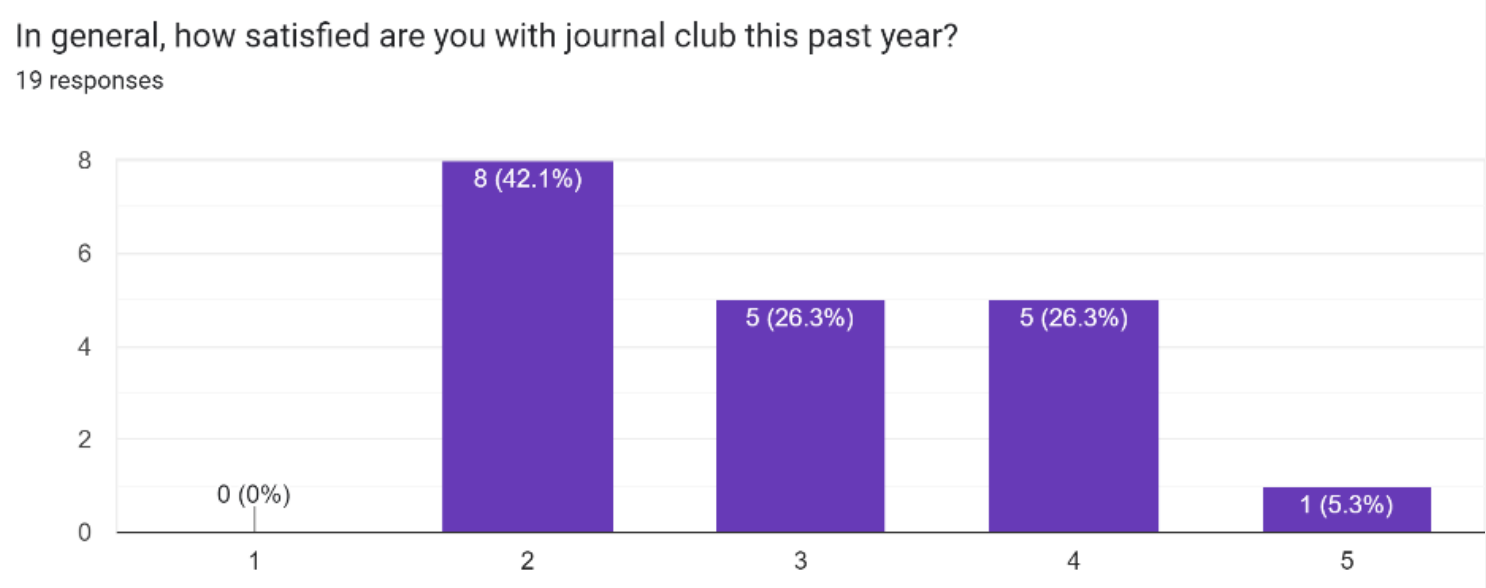
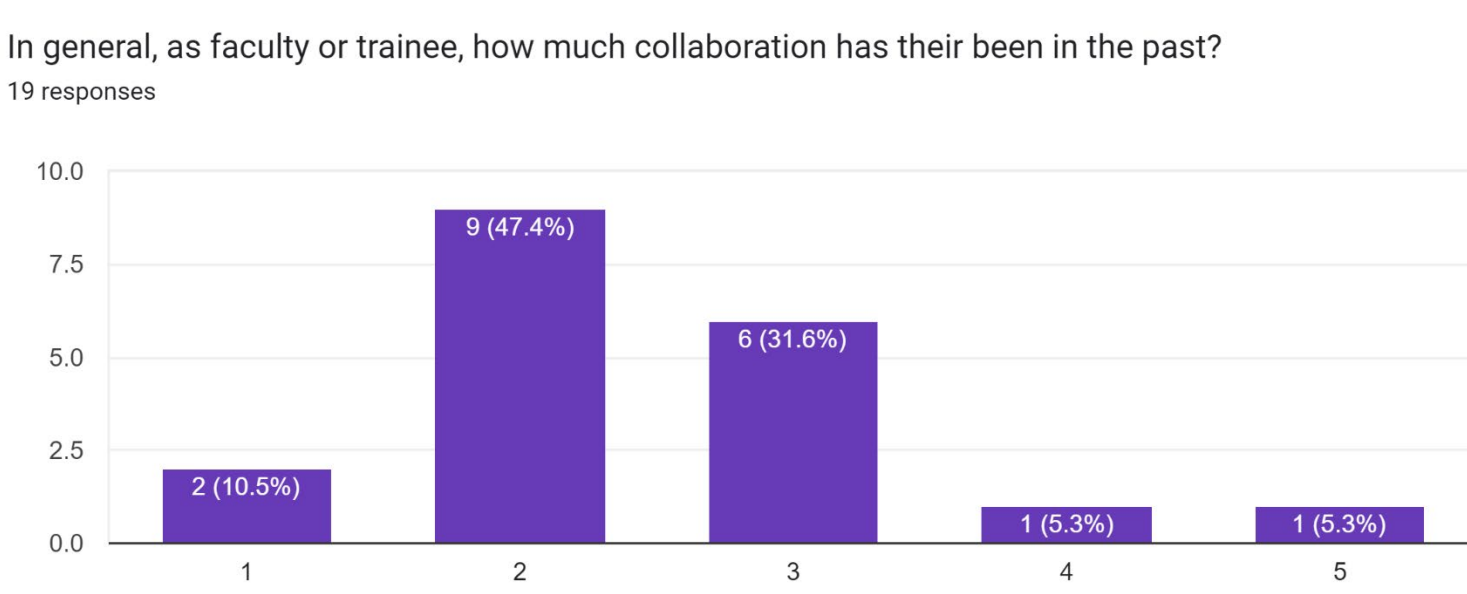
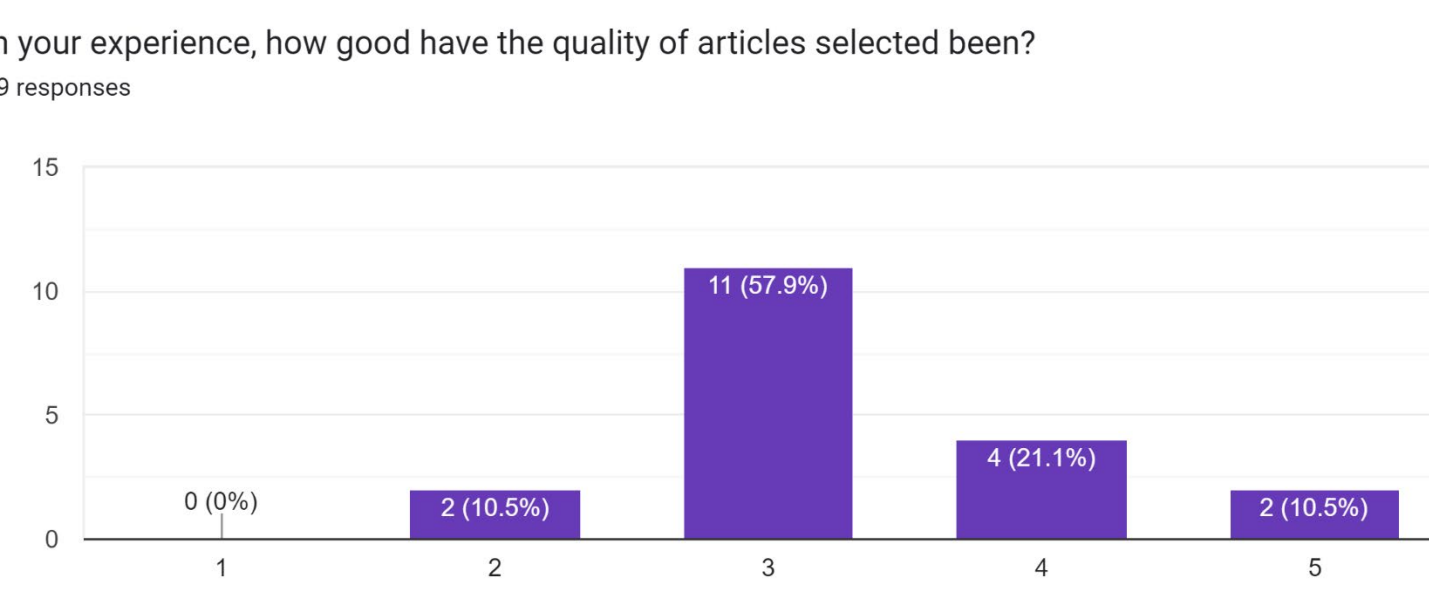
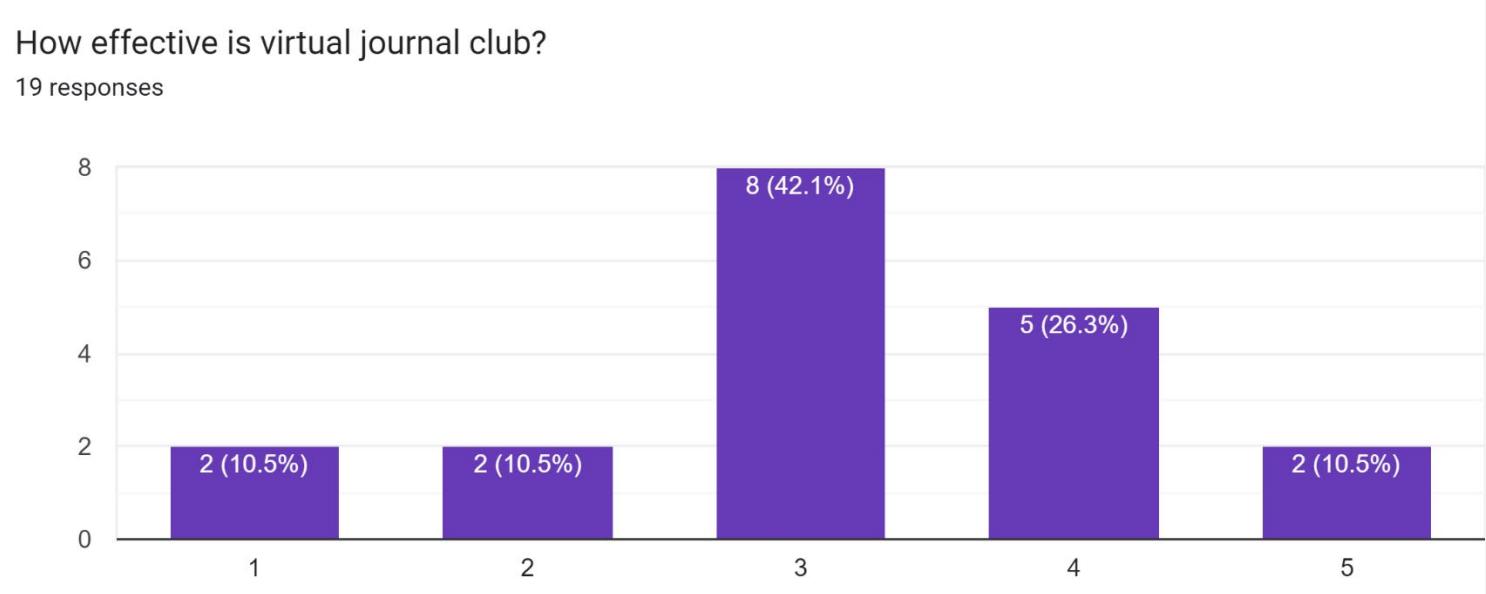
To achieve this "ultimate goal," we initiated the process by sending a survey evaluation to the current residents and faculty members concerning the Journal Club. All faculty and residents were provided with an article by Schwartz, et al. (<https://www.med.upenn.edu/mdresearchchops/assets/user-content/Resources/ImprovingJournalClubPresentations.pdf>), along with other exemplary articles on academic journal clubs, to offer valuable insights into effective presentation strategies for Journal Club sessions.

