2019 Pandemic Flu- Student Evaluation

This evaluation covers the pre-survey and post-survey (with IPAS retrospective pre-post questions). The Interprofessional Attitude Survey (IPAS) has 27 items. This evaluation was not anonymous because students were required to complete the evaluation and put their email at the end of the post survey in order to receive class credit.

Data Analysis for the Post-Survey

For the post-survey, Qualtrics was designed in part for the purpose of piloting a set of questions for students who were assigned to the ASTEC lab. The sorting of students within Qualtrics was done by how students responded to the question, "Were you in the ASTEC lab?"

- If response was Yes, they were routed to a set of pilot questions before being directed to the primary survey questions for all students.
- If response was left blank or was a No, they were routed to a different subset of questions before being directed to the primary survey questions for all students.

In this report, the student group and their items are labeled in the heading.

Student response about their presence in the ASTEC lab was inaccurate. There were 39 students pre-assigned to ASTEC. There were 86 students who reported that they were in the ASTEC lab. The data files in Excel and SPSS were reviewed and cross-checked in order to sort students into three groups. Student emails were used to find students and to identify missing students in the data files. The list of 39 students pre-assigned to the ASTEC lab was provided for this report. In order to sort students as accurately as possible into three groups, the following decisions were made.

- From the ASTEC student list provided:
    - 5 students did not complete the questionnaire and their emails could not be found in the data file thus lowering the total N in ASTEC.
    - 4 students answered "No" to the ASTEC question. These students were deleted from the analysis.
    - 1 student who skipped the ASTEC question (left blank) was added back into the ASTEC group for the IPAS questions. The total N for the IPAS became 30. The ASTEC pilot questions N is 29.
- Students who did not leave an email or did not answer more than 10 questions were deleted from the analysis.

The three groups for the post survey include:

1) Other Rooms (not assigned to ASTEC, responded No to initial question). The total number of responses ranged from 426 to 428
2) ASTEC (cross-checked with student list). The total number of responses ranged from 29 to 30.
3) Non-ASTEC (said Yes to ASTEC question but was not assigned to this room). The total number of responses ranged from 56 to 57.

Survey Questions

1. **Pandemic Flu Pre-Survey:**
   Students were not required to answer each question.
   Question Blocks:
   i. Knowledge: Questions = 15
   ii. Demographics: Age, Gender, Ethnicity, Race, Rural Residence, Background, AZ Residence, Military Service. Questions= 7
   iii. Education: Level, Enrollment Status, College (asked twice), Degree (asked twice), Program Year. Questions = 7
   iv. IPE Experience: Questions = 3
   v. Open-ended = 0

2. **Pandemic Flu Post-Survey: NEED TO UPDATE for Pandemic Flu**
   Students were not required to answer each question.
   Question Blocks:
   i. ASTEC lab or other Room: Questions = 2
   ii. Main Activity (all students): Questions = 3
   iii. ASTEC Activity (only ASTEC assigned students): Questions = 9
   iv. Event Activity (non-ASTEC students only): Questions = 19
   v. Information learned, effectiveness, facilitator engagement (all students): Questions = 17
   vi. IPAS: Questions = 27
   vii. Education: Institution, College/Department, Degree: Questions = 3
   viii. Email: Questions = 2
   ix. Open-ended Comments: Questions = 3
      - Briefly explain what you LIKED most about this event
      - Please describe the challenges you or your team encountered in collaborating as an interprofessional team during the exercise
      - What changes would most improve interprofessionalism learning at this event?

Pre-Survey Data

A set of questions was developed to measure student knowledge about the profession(s) responsible for activities involved in planning for and responding to an emergency. Students could select multiple professions.

The list below was re-organized to show the largest number of responses in descending order based on the first column. Public Health followed by Medicine and Law were the top three professions selected for Command and Control. Public Health followed by Medicine and Nursing were selected most frequently for Public Communication. Also, for all professions except Law, the role of public communication was chosen more frequently than being involved in establishing guidelines and plans for the institution or community. Overall, students recognized the important role of Public Health professionals in a pandemic.

Profession	**Command and Control:** Establish emergency preparedness guidelines and plans for your institution or community	**Public Communication:** • Educate the public on personal and public hygiene • Provide scientific, evidence-based recommendations • Respond to misinformation and false claims
Public Health	**481**	**490**
Medicine	**433**	**449**
Law	**392**	185
Nursing	333	**402**
Pharmacy	328	347
Social Work	299	300
Nutrition	181	253
Journalism	165	303
Occupational Therapy	145	196
Physical Therapy	133	180
Recreational Therapy	119	157

For the following table of activities, the TWO professions most often selected are <u>underlined in bold</u>. The labels represent: Law=Law, Med=Medicine, Nur = Nursing, Phar=Pharmacy, PH=Public Health, SW=Social Work, Jour=Journalism

Public Health was in the top two professions selected in 11 of the 13 activities, except for clinical patient care treatment and PODs. Medicine was in the top two professions in 8 activities that addressed clinical care, treatment, prevention, surveillance, and investigations. Law was in the top two for 2 activities related to policy. Pharmacy was in the top two for 2 activities related to clinical care and PODs. Social Work was in the top two for both activities related to essential services. Journalism was in the top two for the area of public communication. Nursing played an important role and was often in the top three professions chosen for the majority of activities.

Activities by Profession	Law	Med	Nur	Phar	PH	SW	Jour
Public Communication: Conduct regular media briefings for the public	210	220	113	124	**421**	159	**412**
Policy: Assess standing policy for provision of preventive and/or treatment protocols to protect healthcare workers and workers in essential services	**410**	366	268	259	**416**	194	95
Ethical Issues: Evaluate patient treatment priorities when resources are limited	219	**455**	381	339	**382**	260	80
Ethical Issues: Examine policies related to compulsory preventive and/or treatment protocols for healthcare workers and essential service employees	**401**	375	289	250	**406**	206	101
Surveillance: Establish early warning systems to identify disease clusters	142	**365**	255	213	**471**	151	140
Investigations: Investigate suspected or confirmed disease clusters	131	**363**	203	175	**450**	111	156
Clinical Patient Care: Develop treatment protocols, including who receives antiviral drugs, antibiotics, ventilation, and/or other treatment when there are widespread shortages	131	**483**	303	**410**	361	100	28
Clinical Patient Care: Educate and train healthcare workers, laboratory personnel, volunteers and others who may be working outside their areas of competence and training	88	**440**	396	349	**398**	181	55
Community Health: Administer Points-of-Dispensing (PODs) to provide vaccine, antibiotics, antiviral medications and/or other treatment in the community	68	**392**	361	**422**	358	146	46
Community Health: Isolate patients, quarantine contacts, and plan how this will be done legally and practically	379	**422**	326	167	**398**	171	37
Prevention and Treatment: Assure that essential personnel are identified for priority preventive and/or treatment protocols	160	**417**	321	268	**407**	152	32
Essential Services: Develop a list of essential services whose reduction or absence would significantly impact the health of the community. Such services include water, power, telecommunications, and transportation systems.	222	240	177	158	**457**	**313**	126
Essential Services: Provide social, psychological and practical support to affected individuals, families and communities	120	315	311	190	**371**	**453**	84

The following represent background and demographic information on students.

