

# Health Professions Students' Leadership Behaviors Demonstrated During an Interprofessional Simulation Experience: A Pilot Study

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# Rosalind Franklin University



2,214 students

30+ academic programs

5 schools

1 university

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# MEANINGFUL INTERPROFESSIONAL SIMULATION THE VIRTUAL HOSPITAL (2017)





# Pilot Study

- Interprofessional (IP) healthcare is becoming more evident in current healthcare practices
- IP healthcare leads to optimized patient care, outcomes, and satisfaction <sup>1</sup>
- Limited research on IP team behaviors
- Study examined leadership behaviors of IP health professions students in an IP team



# Research Question

- Has **IP education influenced** health profession student **leadership behaviors** while working as a team in a simulated situation that is created to target one specific profession?
- Hypothesized that discipline targeted by the simulated case would become the leader of the IP team



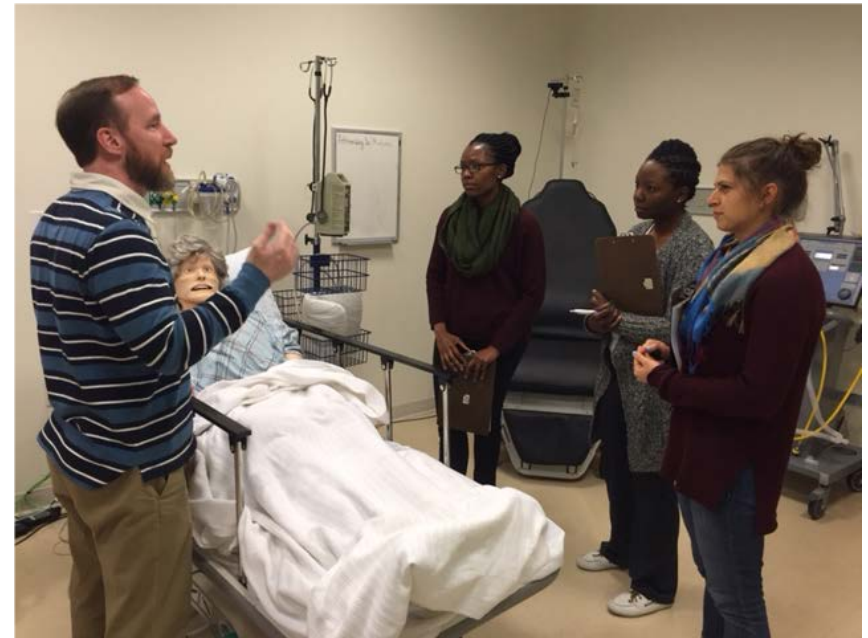
# Review of Literature

- Team Effectiveness in Academic Primary Healthcare Teams <sup>2</sup>
  - Physicians are perceived to hold more power
  - Could lead to poorer outcomes
- Simulation Experience Enhances Physical Therapist Student Confidence in Managing a Patient in the Critical Care Environment <sup>6</sup>
  - Improved SPT confidence and cognitive performance



# Methodology

- 3 IP teams
- Orientation to other participants and simulation environment
- 3 different simulation scenarios designed by RFUMS department of healthcare simulation faculty/staff





# Methodology

- **Discipline-focused cases:**  
Musculoskeletal (PT),  
Pharmacological (Pharmacy),  
General Medical (Medicine)
- **30-45 minutes** per case
- **1 rater observed 1 participant** per scenario from control center
- **1 practice (video) case** for raters to determine interrater reliability



# Team Leadership Interpersonal Skills Scale

Team Leadership Interpersonal Skills Scale

*Instructions: Check the appropriate box each time the student displays the indicated behavior during the selected timeframe.*

**Mark: Yes = "+", No = "-"**

Designed by American College of Surgeons

Team # and Discipline: \_\_\_\_\_ Observer's Initials: \_\_\_\_\_ Date: \_\_\_\_\_

Removed time component from scale and only counted positive behaviors (not yes/no)