Changes that were considered following the survey included, but were not limited to, the potential reduction in the frequency of journal club meetings to enhance faculty and resident participation. Furthermore, we explored the idea of assigning a faculty member to each cohort of residents to ensure the selection of academically rigorous articles. Additionally, the introduction of a thematic approach for each session was contemplated to promote topic continuity and stimulate meaningful discussions. While these approaches were anticipated, the actual interventions were subject to reevaluation based on the insights gathered from the survey.

We had two faculty pilot a proposed format and form for the first of the changed journal club formats.

## Study

### Initial Survey Results



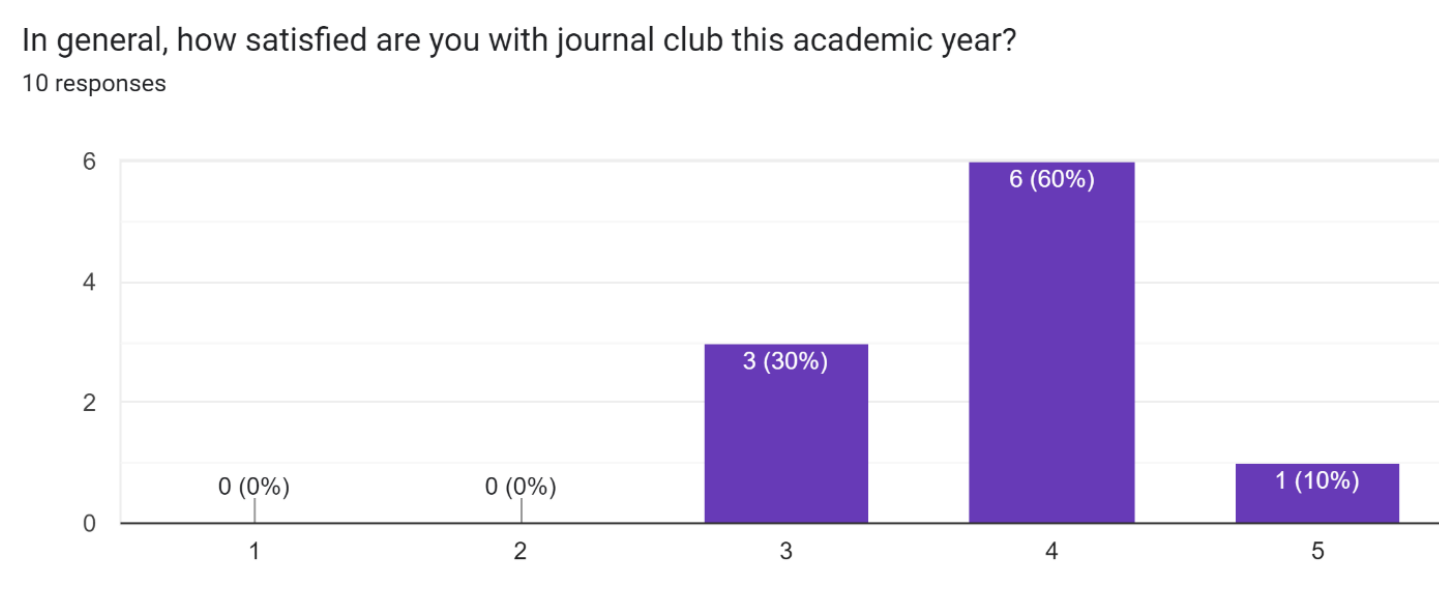
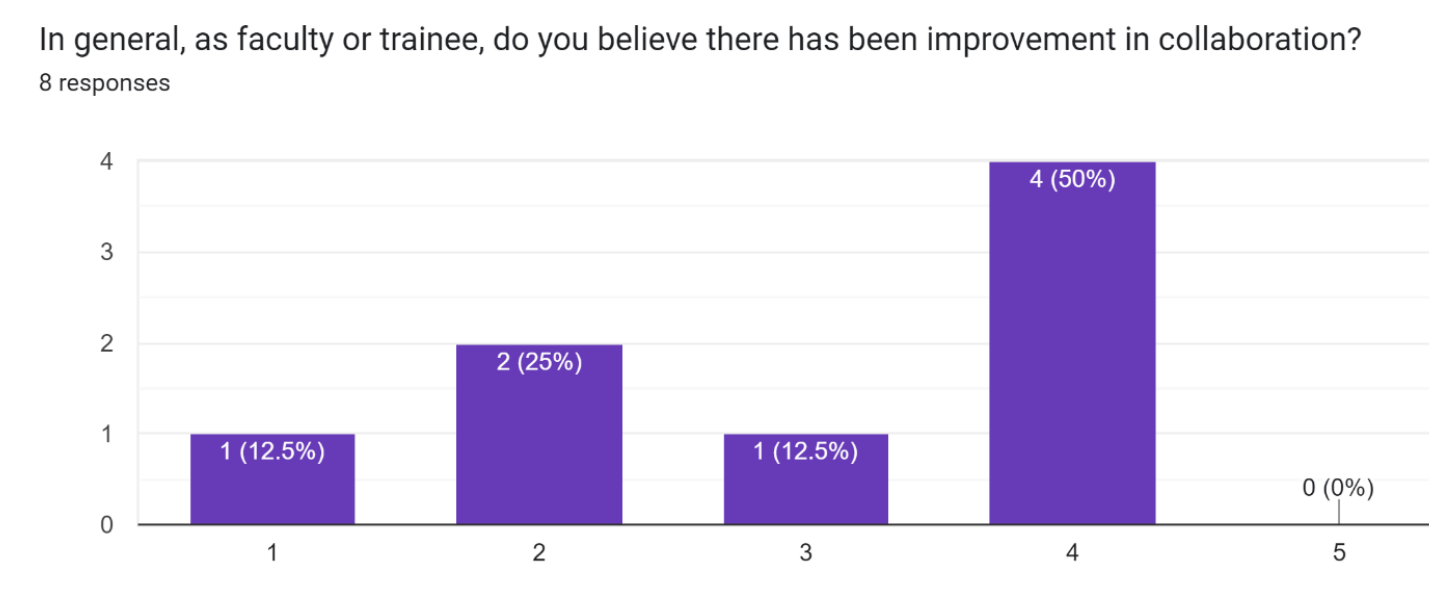
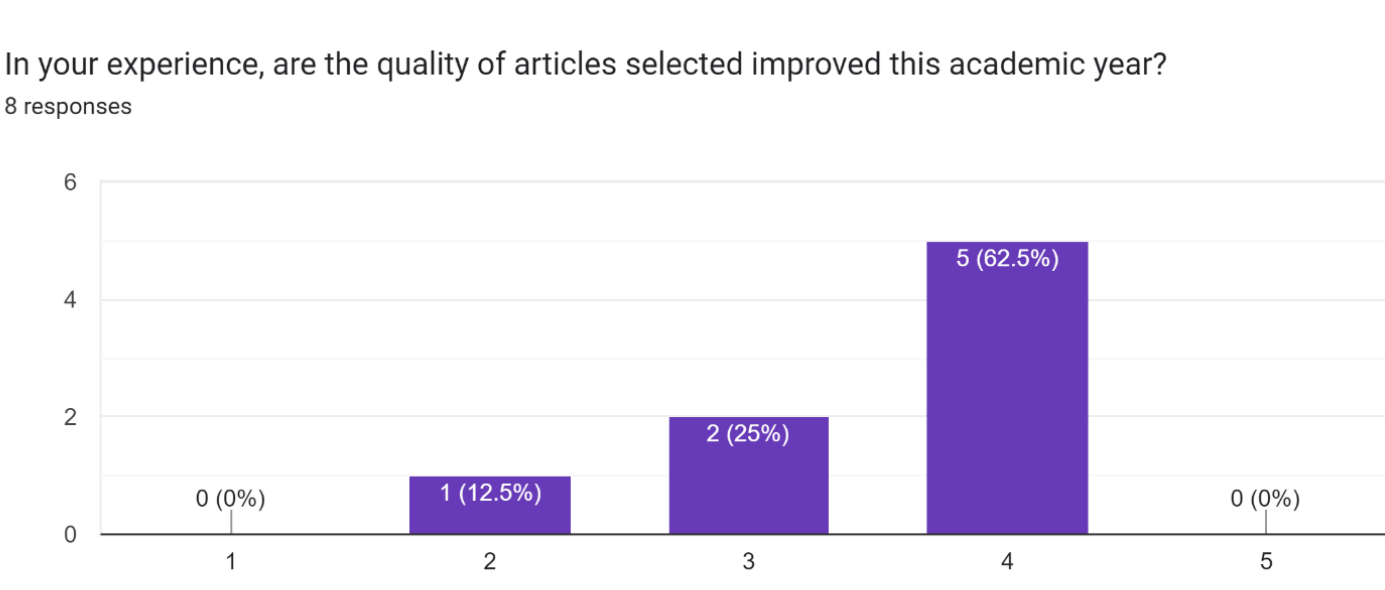
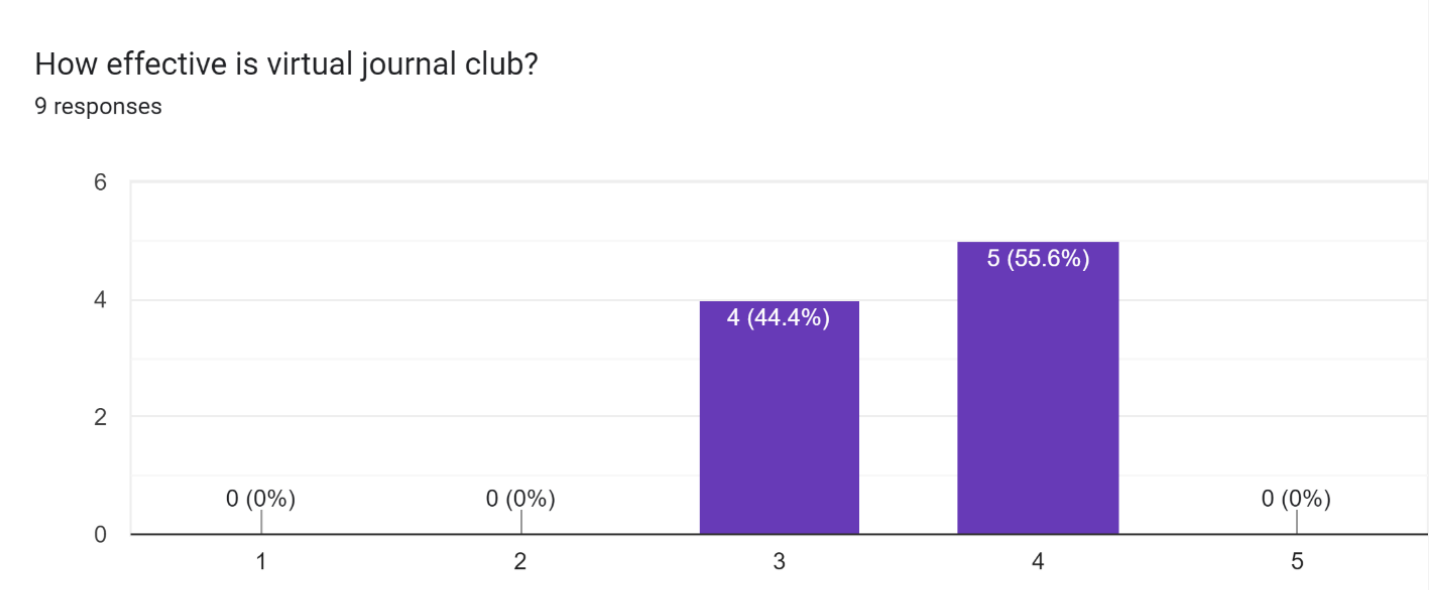
### Some of the comments from our initial survey:

- Attending driven and relevant to our day to day management of rehab pts.
- Have a brief summary about the article, then most of the time going over formal discussion questions
- Journal club would benefit from less presentation of the articles and more discussion
- More clear objectives- let us know if we are supposed to pick an article that is clinically interesting and relevant or a study that we pick apart the methods, results, etc. As far as I know, there are no expectations or outline of what is expected of us.
- I'd like to see more collaboration between a presenting resident and an attending physician, or between residents. Often, virtual journal club uses slides that basically rehash the entire article ... I'd like to see just brief summaries with reproductions of key figures / diagrams, while the presenter leads a discussion and provides interpretation. Anyone can read an article out loud. Journal club is about taking an article apart and understanding the work that underlies it.
- Overall, having more faculty insight into journal club would be beneficial - with regards to guidance on which articles to choose, evaluating whether they are quality articles, and prompting clinical discussion. I think that having journal club with at least some faculty in person would be very beneficial, as currently the residents speak about the article to each other, with occasional comments from faculty. I think changing journal club to being less frequent will be beneficial as well.

### Journal Club template provided for residents to use for Journal Clubs following initial survey results

1. Observation that led to research
  - Describe 2–3 observations (yours and/or the researchers)
2. Research Question
  - Why is the question important (what did the authors hope to learn)?
3. Hypothesis
  - Distinct from the 'Question,' what are/is the paper's hypotheses/-sis?
  - Why does/do this/these hypothesis/-ses advance current knowledge
4. Methods
  - Describe general experimental design (what was measured/compared?)
  - What is the study design (examples: correlational, case report, case series, cross-section, cohort, case control, experimental, meta-analysis, RCT, Review)
  - Time frame: (examples: prospective, retrospective, n/a)
  - Randomized: (examples: random, nonrandom, n/a)
  - Blinded: (examples: unblinded, single blinded, double blinded, n/a)
  - Enrollment: (examples: convenience, consecutive, other, n/a)
  - Describe the methods in your own words
  - Choose 2–3 key figures that directly address the hypotheses
5. Results
  - Explain figures clearly; restate in your words what is being compared for each
  - Describe data trends as well as the controls and how they validate the trends
  - Summarize the statistical analyses that validate the data.
6. Discussion
  - Was there bias in the study? If so, what/where?
  - To Whom or what can the results be generalized?
7. Conclusion (based on the data, not on the discussion)
  - Does the data support the hypothesis/-ses? Is the data convincing?
  - Are there other possible explanations for the data?
  - How does the data contribute to our understanding within the field?
  - How could the experiment be improved?
8. Will this study change your clinical practice? If so, how? If not, why not?

### Survey Results after 2 Journal Club Sessions



### Comments from follow up survey

- 3 articles is too many to cover in one hour if the goal is to really delve into the article and have any significant discussion about them. I didn't feel the faculty mentor added value compared to how journal club was before.
- More time for discussion and better virtual faculty engagement

## Act

- Sent follow up survey after 2 Journal Club sessions and allowed written feedback as well. “More time for discussion and better virtual faculty engagement”
- Plan to discuss these results at our next Journal Club session in January

## Discussion/Next Steps

I intend to maintain our current Journal Club format and reissue the survey at the conclusion of the academic year. Based on the feedback and insights gathered from the survey results, we will proceed with necessary adjustments to our Journal Club format. These modifications aim to enhance the overall learning experience and foster increased engagement among both residents and faculty members, aligning our efforts with the pursuit of excellence in medical education.

## Background

Quality improvement is at the forefront of medicine as health care becomes more data driven and metric focused. Resident Quality Improvement projects have been ongoing for over 10 years at Baylor College of Medicine and University of Texas at Houston Physical Medicine and Rehabilitation residencies.

Resident quality improvement education currently involves one resident at each post graduate year working with a faculty mentor on a project of their choosing. Resident comfort with quality improvement principles can vary as they finish training.

## Overview /Problem Statement

**Issue:** Resident knowledge and comfort with utilizing standard quality improvement principles can vary.

**Impact:** Healthcare quality and safety is top priority today. Understanding quality improvement principles and methods can help resident physicians provide the highest quality care.

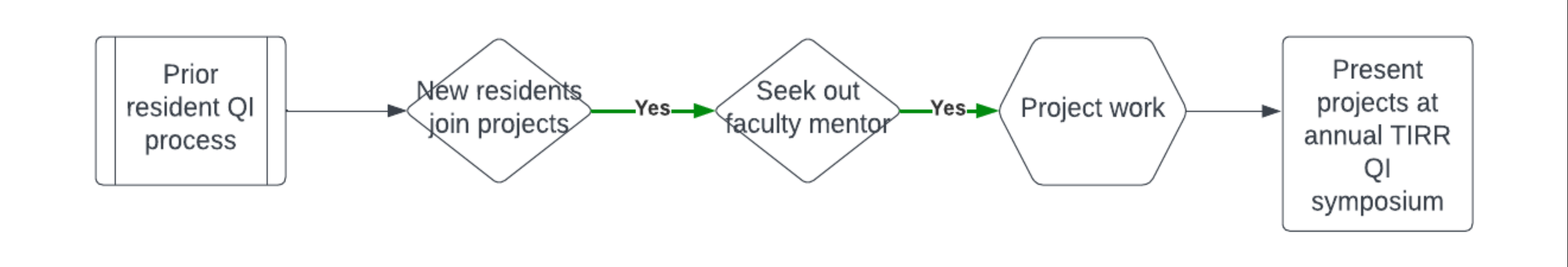
## Aim Statement

To improve resident comfort with quality improvement tools as measured by REDCAP survey. Improvement in gross scores by 10% across all post graduate years