Education and Academic Programs

Academic Program of Students. Total N = 544

Arizona State University = 10
Northern Arizona University = 43
University of Arizona = 491

Highest Educational Level Completed N = 524

Level	Frequency	Percent (rounded)
Residency	1	
Post-doctorate	1	
Doctorate degree	5	1
Master degree	55	11
Bachelor degree	395	75
Associate degree	23	4
Technical certificate	2	
Post-high school/pre-college	9	2
High school diploma	30	6
Other	3	1

Enrollment Status N = 526

Full-time = 519 (99%)
Part-time = 7 (1%)

The next question was repeated twice with a slight difference. College of Law was not listed the second time and the number of responses dropped.

College N = 544

	Frequency	Percent (rounded)
College of Law	10	2%
College of Medicine – Phoenix	1	.2%
College of Medicine – Tucson	115	21%
College of Nursing	138	25%
College of Pharmacy	111	20%
Zuckerman College of Public Health	116	21%
Occupational Therapy Program	43	8%
Other:	10	2%

College N = 526

College	Frequency	Percent (rounded)
UA College of Medicine – Phoenix	1	.2%
UA College of Medicine – Tucson	114	22%
UA College of Nursing	120	23%
UA College of Pharmacy (Phoenix)	38	7%
UA College of Pharmacy (Tucson)	75	14%
UA Zuckerman College of Public Health	116	22%
Other UA College	62	12%

What year are you in your program of study? N = 526

Year	Frequency	Percent (rounded)
One	156	30%
Two	228	43%
Three	117	22%
Four	22	4%
Five	2	
Six	0	
Seven	1	

Student Degree Program.

The next question was asked twice with different degrees listed. The left-hand column was asked at the beginning. The right-hand column was asked at the end. Percentages less than 1% are left blank.

Question: What is your academic program – Degree Program (first)
Question: What is your college and degree program – Degree program (second)

Degree Program N = 544	Frequency	Percent (rounded)		Degree Program N = 526	Frequency	Percent (rounded)
Graduate degree	2			Graduate	50	10
Undergraduate degree	8	2		Undergraduate	8	2
PharmD	109	20		PharmD	111	21
OTD	43	8		OTD (not listed)		
MS	3	1		MS	3	
BA	1			BA (not listed)	17	3
JD	9	2		JD (not listed)		
MD	110	20		MD	109	21
MD/MPH	2			MD/MPH	1	

MD/PhD	4	1		MD/PhD	4	1
BSN	18	3		BSN (not listed)		
MEPN (Phoenix)	58	11		MEPN (Phoenix)	59	11
MEPN (Tucson)	62	11		MEPN (Tucson)	61	12
PharmD/MPH	1			PharmD/MPH	1	
PharmD/PhD	1			PharmD/PhD	1	
BS	17	3		BS	17	3
DrPH	1			DrPH	1	
MPH	87	16		MPH	89	17
MPH/MA	1			MPH/MA	1	
MPH/MBA	3	1		MPH/MBA	3	
MPH/MS	2			MPH/MS (not listed)		
PhD	2			PhD	2	
				Non-degree seeking	4	1

Demographics

Age N = 520

Age range 19 – 29 = 422 students
Age range 30 – 39 = 77 students
Age range 40 – 49 = 15 students
Age range 50 – 59 = 5 students
Age range 60 – 69 = 1 student

Gender N = 549

Female = 362
Male = 149
Non-binary = 2
Transgender Female/Male to Female = 1
Prefer not to say = 12

Ethnicity N = 521

Hispanic or Latino = 106
Non-Hispanic or Non-Latino = 415

Race (select one or more) N = 549

	American Indian or Alaska Native	Asian	Black or African American	Native Hawaiian or other Pacific Islander	White
Frequency	23	88	35	7	391

Have you ever lived in a rural area (fewer than 50,000 people) N = 522

Yes = 175 (34%)
No = 347 (67%)

Can you answer yes to any of the following: a) You are the first in your family to attend college; b) You have received or currently receive a scholarship or loan for disadvantaged students; c) While growing up, you or your family ever used federal or state assistance programs (such as free or reduced school lunch, subsidized housing, food stamps Medicaid, etc.); d) While growing up, you lived where there were few medical providers at a convenient distance. **N = 524**

Yes, one or more of the above statements applies = 248 (47%)
No, none of the above statements applies = 276 (53%)

Did you grow up in Arizona? N = 523
Yes = 308 (59%)
No = 215 (41%)

Military Service N = 524

Military Service	*Frequency*
No military service	513 (98%)
Current active duty	1
Current active reserve	2
Prior military service – non-combat	3
Prior military service- veteran status	4
Retired – veteran status	1

<u>Interprofessional Education Experience</u>

How much training have you received in interprofessionalism? N = 526
Students received different amounts of training in interprofessionalism.

None = 43 students (8%)
A Little = 158 students (30%)
Some = 237 students (45%)
A Lot = 88 students (17%)

Have you participated in any other interprofessional education (IPE) activities? N = 526

434 students (83%) said they participated in other IPE activities
92 students (18%) said they did not participate in other IPE activities

In what other interprofessional education (IPE) activity or activities did you previously participate? Select all that apply. N= 549

Interprofessional Activity	***Frequency***
UAHS Public Preparedness	60
UAHS Team Behavior Simulation	255
UAHS Disabilities	169
UAHS CLARION Case Competition	11
Annual Rural Health Professions Conference	18
Other at University of Arizona	147
IPE activity at another institution	21

Students were asked to describe “Other.” Several responses were activities listed in the evaluation, but students did not associate it with the UAHS activities that were listed. For example, students referred to the above activities in the table as Patient Safety, Interprofessionalism for Patient safety, Pan Flu, ASTEC Simulation/Code simulation/CPR. Other activities included: Health Systems Delivery/Health systems course, CHS 306 with Lorre Laws, Community Mental Health Mentor Program, Disadvantaged/Poverty Simulation, MEZCOPH Social Justice Symposium, MPH mandatory course, PHPM 641Health systems Delivery Course, RMSF Campaign (San Carlos Apache Reservation), Rocky Mountain Spotted Fever, SHINE clinic, St. Luke’s Home Clinics, health fairs, and roles with patients.

Summary of Post-Survey

The first question asked students - Were you in the ASTEC lab, on the 7th floor of HSIB? As mentioned in the beginning of the report, three student groups were created for the analysis of the following questions. Students were routed to a specific group of questions depending on how they answered this first question. If students said NO, they were asked to identify their room. Many students did not remember or select a room.

Students identified their assigned room. The following table does not include the students who initially said they were in the ASTEC lab.

Room		**Number of Students**
Tucson	HSIB 305 – Tuba City	56
	HSIB 306 – Yuma	54
	HSIB 567 (EOC)	9
	HSIB 531 - Kingman	40
	HSIB 640 - Flagstaff	40
	HSIB 642 - Tucson	51
	HSIB 532 - Bisbee	39
Phoenix	HSEB C206 - Prescott	43
	HSEB C204 - Phoenix	93
TOTAL		425

The following sections are separated according to student groups described at the beginning of this report. The response rates for each group were: ASTEC ranged from 29 to 30, Non-ASTEC ranged from 56 to 57, Other Rooms ranged from 425 to 427. Total ranged from 510 to 515.