**Teamwork** (communication with team, task delegation, leadership)

**Decision Making** (plan making, prioritization, timeliness)

**Situational Awareness** (calmness/assertiveness, team/distraction management, repeated reevaluation)

Indicator	Number of Times Observed
<b>Teamwork</b>	
1. Communicates clearly with team	
2. Ensures delegation of tasks	
3. Ensure completion of tasks	
4. Solicits advice from others	
5. Maintains leadership or acknowledges turn-over if appropriate	
<b>Decision Making</b>	
6. Communicates plan	
7. Changes plan with new data appropriately	
8. Prioritizes appropriately when active decision is required	
9. Identifies options (verbalizes reasoning behind plan)	
10. Ensure timeliness of procedures	
<b>Situation Awareness</b>	
11. Manages crowd/noise	
12. Remains calm and assertive	
13. Manages distraction and avoids getting involved in task	
14. Maintains focus from all team members	
15. Re-evaluates; stays vigilant; clearly maintains leadership	

# Case 1 – Physical Therapy

- Diagnosis: MCL sprain
- 52 year-old man in the Outpatient Interprofessional Clinic with R medial knee pain following football injury
- Patient reports another player fell on outside of R leg
- Mild to moderate swelling
- Pain with full extension or flexion
- No clicking or popping but sensation of knee "giving way" when changing directions
- Positive valgus stress test on R with 1+ laxity



# Case 2 - Pharmacy

- Diagnosis: chronic diabetes with medication management necessary
- 58 year-old woman in ER and now being seen on a Medical-Surgical unit
- Chief complaint: asthma exacerbation
- Referred for pharmacotherapy assessment and diabetes management
- 7 separate medical conditions
- 13 medication prescriptions



# Case 3 - Medicine

- Diagnosis: congestive heart failure/chronic obstructive pulmonary disease/hypercholesterolemia/diabetes
- 66 year-old man in an outpatient pulmonary rehab center
- Arrived for scheduled appointment and complained of shortness of breath
- History of congestive heart failure and chronic obstructive pulmonary disorder
- Smoked 1.5-2 packs of cigarettes per day for over 50 years
- Decreasing oxygen saturation