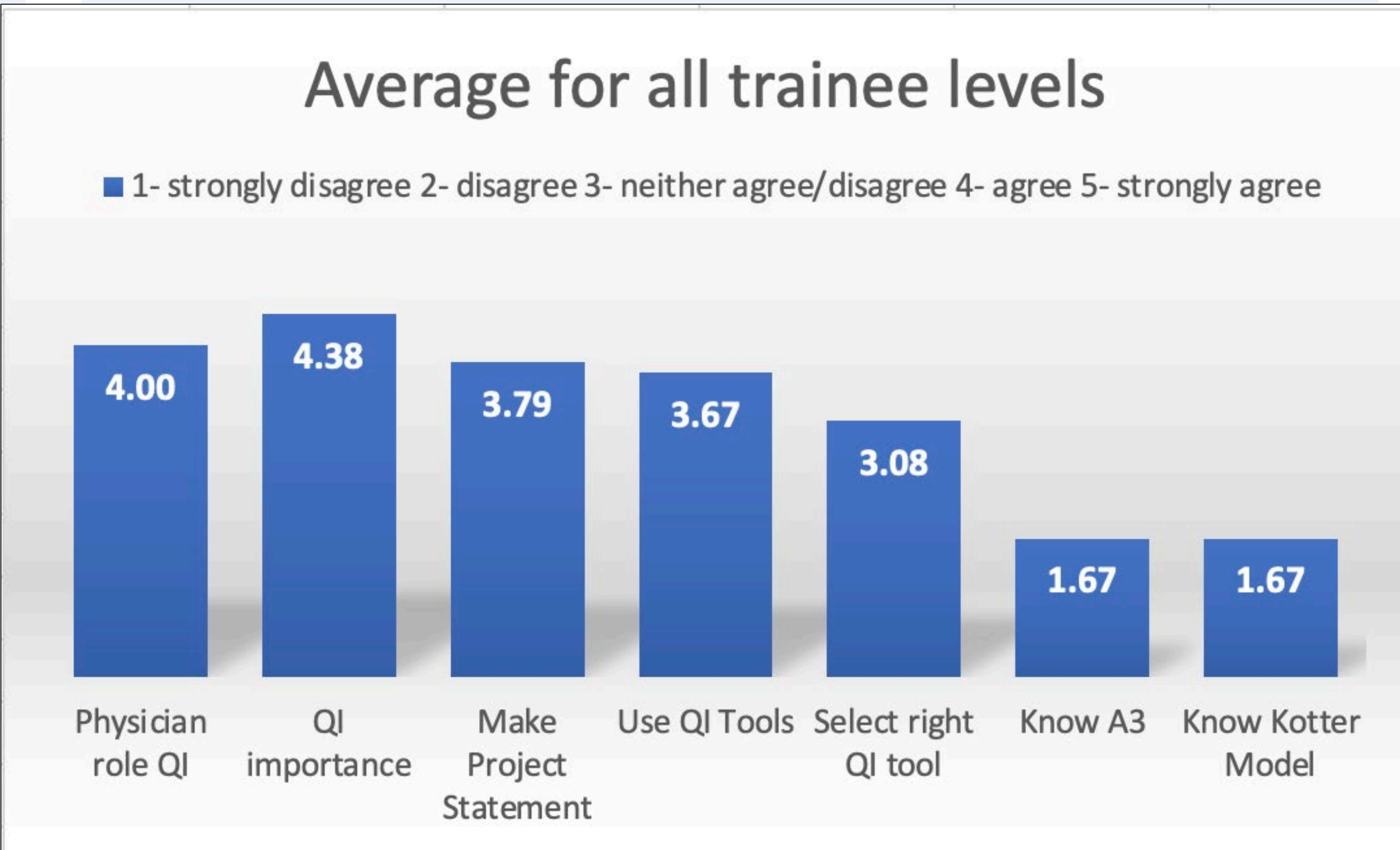
### REDCAP questionnaire

- 1.As a physician, it is part of my role to engage in QI.
- 2.Quality Improvement initiatives are important for improving patient care
- 3.I am confident in my ability create a Project Statement for a Quality Improvement Initiative.
- 4.I am confident in my ability to use QI Tools to improve a Healthcare Process.
- 5.I am confident in my ability to select the right QI tool.
- 6.I am familiar with the A3 Tool.
- 7.I understand how to use the Kotter Model.

## Process Map – Current State



## Baseline Data



## Intervention

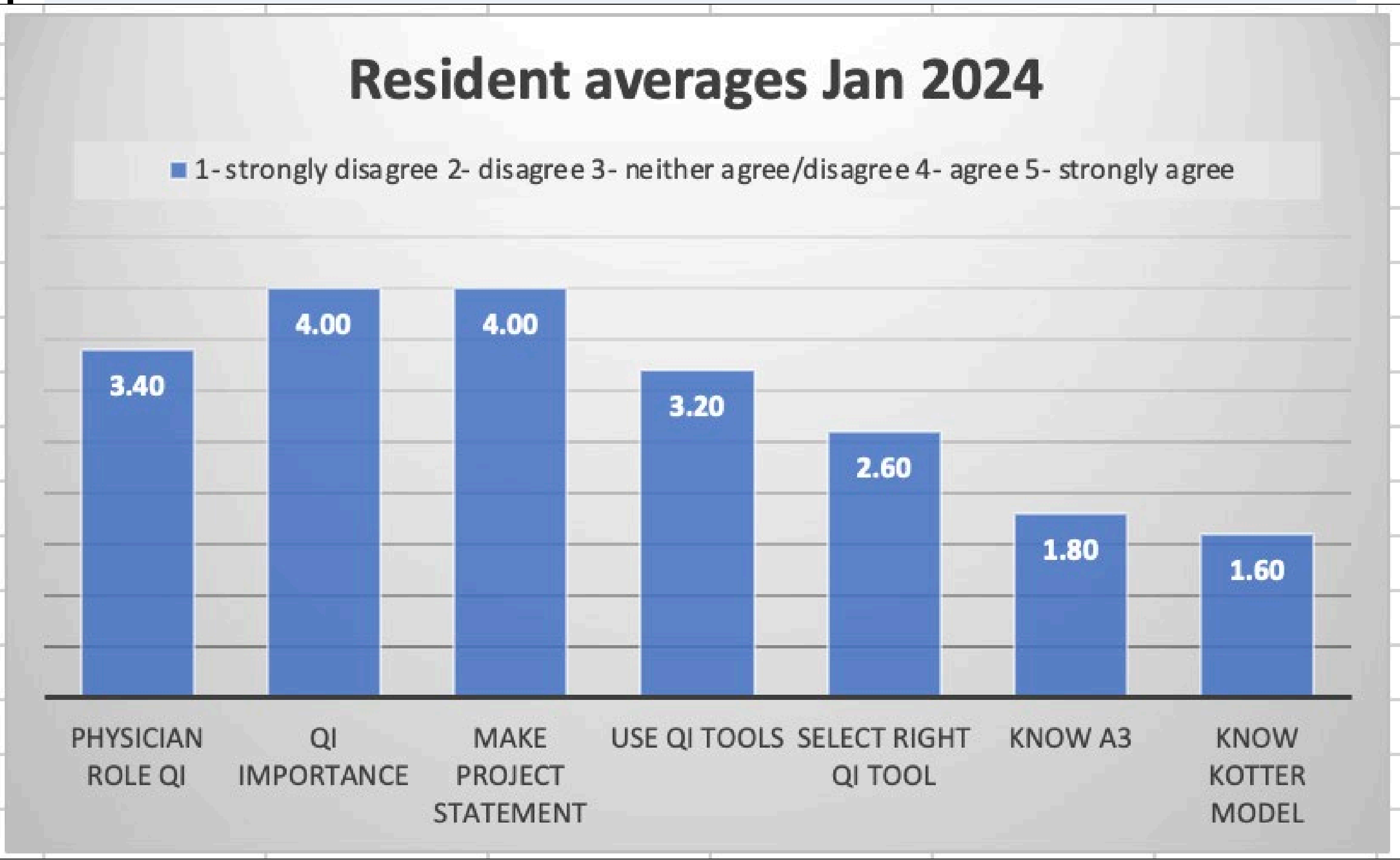
Development of a QI curriculum in conjunction with UT QI department director.

1. Pre, Mid and Post Year REDCAP surveys.
2. 1 hour Quality Improvement education lecture given
3. Work with faculty mentors and co-residents on chosen project

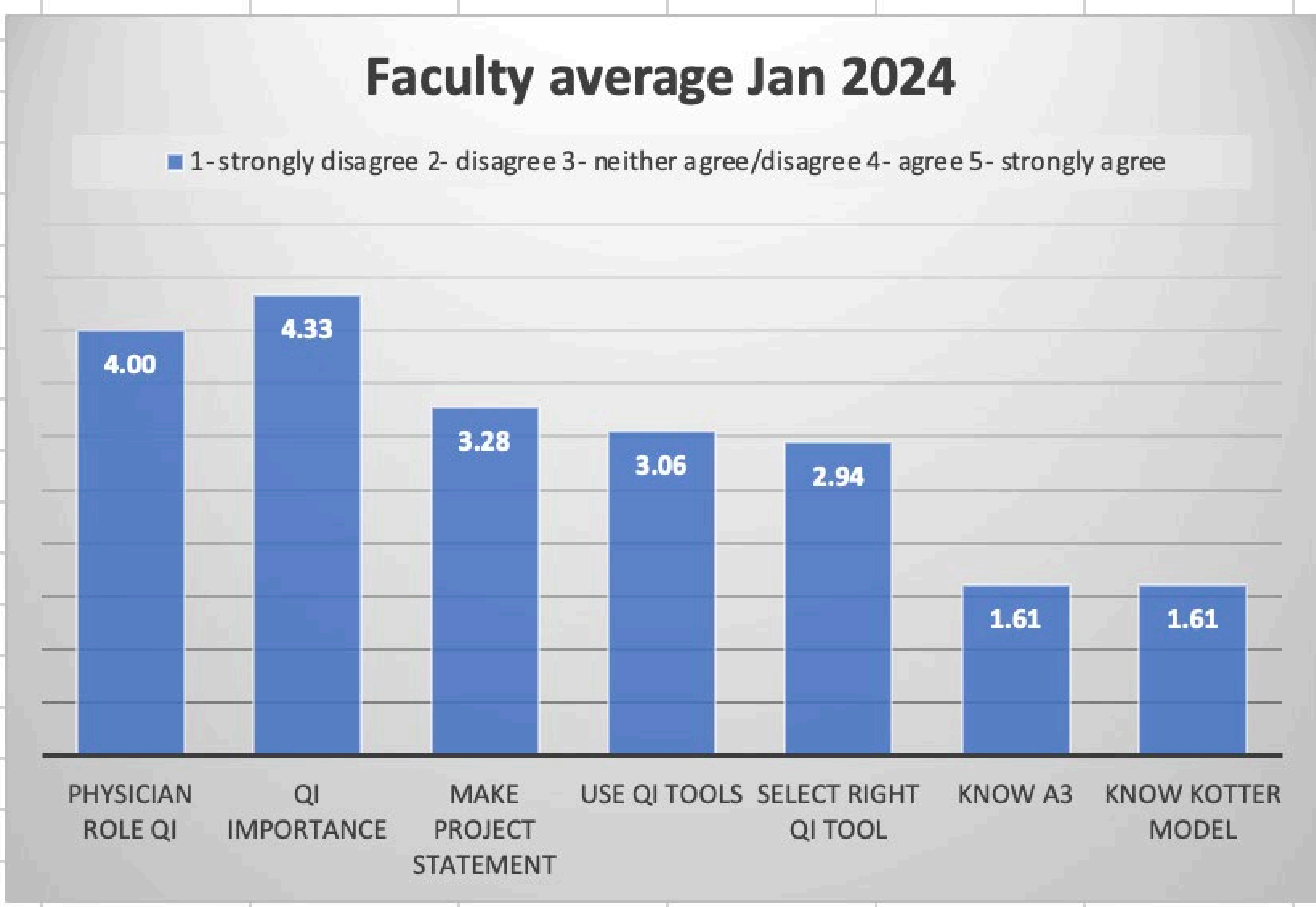
Plan for

1. Quality symposium abstracts due mid-April
2. Present at UT Quality Symposium in May
3. Department presentations

## Results



## Results



## Conclusions

Quality Improvement education for residents is as important as faculty education.