ASTEC Questions ONLY

The following questions were completed by students who said they were in the ASTEC lab. As mentioned earlier, the Non-ASTEC students were not on the student list provided. The two groups were combined and is represented by "BOTH." Frequency counts are listed first, followed by percentages within each group (rounded). Crosstabs were computed with Chi-Square. A significant difference is marked by a * and reported below the item/question.

Overall, the percentage of students who rated each item as "very effective and extremely effective" was higher for the ASTEC group. The only significant difference between the ASTEC and Non-ASTEC group was item 1.

How effective was this event in facilitating the following?

	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
Providing an opportunity for collaborative critical thinking* Chi-Square 11.4, df = 4, p = .022						
ASTEC	2 (7%)	0	4 (14%)	14 (48%)	9 (31%)	29
Non-ASTEC	2 (4%)	5 (9%)	19 (33%)	11 (19%)	20 (35%)	57
BOTH	4 (5%)	5 (6%)	23 (27%)	25 (29%)	29 (34%)	86
Highlighting the complexities associated with addressing pandemics						
ASTEC	2 (7%)	1 (3%)	1 (3%)	11 (38%)	14 (48%)	29
Non-ASTEC	3 (5%)	5 (9%)	15 (26%)	14 (25%)	20 (35%)	57
BOTH	5 (6%)	6 (7%)	16 (19%)	25 (29%)	34 (40%)	86
Emphasizing the need for interprofessional response to pandemics						
ASTEC	2 (7%)	1 (3%)	1 (3%)	9 (31%)	16 (55%)	29
Non-ASTEC	3 (5%)	3 (5%)	17 (30%)	12 (21%)	22 (39%)	57
BOTH	5 (6%)	4 (5%)	18 (21%)	21 (24%)	38 (44%)	86
Emphasizing the number of players involved in interprofessional response to pandemics						
ASTEC	2 (7%)	0	3 (10%)	7 (24%)	17 (59%)	29
Non-ASTEC	3 (5%)	4 (7%)	14 (25%)	14 (25%)	22 (39%)	57
BOTH	5 (6%)	4 (5%)	17 (20%)	21(24%)	39 (45%)	86

Please rate the following aspects of the Pan Flu event on how much they enhanced the learning experience for you.

There are five items in the table. Students rated four of the five items as enhancing their learning experience by A Lot or A Great Deal. Overall, ratings for the four items was higher for the ASTEC group. This was not true for the video conference platform. The differences between the ASTEC and Non-ASTEC group was not significant with any of the below items.

	Not at all	A little	A moderate amount	A lot	A great deal	Total
The video conferencing platform						
ASTEC	7 (24%)	1 (3%)	8 (28%)	7 (24%)	6 (21%)	29
Non-ASTEC	7 (13%)	5 (9%)	16 (29%)	13 (23%)	15 (27%)	56
BOTH	14 (17%)	6 (7%)	24 (28%)	20 (24%)	21 (25%)	85
The live facilitators						
ASTEC	2 (7%)	1 (3%)	4 (14%)	**11 (38%)**	**11 (38%)**	29
Non-ASTEC	5 (9%)	6 (11%)	14 (25%)	17 (30%)	15 (26%)	57
BOTH	7 (8%)	7 (8%)	18 (21%)	28 (33%)	26 (30%)	86
The video-based scenario						
ASTEC	2 (7%)	2 (7%)	5 (17%)	**12 (41%)**	**8 (28%)**	29
Non-ASTEC	4 (7%)	7 (12%)	20 (35%)	11 (19%)	15 (26%)	57

BOTH	6 (7%)	9 (11%)	25 (29%)	23 (27%)	23 (27%)	86
The virtual experts						
ASTEC	1 (3%)	2 (7%)	6 (21%)	**11 (38%)**	**9 (31%)**	29
Non-ASTEC	4 (7%)	6 (11%)	17 (30%)	11 (19%)	19 (33%)	57
BOTH	5 (6%)	8 (9%)	23 (27%)	22 (26%)	28 (33%)	86
The breakout discussions						
ASTEC	2 (7%)	1 (3%)	4 (14%)	**14 (48%)**	**8 (28%)**	29
Non-ASTEC	5 (9%)	5 (9%)	17 (30%)	12 (21%)	18 (32%)	57
BOTH	7 (8%)	6 (7%)	21 (24%)	26 (30%)	26 (30%)	86

OTHER Room Questions (does not include ASTEC and Non-ASTEC because they were not asked to respond to these questions)

How useful were the following activities in learning how to identify the responsibilities of different professions in a public health emergency?

Overall, at least 25% of the students found the activities "moderately useful." Approximately 30% found four of the five activities "very useful." The least useful activity was the Pre-reflection exercise.

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful	Total
Pre-reflection exercise about professions						
Other Rooms	47 (11%)	79 (19%)	157 (37%)	103 (24%)	41 (10%)	427
Non-pharmaceutical interventions						
Other Rooms	27 (6%)	56 (13%)	141 (33%)	149 (35%)	54 (13%)	427
Polls – Would you come to work?						
Other Rooms	29 (7%)	60 (14%)	148 (35%)	131 (31%)	59 (14%)	427
Limited Resources (teams discussed triage criteria)						
Other Rooms	20 (5%)	44 (10%)	112 (26%)	164 (38%)	87 (20%)	427
EOC 'hotwash' and Q & A with experts						
Other Rooms	30 (7%)	65 (15%)	111 (26%)	135 (32%)	86 (20%)	427

Please indicate how much the following enhanced your learning experience.

Overall, Hearing from experts in the EOC and Prioritizing patient populations for emergency treatment enhanced students' learning experience the most. Community demographics provided for the sites was the least effective in enhancing learning.

	None at all	A little	A moderate amount	A lot	A great deal	Total
Community demographics provided for your "site"						
Other Rooms	29 (7%)	66 (16%)	143 (34%)	122 (29%)	67 (16%)	427
Live polling during event						
Other Rooms	34 (8%)	58 (14%)	137 (32%)	122 (29%)	76 (18%)	427
Hearing from experts in Emergency Operations Center (EOC)						
Other Rooms	22 (5%)	38 (9%)	92 (22%)	**130 (30%)**	**145 (34%)**	427
Prioritizing patient populations for emergency treatment						
Other Rooms	17 (4%)	32 (8%)	105 (25%)	**151 (35%)**	**122 (29%)**	427
Discussion about whether to work during an epidemic						
Other Rooms	29 (7%)	49 (12%)	138 (32%)	133 (31%)	78 (18%)	427

How challenging was it for YOU to make the following decisions?

The two most challenging decisions for the student was a) addressing the patient surge in ER & shortage of medication and b) prioritizing patient populations for treatment. Least challenging was the decision about coming to work during an epidemic.