# RESULTS

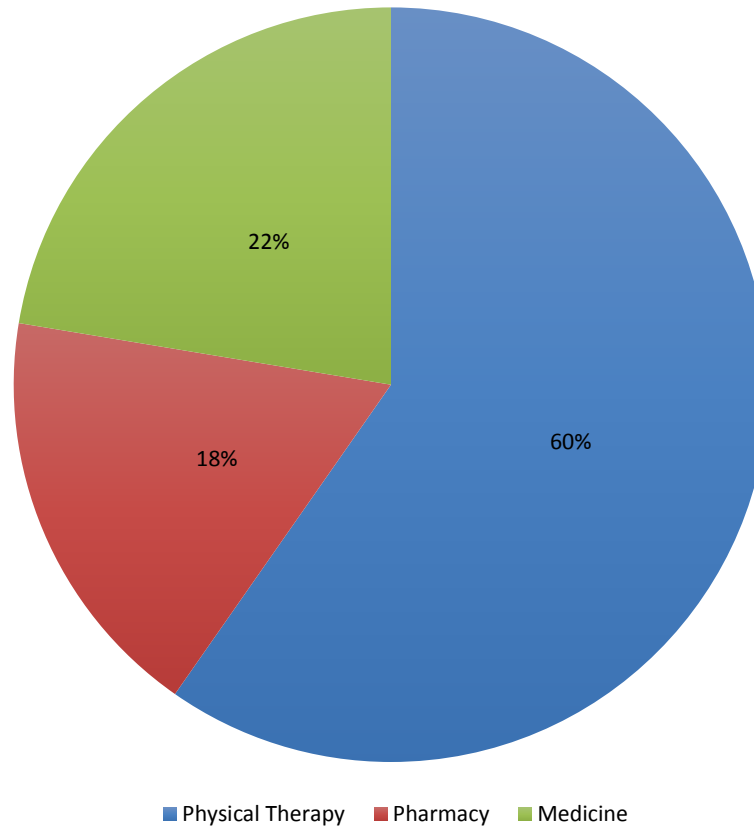


# Results – Case 1 - PT

Behaviors	Physical Therapy	Pharmacy	Medicine
<b>TEAMWORK</b>			
Communicates clearly with team	3	1	1
Ensures delegation of tasks	1	0	1
Ensures completion of tasks	1	0	0
Solicits advice from others	0	2	1
Maintains leadership or acknowledges turn-over if appropriate	6	5	9
Percent of Total Behaviors	27.50%	66.67%	80%
<b>DECISION MAKING</b>			
Communicates plan	11	1	2
Changes plan with new data appropriately	1	1	0
Prioritizes appropriately when active decision is required	4	0	0
Identifies options (verbalizes reasoning behind plan)	8	0	0
Ensure timeliness of procedures	1	0	0
Percent of Total Behaviors	62.50%	16.67%	13.33%
<b>SITUATION AWARENESS</b>			
Manages crowd noise	0	0	0
Remains calm and assertive	1	1	1
Manages distraction and avoids getting involved in task	0	1	0
Maintains focus from all team members	0	0	0
Re-evaluates; stays vigilant; clearly maintains leadership	3	0	0
Percent of Total Behaviors	10%	16.67%	6.67%
Total Behaviors Displayed	40	12	15

# Results – Case 1

Total Leadership Behaviors Displayed



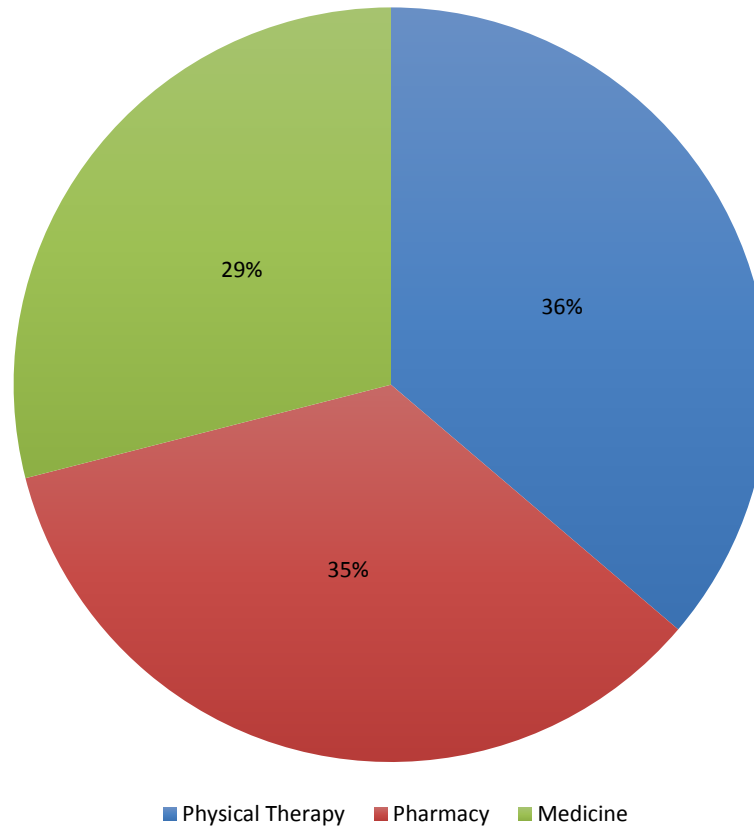


# Results – Case 2 - Pharmacy

Behaviors	Physical Therapy	Pharmacy	Medicine
<b>TEAMWORK</b>			
Communicates clearly with team	4	1	4
Ensures delegation of tasks	1	0	2
Ensures completion of tasks	0	1	0
Solicits advice from others	4	1	2
Maintains leadership or acknowledges turn-over if appropriate	6	14	9
Percent of Total Behaviors	60%	70.83%	85%
<b>DECISION MAKING</b>			
Communicates plan	5	3	1
Changes plan with new data appropriately	0	0	1
Prioritizes appropriately when active decision is required	0	0	0
Identifies options (verbalizes reasoning behind plan)	4	2	0
Ensure timeliness of procedures	0	0	0
Percent of Total Behaviors	36%	20.83%	10%
<b>SITUATION AWARENESS</b>			
Manages crowd noise	0	0	0
Remains calm and assertive	1	1	1
Manages distraction and avoids getting involved in task	0	0	0
Maintains focus from all team members	0	1	0
Re-evaluates; stays vigilant; clearly maintains leadership	0	0	0
Percent of Total Behaviors	4%	8.33%	5%
Total Behaviors Displayed	25	24	20