Resident familiarity with quality improvement tools and initiatives is suboptimal.

Faculty familiarity with quality improvement tools and initiatives is also suboptimal

No statistical difference exists between training levels.

Did not meet goal in aim statement with current quality improvement education and work.

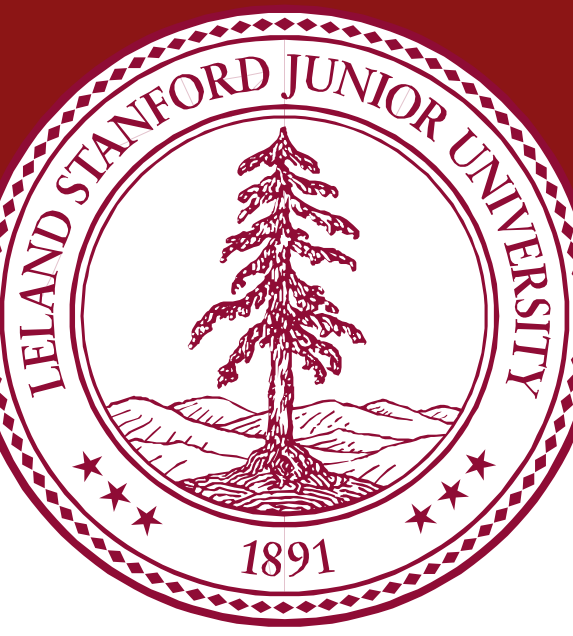
Limitations include limited resident survey return for follow-up. Only 5 resident evaluations were completed.

Faculty evaluations were of sufficient number (two-thirds of department) for a baseline evaluation which yielded opportunities for faculty education as they are mentor status to resident projects and required to participate in a quality improvement project for Maintenance of Certification through the American Board of Physical Medicine and Rehabilitation.

Future direction will be to continue formal QI program development with monthly lectures throughout the year to help sustain knowledge in QI processes.



# Improving Resident Training with Videos



Jeremy Stanek MD<sup>1</sup>, Joshua Rittenberg MD<sup>1</sup>, Dan Cushman MD<sup>2</sup>

<sup>1</sup> PM&R Section, Department of Orthopedic Surgery, Stanford University

<sup>2</sup>Department of PM&R, University of Utah

## Introduction

- **Background:** Residents often have little training with the performance and context of common physical exam maneuvers, particularly involving the spine
- **Purpose:** To assess the utility and viability of adding a training video to resident education in order to increase resident abilities, knowledge, and confidence when performing a physical exam of the lumbar spine

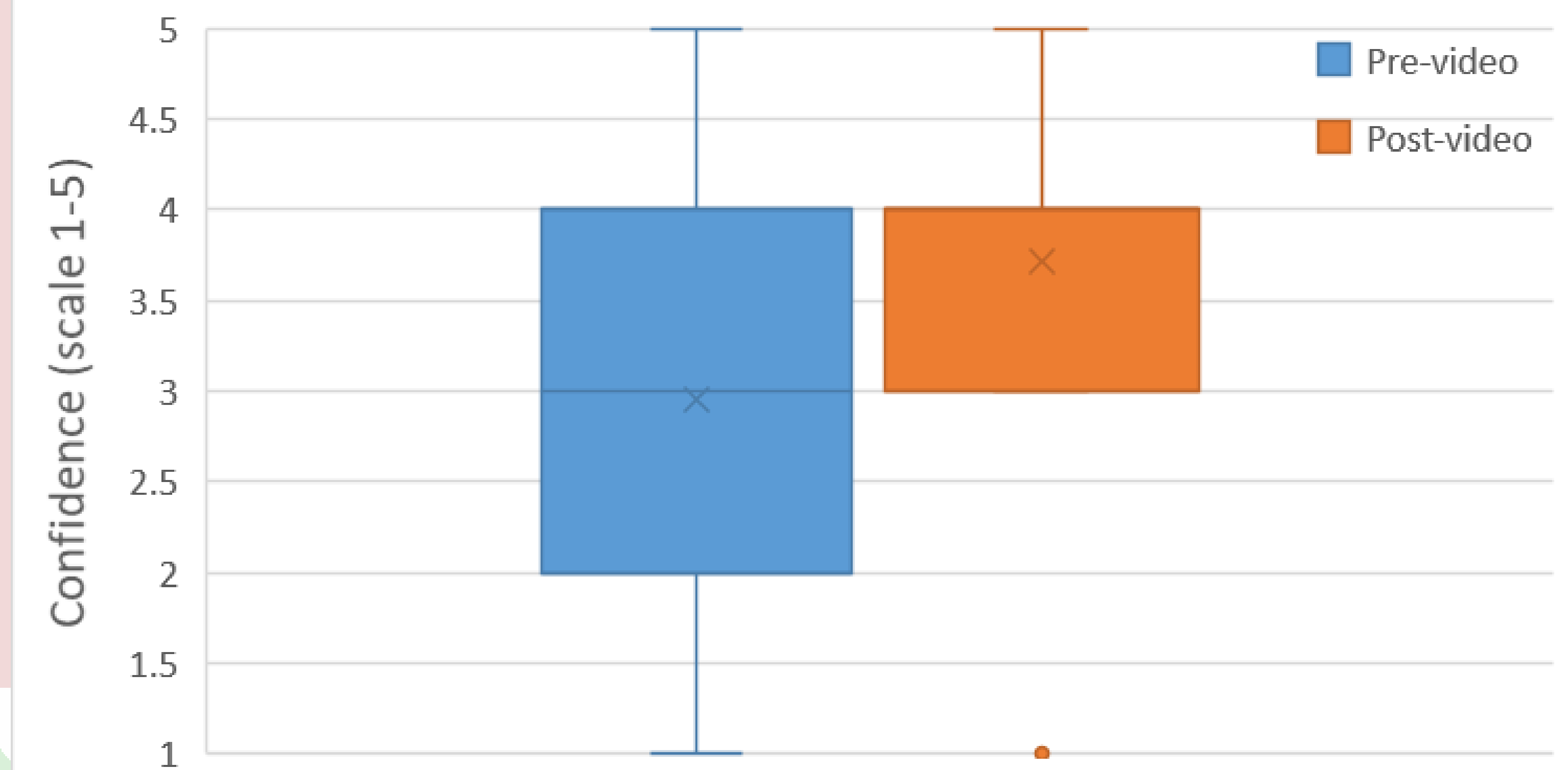
## Methods

- Pre-test survey sent to all residents in our PM&R program
- Assessed confidence and knowledge of the spine exam
- A video was later distributed, demonstrating a comprehensive lumbar spine exam
- Post-video survey was then sent to assess changes in their confidence and knowledge