	Not challenging at all	Slightly challenging	Moderately challenging	Very challenging	Extremely challenging	Total
Ranking the criteria for prioritizing patient populations for treatment						
Other Rooms	20 (5%)	80 (19%)	183 (43%)	102 (24%)	40 (9%)	425
Patient surge in ER & shortage of medication						
Other Rooms	16 (4%)	70 (17%)	189 (45%)	123 (29%)	27 (6%)	425
Coming in to work during an epidemic						
Other Rooms	104 (25%)	115 (27%)	125 (29%)	58 (14%)	23 (5%)	425

How challenging was it for YOUR TEAM to make the following decisions?

For the TEAM, results were similar to the individual decisions. The decision to come to work during an epidemic was slightly more challenging for the team.

	Not challenging at all	Slightly challenging	Moderately challenging	Very challenging	Extremely challenging	Total
Ranking the criteria for prioritizing patient populations for treatment						
Other Rooms	23 (5%)	82 (19%)	183 (43%)	91 (21%)	48 (11%)	427
Patient surge in ER & shortage of medication						
Other Rooms	23 (5%)	86 (20%)	208 (49%)	86 (20%)	24 (6%)	427
Coming in to work during an epidemic						
Other Rooms	87 (20%)	128 (30%)	148 (35%)	47 (11%)	17 (4%)	427

To what degree did discussion with your team influence your opinion regarding:

Overall, discussion with the team influenced students' decision about the prioritization of patient populations and healthcare providers more than the decision to go to work.

	None at all	A little	A moderate amount	A lot	A great deal	Total
How you would prioritize patient populations in a public health emergency						
Other Rooms	21 (5%)	87 (20%)	168 (39%)	104 (24%)	47 (11%)	427
How you would prioritize healthcare providers in a public health emergency						
Other Rooms	36 (8%)	75 (18%)	164 (38%)	93 (22%)	59 (14%)	427
Whether you would go to work during a public health emergency						
Other Rooms	93 (22%)	86 (20%)	134 (31%)	76 (18%)	38 (9%)	427

Questions for ALL students by Group

The following tables include the frequency count and percentage within each group. The first row includes students from all three groups. The last three rows are student responses by group. Crosstabs and Chi-Square were computed. Significant differences are noted by a * and reported with the item.

The ASTEC group rated the following item to be more effective than the other two groups.

How would you rate the overall effectiveness of this activity in promoting your professional growth?

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	40 (8%)	81 (16%)	191 (37%)	140 (27%)	61 (12%)	513
ASTEC	2 (7%)	3 (10%)	8 (27%)	11 (37%)	6 (20%)	30
Non-ASTEC	6 (11%)	6 (11%)	22 (39%)	11 (19%)	12 (21%)	57
Other Rooms	32 (8%)	72 (17%)	161 (38%)	118 (28%)	43 (10%)	426

The ASTEC group rated the following item slightly higher than the Other Rooms.

Please rate your level of engagement within this activity

Group	Not at all engaged	Slightly engaged	Moderately engaged	Very engaged	Extremely engaged	Total
ALL students	13 (3%)	48 (9%)	184 (36%)	184 (36%)	84 (16%)	513
ASTEC	0 (0%)	1 (3%)	12 (40%)	9 (30%)	8 (27%)	30
Non-ASTEC	1 (2%)	9 (16%)	21 (37%)	13 (23%)	13 (23%)	57
Other Rooms	12 (3%)	38 (9%)	151 (35%)	162 (38%)	63 (15%)	426

The group ratings were similar for this item.

Please rate the engagement of MOST students on your team

Group	Not engaged	A little engaged	Moderately engaged	Actively engaged	Total
ALL students	16 (3%)	81 (16%)	245 (48%)	172 (36%)	514
ASTEC	0 (0%)	5 (17%)	13 (43%)	12 (40%)	30
Non-ASTEC	1 (2%)	10 (18%)	21 (37%)	25 (44%)	57
Other Rooms	15 (4%)	66 (16%)	211 (50%)	135 (32%)	427

The ASTEC group consistently rated the following six items more effective than the Non-ASTEC and Other Rooms group. All six were significant.

How effective was this event in:

a) Encouraging students to learn from each other & experts from various fields*
Chi-Square 16.45, df = 8, p = .036

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	31 (6%)	62 (12%)	149 (29%)	172 (34%)	98 (19%)	512

ASTEC	2 (7%)	2 (7%)	5 (717%)	16 (53%)	5 (17%)	30
Non-ASTEC	4 (7%)	5 (9%)	16 (29%)	12 (21%)	19 (34%)	56
Other Rooms	25 (6%)	55 (13%)	128 (30%)	144 (34%)	74 (17%)	426

a) Encouraging teams to develop interprofessional approaches to problem solving in disease prevention & response*

Chi-Square 25. 40, df = 8, p = .001

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	35 (7%)	60 (12%)	158 (31%)	160 (31%)	99 (19%)	512
ASTEC	2 (7%)	1 (3%)	4 (13%)	16 (53%)	7 (23%)	30
Non-ASTEC	3 (5%)	5 (9%)	20 (36%)	8 (14%)	20 (36%)	56
Other Rooms	30 (7%)	54 (13%)	134 (32%)	136 (32%)	72 (17%)	426

a) Highlighting complexities associated with addressing a pandemic*

Chi-Square 19.21, df = 8, p = .014

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	20 (4%)	36 (7%)	127 (25%)	175 (34%)	154 (30%)	512
ASTEC	2 (7%)	0	3 (10%)	8 (27%)	17 (57%)	30
Non-ASTEC	2 (4%)	3 (5%)	14 (25%)	14 (25%)	23 (41%)	56
Other Rooms	16 (4%)	33 (8%)	110 (26%)	153 (36%)	114 (27%)	426

a) Emphasizing the need for an interprofessional response to a pandemic*

Chi-Square 25.53, df = 8, p = .001

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	23 (5%)	35 (7%)	125 (24%)	162 (32%)	167 (33%)	512
ASTEC	2 (7%)	0	2 (7%)	8 (27%)	18 (60%)	30
Non-ASTEC	2 (4%)	3 (5%)	15 (27%)	9 (16%)	27 (48%)	56
Other Rooms	19 (5%)	32 (8%)	108 (25%)	145 (34%)	122 (29%)	426

a) Emphasizing the number of professions involved in response to a pandemic*

Chi-Square 20.03, df = 8, p = .010

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	21 (4%)	41 (8%)	118 (23%)	174 (34%)	157 (31%)	511

ASTEC	2 (7%)	0	1 (3%)	10 (33%)	17 (57%)	30
Non-ASTEC	3 (5%)	5 (9%)	14 (25%)	13 (23%)	22 (39%)	57
Other Rooms	16 (4%)	36 (9%)	103 (24%)	151 (36%)	118 (28%)	424

a) Providing an opportunity for collaborative critical thinking*
Chi-Square 21.32, df = 8, p = .006

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	26 (5%)	46 (9%)	124 (24%)	176 (34%)	140 (27%)	512
ASTEC	2 (7%)	0	1 (3%)	15 (50%)	12 (40%)	30
Non-ASTEC	3 (5%)	5 (9%)	14 (25%)	11 (20%)	23 (41%)	56
Other Rooms	21 (5%)	41 (10%)	109 (26%)	150 (35%)	105 (25%)	426

The ASTEC group consistently reported learning more information about the following four items. There was a significant difference in three of the four items.