# Results – Case 2

Total Leadership Behaviors Displayed

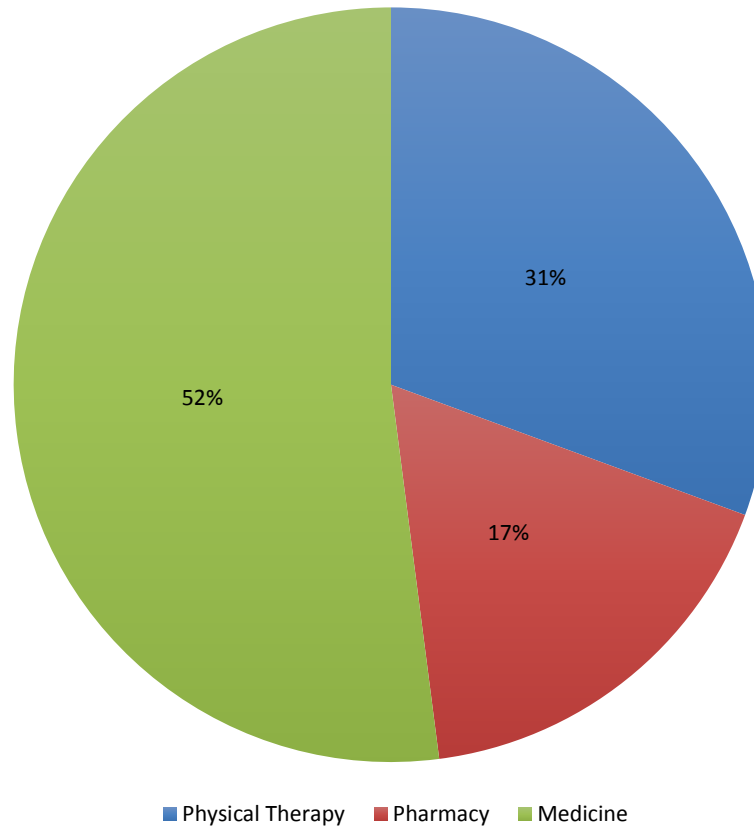


# Results – Case 3 - Medicine

Behaviors	Physical Therapy	Pharmacy	Medicine
<b>TEAMWORK</b>			
Communicates clearly with team	4	1	6
Ensures delegation of tasks	1	0	2
Ensures completion of tasks	0	0	0
Solicits advice from others	4	4	6
Maintains leadership or acknowledges turn-over if appropriate	12	9	26
Percent of Total Behaviors	70%	82.35%	78.43%
<b>DECISION MAKING</b>			
Communicates plan	5	0	7
Changes plan with new data appropriately	0	0	1
Prioritizes appropriately when active decision is required	0	0	1
Identifies options (verbalizes reasoning behind plan)	3	1	1
Ensure timeliness of procedures	0	0	0
Percent of Total Behaviors	26.67%	5.88%	19.61%
<b>SITUATION AWARENESS</b>			
Manages crowd noise	0	0	0
Remains calm and assertive	1	1	1
Manages distraction and avoids getting involved in task	0	1	0
Maintains focus from all team members	0	0	0
Re-evaluates; stays vigilant; clearly maintains leadership	0	0	0
Percent of Total Behaviors	3.33%	11.76%	1.96%
Total Behaviors Displayed	30	17	51