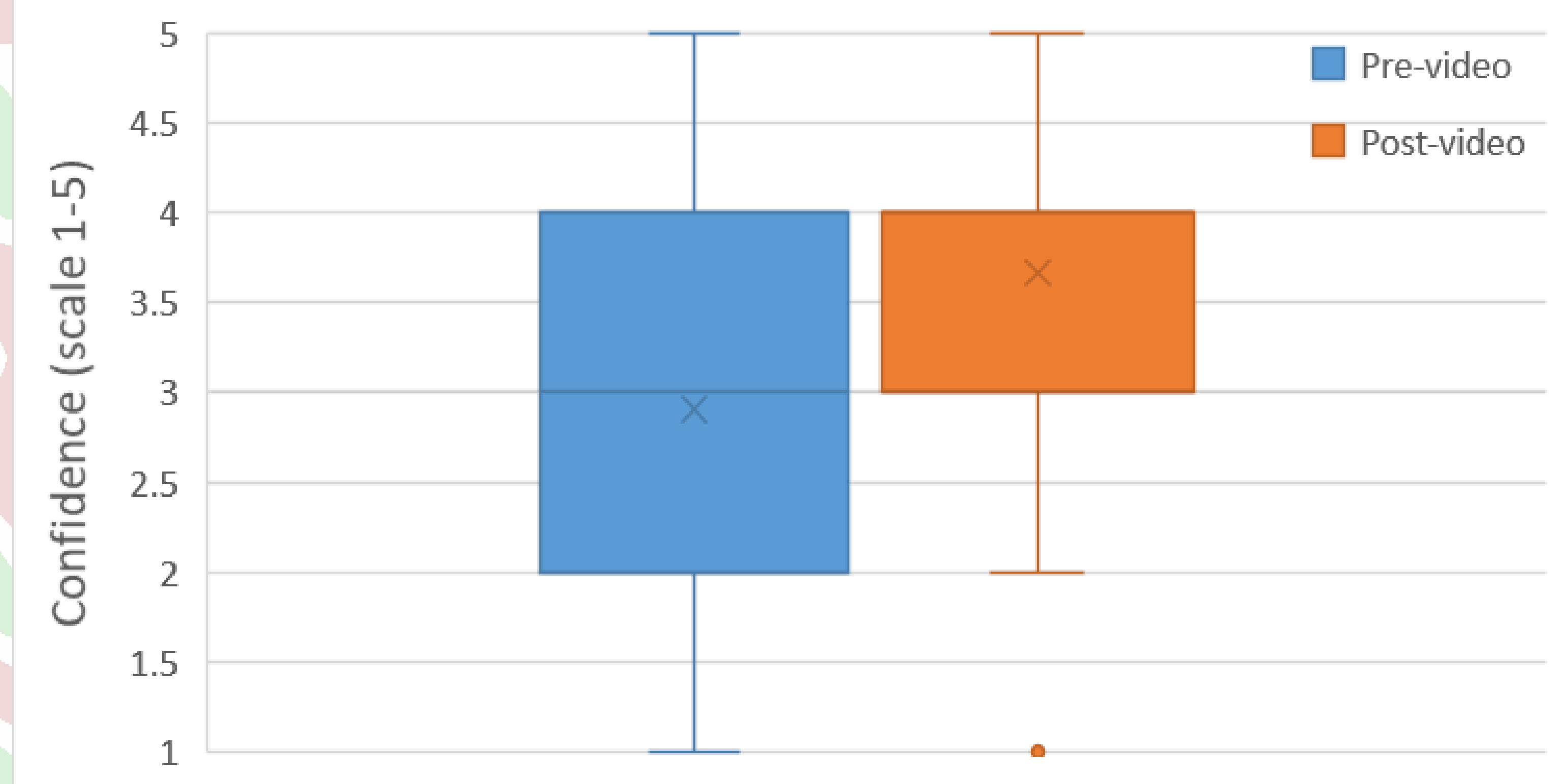
## Results

- 100% response rate with 7 residents per class (total = 21)
- 33.3% had not yet been on a spine rotation at time of study
- 95% felt the video added confidence to performing a spine exam
- 100% found the video helpful
- Significant improvement in both confidence and knowledge ( $p < 0.05$ )
- Some of the resident comments:
  - Appreciate this so much!
  - Enjoyed the commentary regarding the thought process behind the exams
  - The entire video is very helpful!
  - The correlation with particular maneuvers to specific pathologies was also helpful to solidify general physical exam knowledge
  - Having a structure for the exam and outlining the special maneuvers was helpful
  - Going through nerve roots is helpful at my level
  - I found the explanation for the purpose of each maneuver prior to performing it helpful and seeing how you explained the maneuvers to the patient

Confidence performing exam



Knowledge performing exam

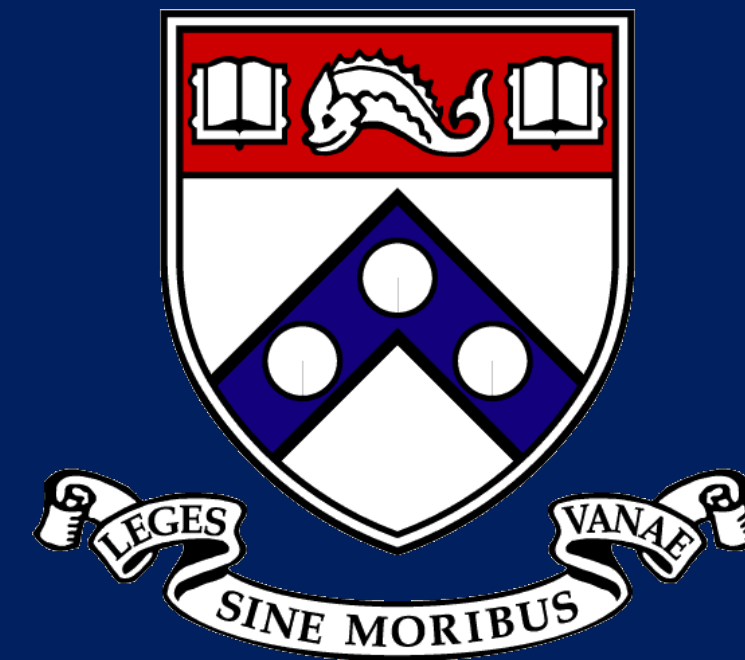


## Conclusion

- Training videos to explain and demonstrate physical exam maneuvers of the spine are beneficial to resident learning
- Having training videos available for residents to view prior to starting a spine rotation will likely better prepare them for their rotation and allow them to not only feel more comfortable starting the rotation but also allow them to be successful independently in a shorter time frame
- Training videos for examining other body regions such as shoulder, hip, knee, and ankle would also likely be helpful but would need further study to determine efficacy



# Incorporating modifiable cardiovascular risk factor (mCVRF) screening and counseling into TBI/Polytrauma clinical encounters



Randel Swanson, DO, PhD  
*Mentors: John Duda, MD & John Chae, MD*

## Background:

- TBI is a signature injury of modern warfare
- It is widely believed that TBI increases dementia risk
- Evidence suggests modifiable cardiovascular risk factors (mCVRF) are more significant than TBI exposure

## Setting:

- CMC-VAMC, TBI/Polytrauma clinic, single provider

## Intervention:

- Progress note template modification: default to include mCVRF discussion / counseling with the PLAN section

## Timeline:

- Intervention began March 2023.
- Retrospective data extraction, Aug 2022 – Dec 2023

## Metrics:

- Documentation of mCVRF: 1) Screening; 2) Discussion with patient; 3) Health Factor coding / billing; and 4) mCVRF – relevant orders placed during encounter

## Data Analysis Methods:

- Primary analysis: Pearson's Chi-Square
- Secondary analysis: Logistic regression modeling