How much information did you learn about the following?

a) The role my profession plays in a public health emergency*
Chi-Square 25.63, df = 8, p = .001

Group	None at all	A little	Moderate amount	A lot	A great deal	Total
ALL students	51 (10%)	96 (19%)	167 (32%)	123 (24%)	78 (15%)	515
ASTEC	3 (10%)	4 (13%)	9 (30%)	6 (20%)	8 (27%)	30
Non-ASTEC	8 (14%)	7 (12%)	16 (28%)	7 (12%)	19 (33%)	57
Other Rooms	40 (9%)	85 (20%)	142 (33%)	110 (26%)	51 (12%)	428

b) The roles <u>other</u> professions play in a public health emergency*
Chi-Square 21.56, df = 8, p = .006

Group	None at all	A little	Moderate amount	A lot	A great deal	Total
ALL students	28 (5%)	75 (15%)	163 (32%)	151 (29%)	98 (19%)	515
ASTEC	2 (7%)	1 (3%)	8 (27%)	11 (37%)	8 (27%)	30
Non-ASTEC	4 (7%)	8 (14%)	16 (28%)	8 (14%)	21 (37%)	57
Other Rooms	22 (5%)	66 (15%)	139 (33%)	132 (31%)	69 (16%)	428

c) Strategies used to decide how to allocate limited resources in a public health emergency

Group	None at all	A little	Moderate amount	A lot	A great deal	Total

ALL students	23 (5%)	63 (12%)	153 (30%)	158 (31%)	118 (23%)	515
ASTEC	2 (7%)	3 (10%)	8 (27%)	10 (33%)	7 (23%)	30
Non-ASTEC	4 (7%)	5 (9%)	18 (32%)	8 (14%)	22 (39%)	57
Other Rooms	17 (4%)	55 (13%)	127 (30%)_	140 (33%)	89 (21%)	428

d) Challenges to decision-making during a public health emergency*

Chi-Square 17.78, df = 8, p = .023

Group	None at all	A little	Moderate amount	A lot	A great deal	Total
ALL students	23 (5%)	63 (12%)	153 (30%)	158 (31%)	118 (23%)	515
ASTEC	2 (7%)	1 (3%)	3 (10%)	8 (27%)	16 (53%)	30
Non-ASTEC	4 (7%)	5 (9%)	15 (26%)	11 (19%)	22 (39%)	57
Other Rooms	15 (4%)	43 (10%)	111 (26%)	143 (33%)	116 (27%)	428

For the next three items, students did not feel that the exercise was extremely effective in facilitating their ability to identify three behaviors. Overall, a larger percentage of students in the ASTEC group consistently rated the items as very effective. No significant difference was found among groups for all items.

Please rate how effective the Pandemic exercise was overall in facilitating your ability to identify:

a) Social and psychological challenges that may arise during a public health emergency

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	22 (4%)	58 (11%)	145 (28%)	289 (56%)	0	514
ASTEC	2 (7%)	2 (7%)	3 (10%)	23 (77%)	0	30
Non-ASTEC	2 (4%)	10 (18%)	14 (25%)	31 (54%)	0	57
Other Rooms	18 (4%)	46 (11%)	128 (30%0	235 (55%)	0	427

b) Potential obstacles to teamwork during a public health emergency

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	21 (4%)	51 (10%)	139 (27%)	302 (59%)	0	513
ASTEC	3 (10%)	0	5 (17%)	22 (73%)	0	30
Non-ASTEC	2 (4%)	5 (9%)	18 (32%)	32 (56%)	0	57
Other Rooms	16 (4%)	46 (11%)	116 (27%)	248 (58%)	0	426

c) Ethical challenges that may arise during a public health emergency

Group	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective	Total
ALL students	18 (4%)	50 (10%)	127 (25%)	318 (62%)	0	513
ASTEC	2 (7%)	0	3 (10%)	25 (83%)	0	30
Non-ASTEC	2 (4%)	8 (14%)	13 (23%)	34 (60%)	0	57
Other Rooms	14 (3%)	42 (10%)	111 (26%)	259 (61%)	0	426

For the following questions, the percentage of students in the ASTEC group consistently rated their facilitators' behaviors occurring more frequently than the other two groups (Most of the Time and Always). There was not a significant difference among groups for all four items.

How often did your facilitators engage in the following behaviors?

a) Model positive interactions with the facilitator team?

Group	Never	Sometimes	About half the time	Most of the time	Always	Total
ALL students	17 (3%)	49 (10%)	68 (13%)	174 (34%)	207 (40%)	515
ASTEC	0	1 (3%)	2 (7%)	11 (37%)	16 (53%)	30
Non-ASTEC	4 (7%)	4 (7%)	7 (12%)	14 (25%)	28 (49%)	57
Other Rooms	13 (3%)	44 (10%)	59 (14%)	149 (35%)	163 (38%)	428

b) Keep discussion topics on track

Group	Never	Sometimes	About half the time	Most of the time	Always	Total
ALL students	18 (4%)	48 (9%)	74 (14%)	169 (33%)	206 (40%)	515
ASTEC	0	1 (3%)	0	12 (40%)	17 (57%)	30
Non-ASTEC	4 (7%)	3 (5%)	10 (18%)	14 (25%)	26 (46%)	57
Other Rooms	14 (3%)	44 (10%)	64 (15%)	143 (33%)	163 (38%)	428

c) Invite students to seek opinions from students of other professions

Group	Never	Sometimes	About half the time	Most of the time	Always	Total
ALL students	31 (6%)	57 (11%)	79 (15%)	180 (35%)	168 (33%)	515
ASTEC	1 (3%)	2 (7%)	2 (7%)	15 (50%)	10 (33%)	30

Non-ASTEC	4 (7%)	5 (9%)	9 (16%)	19 (33%)	20 (35%)	57
Other Rooms	26 (6%)	50 (12%)	68 (16%)	146 (34%)	138 (32%)	428