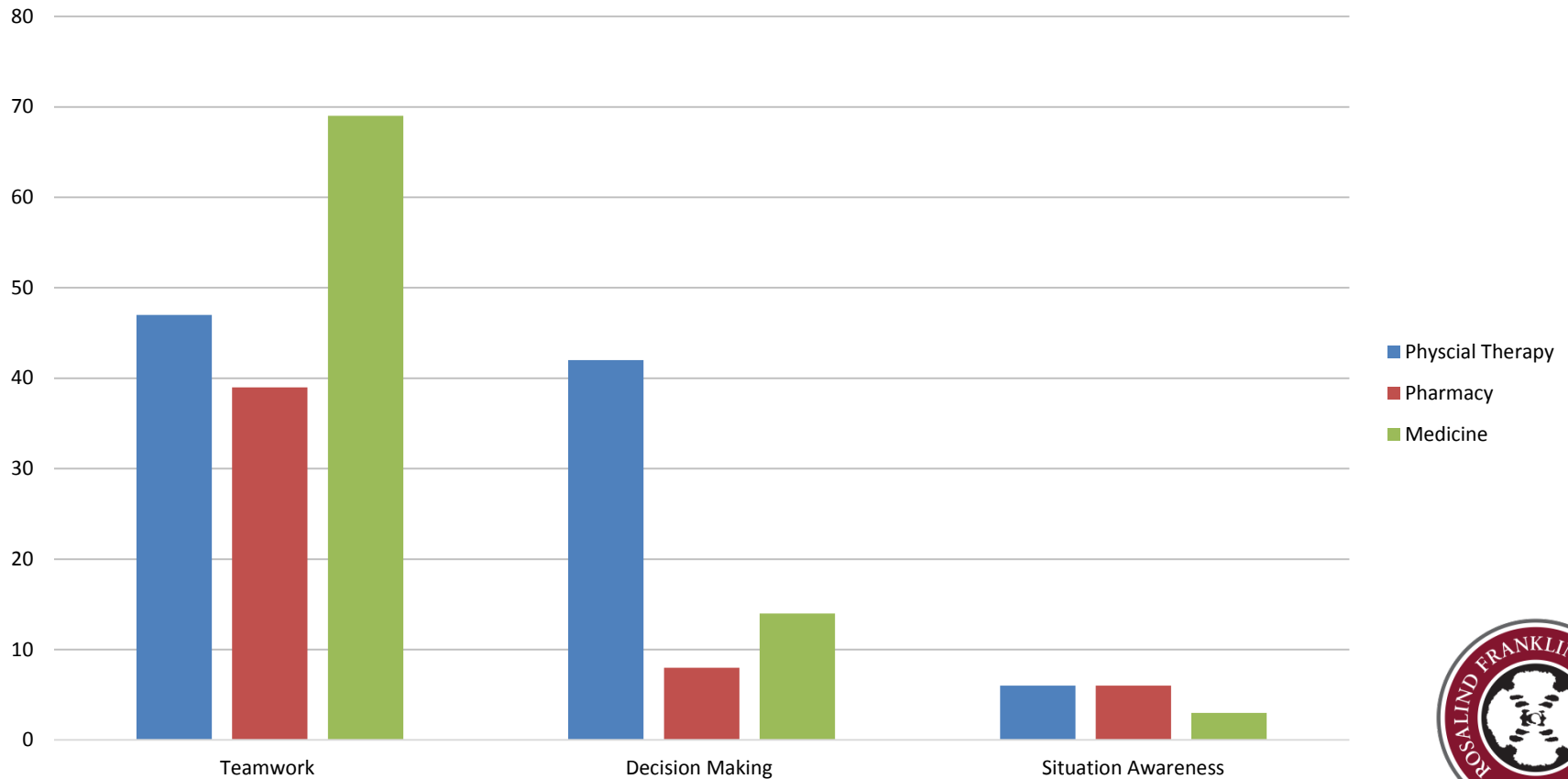
# Results – Case 3

Total Leadership Behaviors Displayed



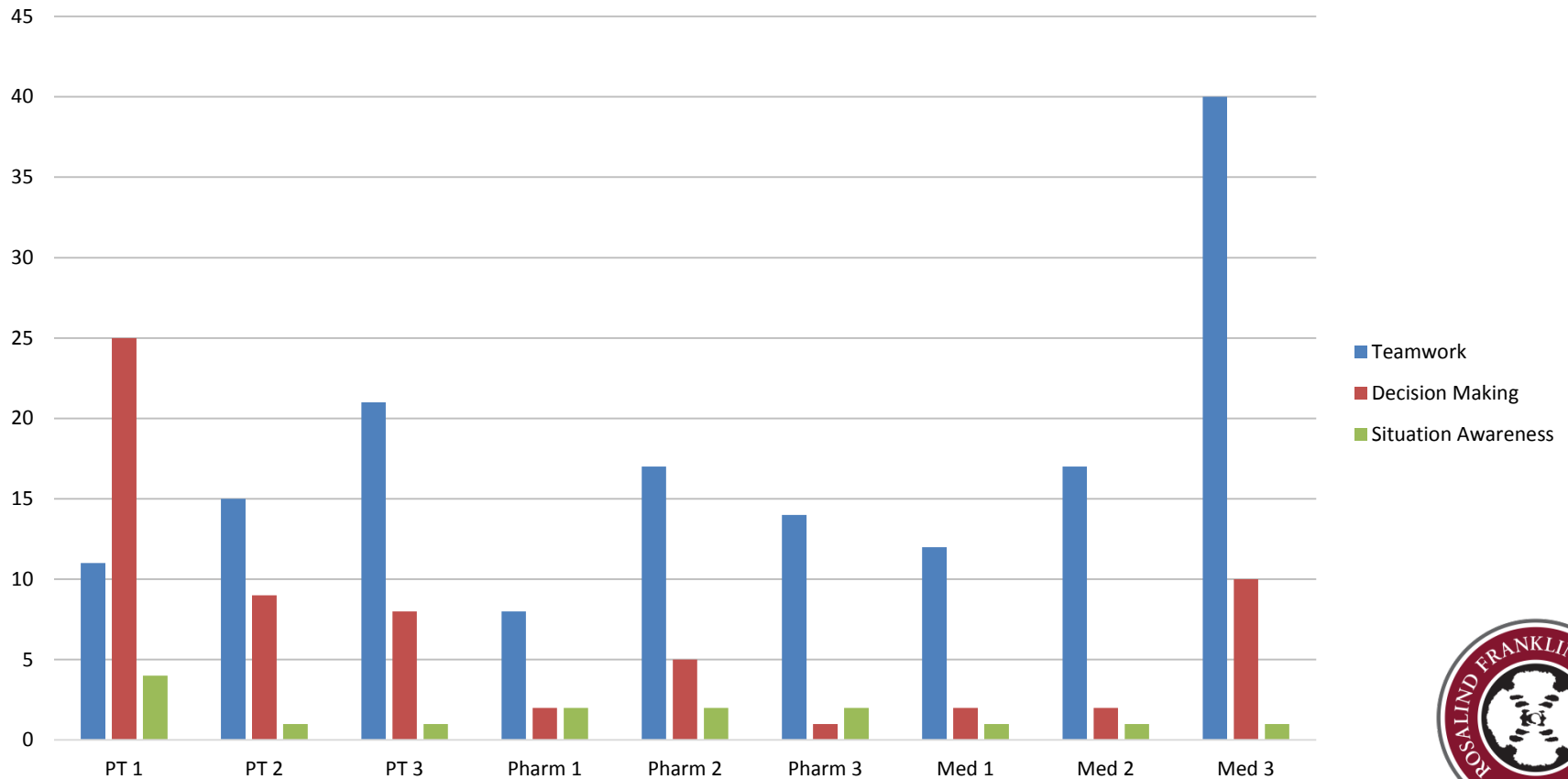
# Overall Results

Total Behaviors Displayed



# Overall Results

Comparison of Disciplines Across Cases



# Observations

- Medical student always initiated patient interaction
- PT and Medical cases appeared to run more smoothly
- Appeared to be a mutual respect for knowledge and expertise in all cases amongst different students
- Medical student facilitated discussion when discussing a plan in all three cases
- Pharmacy students did not perform physical examinations



# Discussion

- Only case where targeted discipline did not emerge as leader was pharmacy
- Decision making behavior appeared to be a key determinant in who emerged as leader
- Many behaviors from TLISS were not observed due to methodology





# Limitations

- Medical student in Case 2 (Pharmacy case) previously worked as pharmacist; unknown to researchers before study
- Although raters were not aware of the sequence of the cases, they had knowledge of the cases
- Pharmacy case was used as preliminary case
- Case 1 (PT) and Case 3 (Medicine) had 2 students who knew each other
- Pharmacy case was deemed more complex and led to little opportunity for pharmacy to emerge as leader



# Future Research

- Debriefing questionnaire asking participants to reflect on their role during the case
- Revision of pharmacy case to allow for more leadership opportunity
- Further modification of TLIS or development of new tool



# Conclusion

- Leadership behaviors can be observed in a simulated patient scenario
- Students that are educated in an IP curriculum will emerge as leaders in IP care when their discipline is targeted
- Further research is needed on IP behaviors



# Thank you!

## Questions ? Comments.

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