## Results:

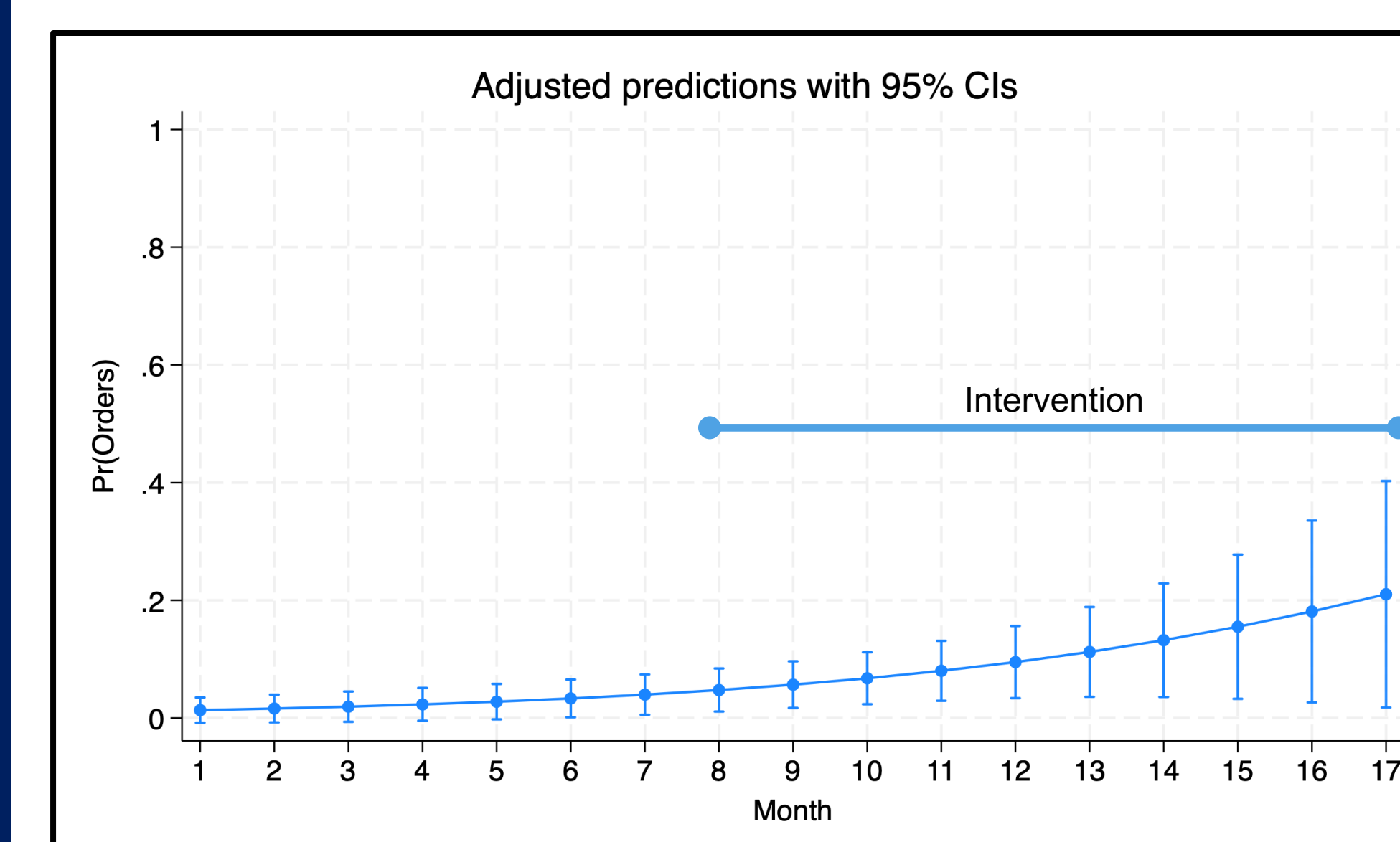
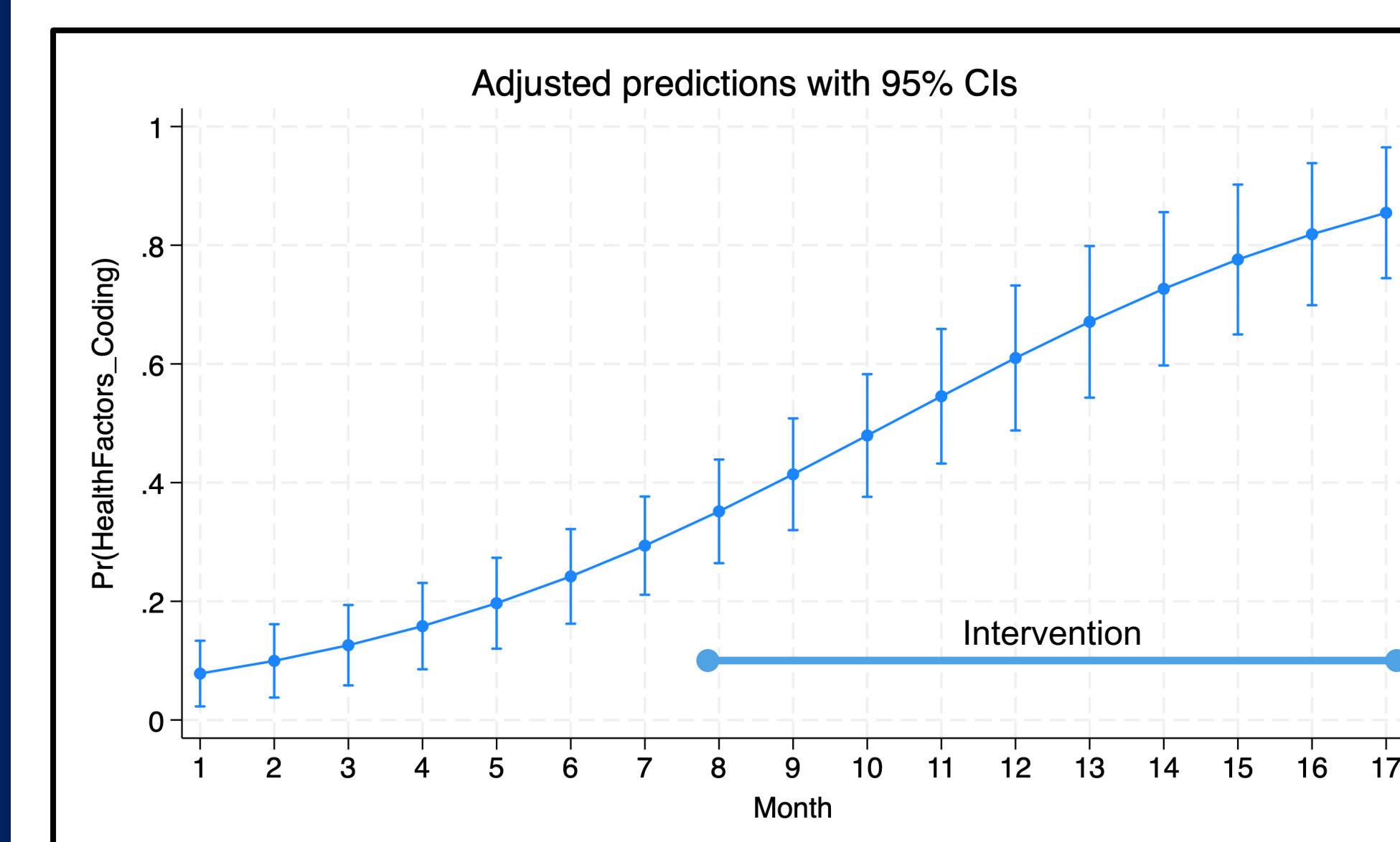
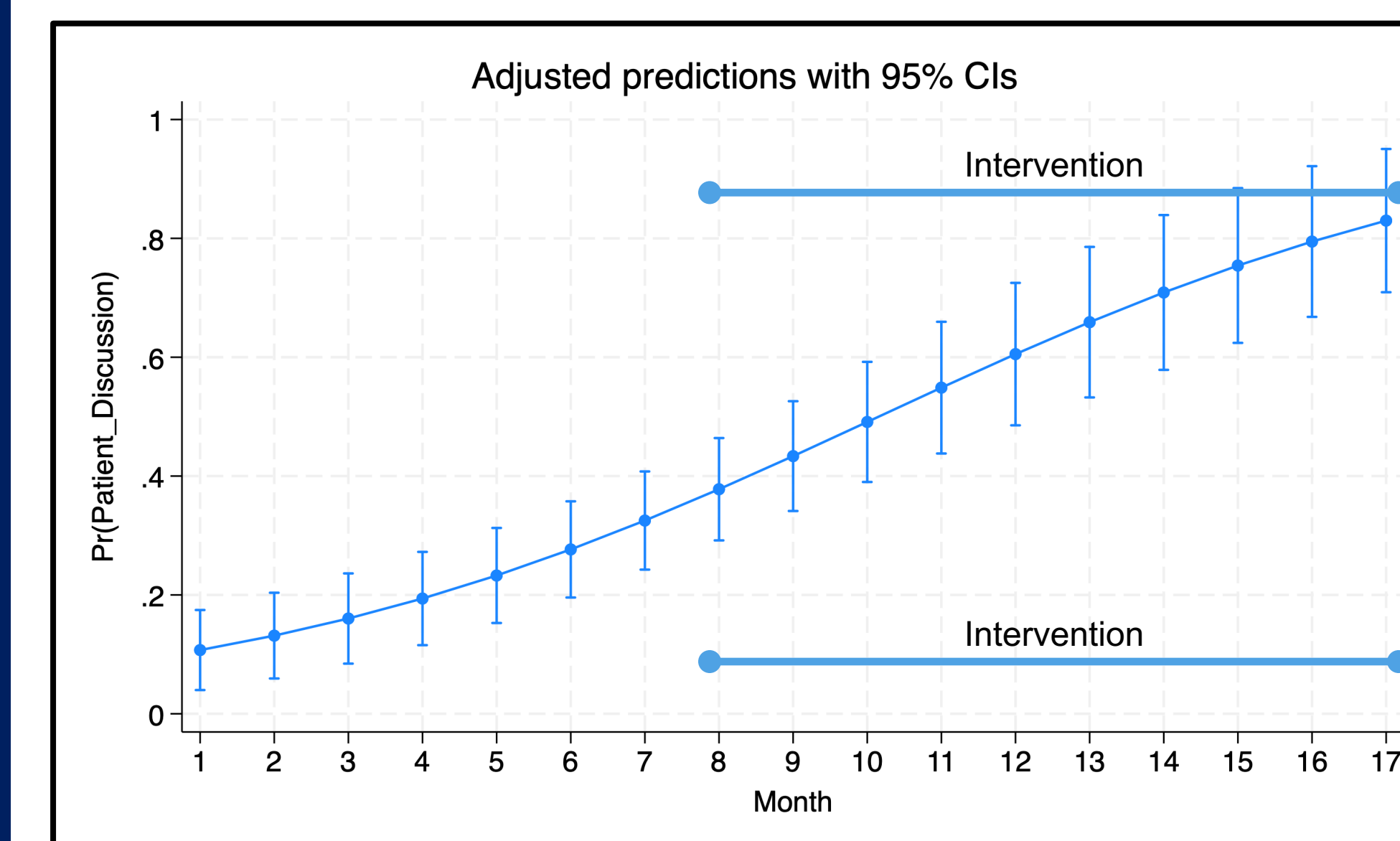
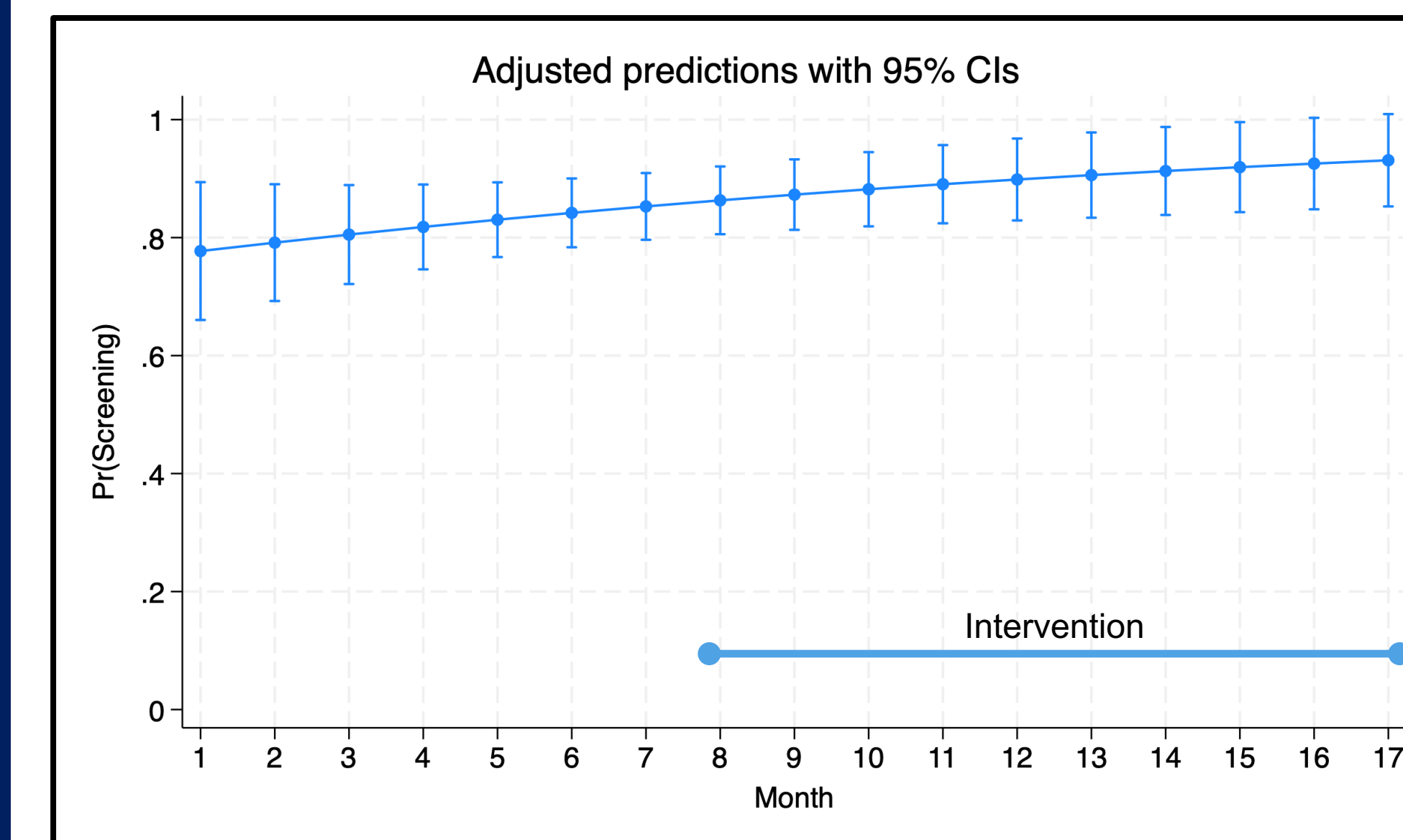
- Primary analysis:
  - The proportion of clinical encounters that documented mCVRF screening did not differ significantly between pre- and post- intervention groups (81.3% vs. 89.6%, respectively,  $p=0.154$ )
  - The proportion of clinical encounters that documented mCVRF discussions with the patient was statistically significantly different between pre- and post- intervention groups (14.3% vs. 65.7%, respectively,  $p<0.001$ )
  - The proportion of clinical encounters that documented Health Factor Coding / Billing was statistically significantly different between pre- and post- intervention groups (11.0% vs. 65.7%, respectively,  $p<0.001$ )
  - The proportion of clinical encounters that placed mCVRF-related orders was statistically significantly different between pre- and post- intervention groups (00.0% vs. 13.4%, respectively,  $p<0.001$ )
- Secondary analysis:
  - With each subsequent month from 8/2022 – 12/2023, the odds of screening vs. not screening patients for mCVRFs was 1.08 (95% CI 0.98-1.21,  $p=0.108$ )
  - With each subsequent month from 8/2022 – 12/2023, the odds of discussing vs. not discussing mCVRF-related topics with patients was 1.26 (95% CI 1.16-1.37,  $p<0.001$ )
  - With each subsequent month from 8/2022 – 12/2023, the odds of coding/billing vs. coding/billing relevant Health Factors was 1.30 (95% CI 1.19-1.43,  $p<0.001$ )
  - With each subsequent month from 8/2022 – 12/2023, the odds of entering vs. not entering mCVRF-related orders was 1.20 (95% CI 1.04-1.40,  $p=0.015$ )