d) Foster discussion of different ideas/opinions with a spirit of collaboration

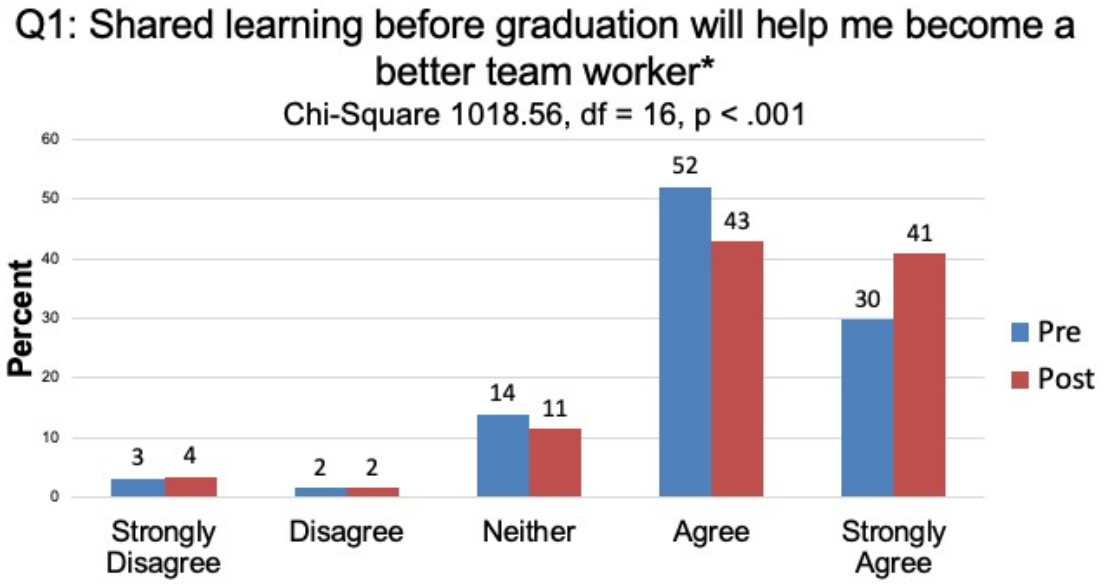
Group	Never	Sometimes	About half the time	Most of the time	Always	Total
ALL students	20 (4%)	46 (9%)	86 (17%)	173 (34%)	190 (37%)	515
ASTEC	0	1 (3%)	1 (3%)	9 (30%)	19 (63%)	30
Non-ASTEC	3 (5%)	5 (9%)	10 (18%)	17 (30%)	22 (39%)	57
Other Rooms	17 (4%)	40 (9%)	75 (18%)	147 (34%)	149 (35%)	428

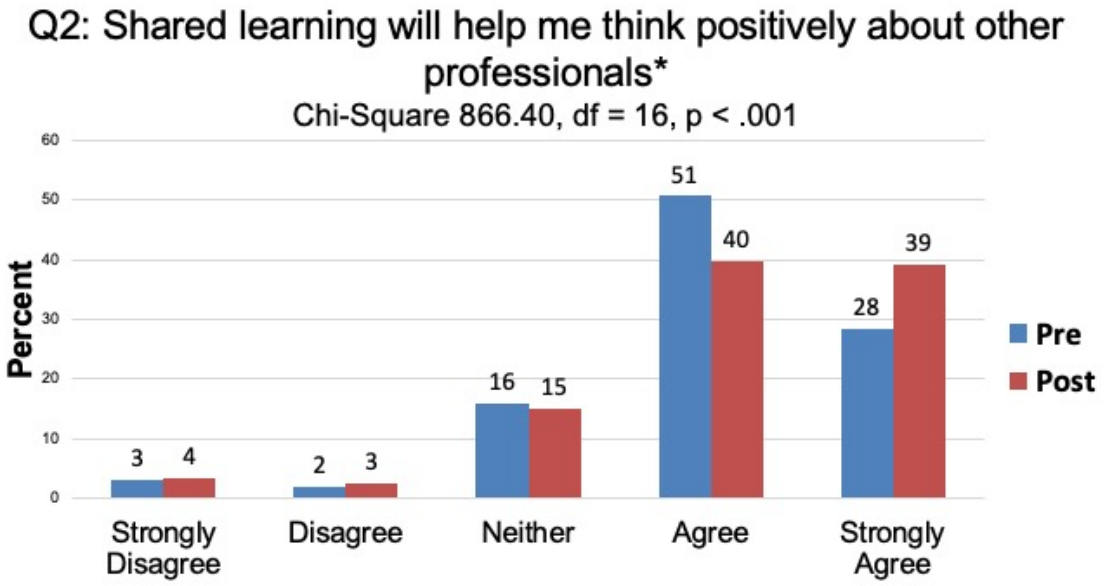
IPAS – Retrospective Pre-Post Questions (ASTEC and Other Rooms)

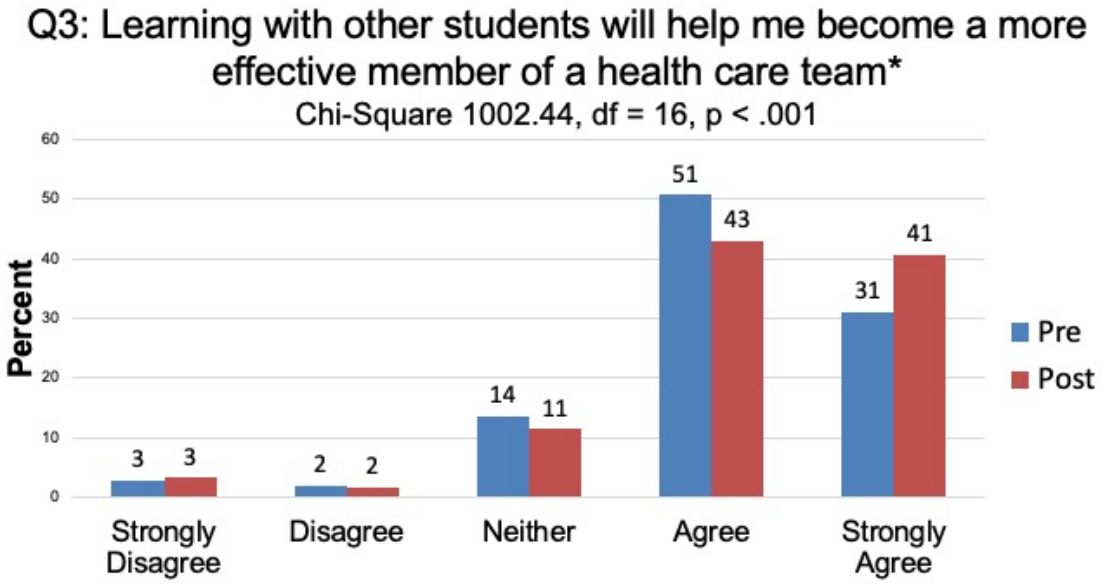
The IPAS includes 27 items using a 5-point Likert scale: 1) Strongly disagree, 2) Somewhat disagree, 3) Neither agree nor disagree, 4) Somewhat agree, 5) Strongly agree.

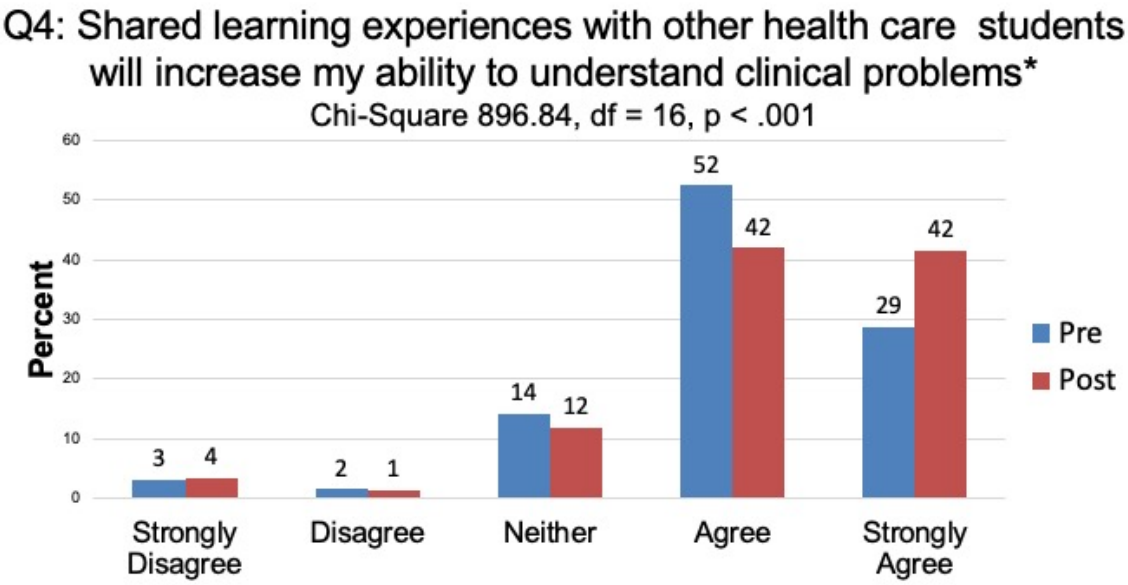
The following graphs include the Pre and Post results from two groups of students: ASTEC lab and Other Rooms. The two groups were selected because their attendance in the correct room can be confirmed. The total number of responses varied based on the missing values (no response). For the IPAS questions, the total number of responses ranged from 453 to 458. The ASTEC lab responses stayed consistent at 30. The responses from the Other Rooms ranged from 423 to 428.

Pre and Post percentages are reported in the graph for each item. All items from Pre to Post were significant at the $p < .001$. On all 27 items, student agreement in the positive direction increased.


Q1: Shared learning before graduation will help me become a better team worker*
Chi-Square 1018.56, df = 16, p < .001
Percent
60
50
40
30
20
10
0
3
4
2
2
14
11
52
43
30
41
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post

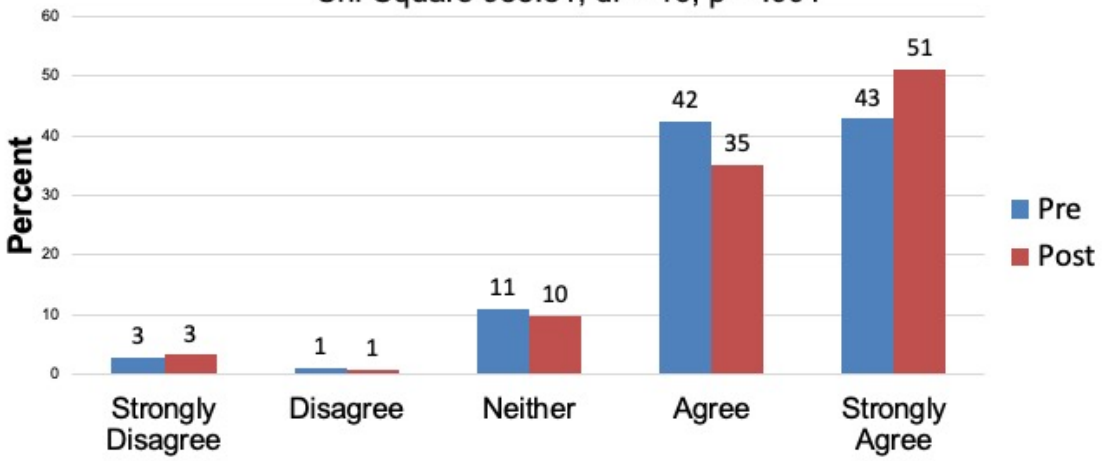

Q2: Shared learning will help me think positively about other professionals*
Chi-Square 866.40, df = 16, p < .001
Percent
60
50
40
30
20
10
0
3
4
2
3
16
15
51
40
28
39
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post


Q3: Learning with other students will help me become a more effective member of a health care team*
Chi-Square 1002.44, df = 16, p < .001
Percent
60
50
40
30
20
10
0
3 3
2 2
14 11
51 43
31 41
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post


Q4: Shared learning experiences with other health care students will increase my ability to understand clinical problems*
Chi-Square 896.84, df = 16, p < .001
Percent
60
50
40
30
20
10
0
3 4
2 1
14 12
52 42
29 42
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post

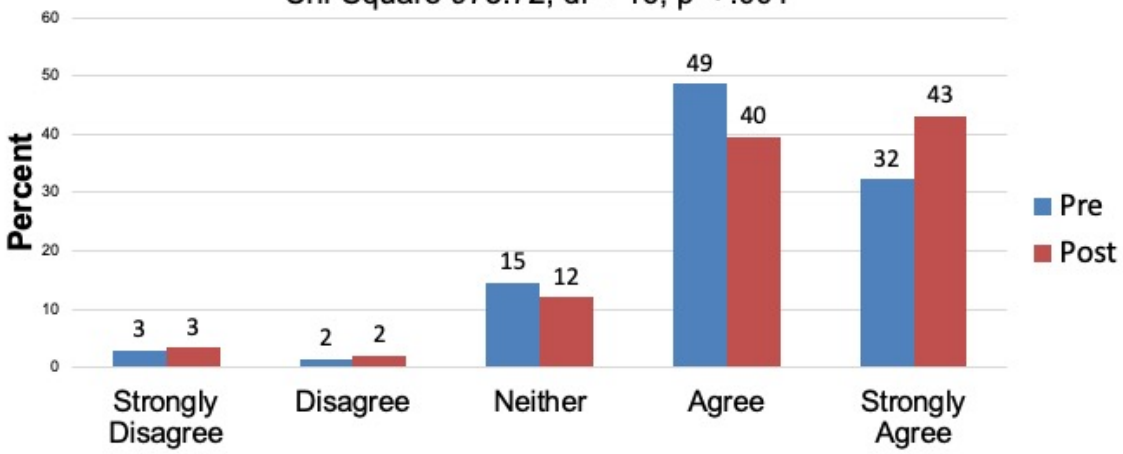
Q5: Patients would ultimately benefit if health science students worked together to solve patient problem*