**Disclaimer:** The contents of this work do not represent the views of the Department of Veterans Affairs of the United States Government.

	Pre - Intervention	Post - Intervention	p-value
mCVRF Screening	81.3%	89.6%	0.154
mCVRF Discussion	14.3%	65.7%	<0.001
Health Factor Coding	11.0%	65.7%	<0.001
mCVRF Related Orders	0.0%	13.4%	<0.001

## Conclusions:

- We found evidence that adding a mCVRF discussion template to the PLAN section of both new patient and follow-up patient encounter templates:
  1. Increased the likelihood of mCVRF discussions with patients
  2. Increased the likelihood of documenting relevant Health Factors in billing / coding
  3. Did not change the likelihood of mCVRF screening documented
  4. Increased the likelihood of placing mCVRF-related orders



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# Improving acute rehab education after new spinal cord injury

James R Wilson, DO<sup>1,2</sup>; Samantha Burke<sup>2</sup>  
Mentors: Jared Placeway, DO<sup>1,2</sup>, Miguel Xavier Escalón, MD<sup>3</sup>

<sup>1</sup>MetroHealth Rehabilitation Institute, Cleveland, OH; <sup>2</sup>Case Western Reserve University School of Medicine, Cleveland, OH; <sup>3</sup>Icahn School of Medicine at Mount Sinai, New York, NY



## Plan:

- Patient and family education is a central aspect of acute inpatient rehabilitation after spinal cord injury (SCI)
- Current methodology for SCI education is inconsistent
- Patients report education often happens too late or is incomplete, but data is lacking
- Education is frequently discussed at staff development meeting and consensus remains that it is an area of weakness
- Educational resources need hands on coaching by all team members without a single person responsible for coordination and follow through.
- The goal of this project is to improve overall SCI patient education by codifying a protocol for patient education, standardizing provider follow up and coaching sessions and tracking patient progress throughout their stay.

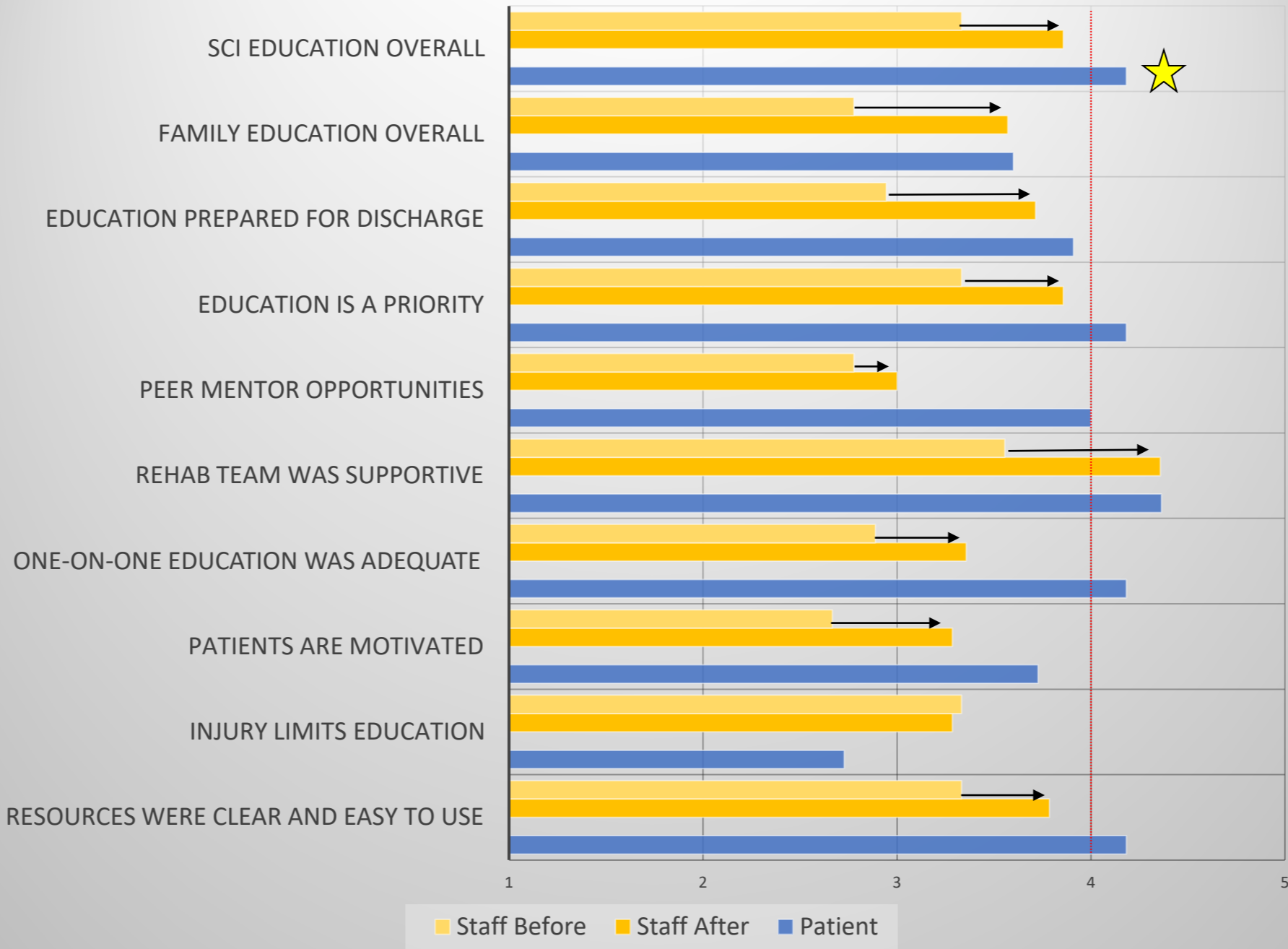
## Action steps

- Create handout and website for patients and families.
- Create anonymous surveys for patients (at discharge) and staff (before and after implementation).
  - Review and edit materials with mentors, working group
- Weekly physician follow up with participants to review educational plan and update progress.

## Educational Resources

- #1 Reeves Health Minute Video Playlist  
Short accessible videos introducing many common topics
- #2 FacingDisability.com  
Website rich with lived experience interviews
- #3 Creating a New Normal (CANN)  
Peer-led in-person weekly meetings focused on life lessons learned post-rehab.
- #4 MSKTC Factsheets  
Printed compendium of SCI factsheets (English or Spanish).

Chart 1: Patient and Staff Survey Results



## Results:

- SCI Participants: Survey Response Rate 11 out of 31
- Staff Participants: 19 before intervention, 14 after intervention
- Overall feedback: See Chart 1
- Staff feedback: positive trend after intervention
- Resource feedback: no consistent preference

## ClevelandSCI.org/new-to-sci



## Targets:

- Patient survey of educational protocol
  - Goal: 4 out of 5 overall satisfaction.
  - Outcome: 4.2 overall satisfaction (met) ★
- Staff survey of educational protocol
  - Goal: 4 out of 5 overall satisfaction rating at completion
  - Outcome: 3.9 overall satisfaction (unmet)
- Project adherence
  - Goal: 70% of patients completing survey
  - Outcome: 35% completing survey (unmet)

## Discussion:

This tool was proposed to create a minimum standard for all patients and staff. Anecdotally that was successful (confirmed by overall satisfaction scores). However, a passive approach had limited potential. Even with an automated program, consistent staff follow through was a struggle. Effective education requires a personalized approach with motivation or support for teacher and student. The root problems of staff/patient time, coordination, motivation, and personalization as well as comorbid psychological and cognitive impairments remain.

## Limitations:

- Bias likely from small sample, poor response, and unblinded staff
- Lack of medical outcome or knowledge retention data

## Conclusion:

One out of three goals achieved. The protocolized approach to education was consistent with incremental improvement but more individualized approach may yield better outcomes.