Chi-Square 983.81, df = 16, p < .001



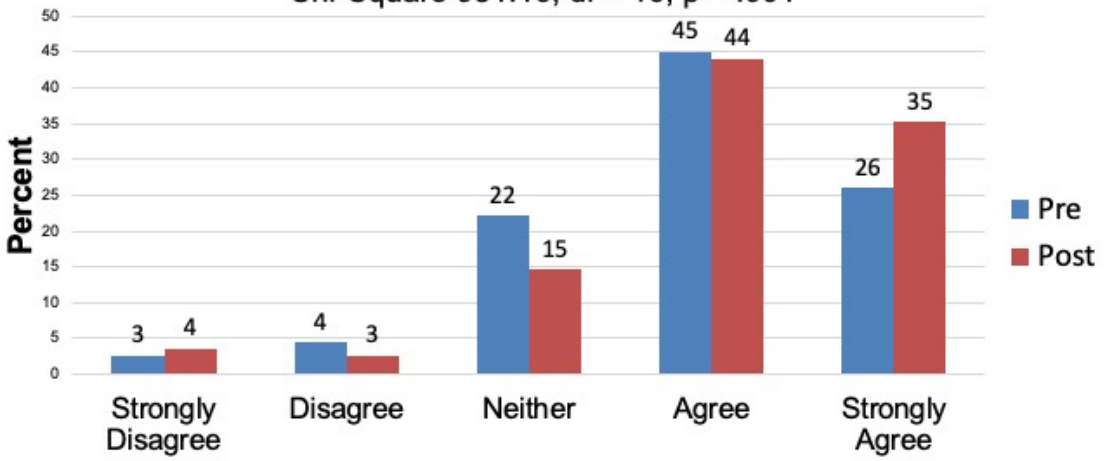
Q6: Shared learning experiences with other health care trainees will help me communicate better with patients and professionals*

Chi-Square 973.72, df = 16, p < .001



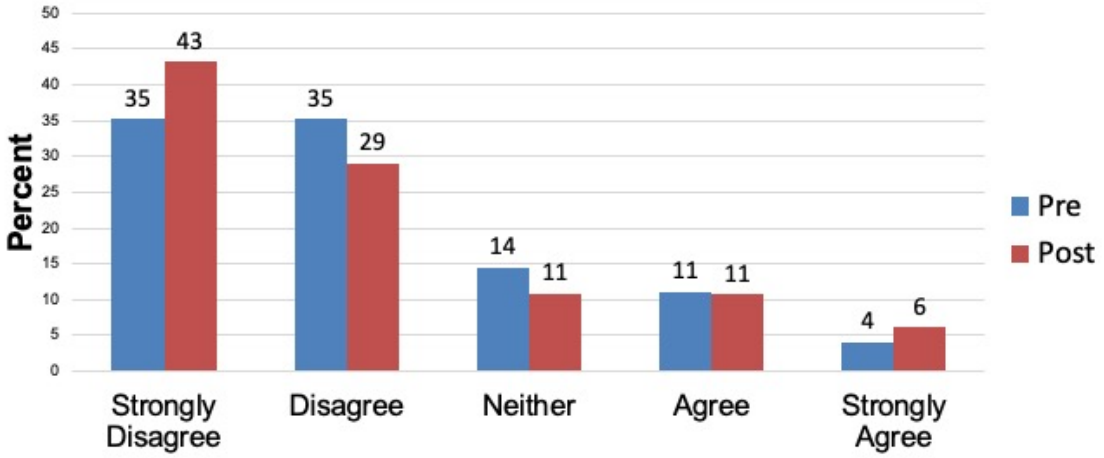
Q7: I welcome the opportunity to work on small-group projects with other health care professions*

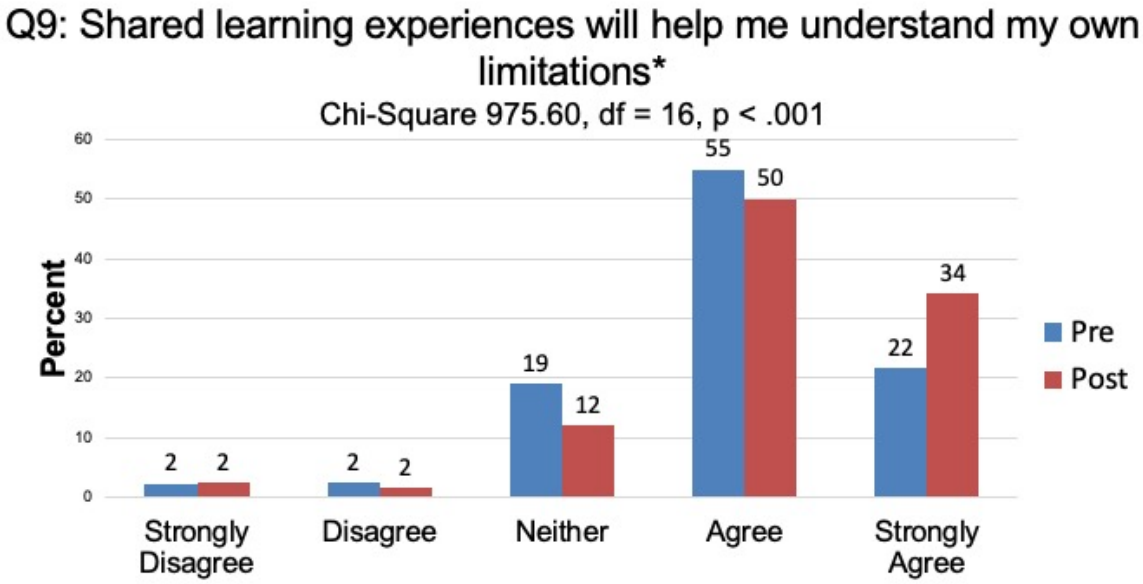
Chi-Square 931.16, df = 16, p < .001

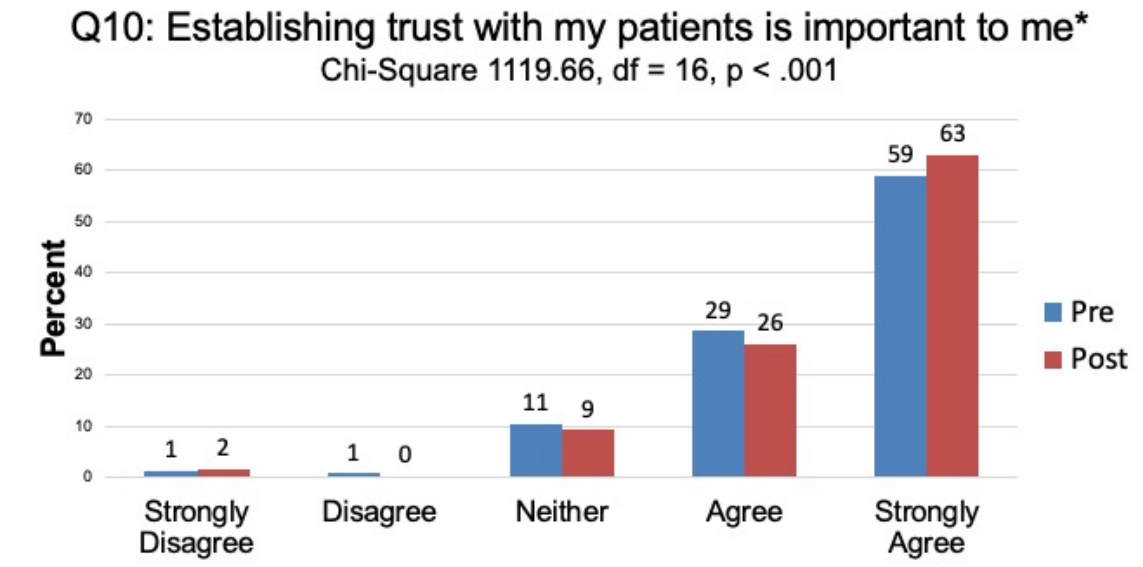


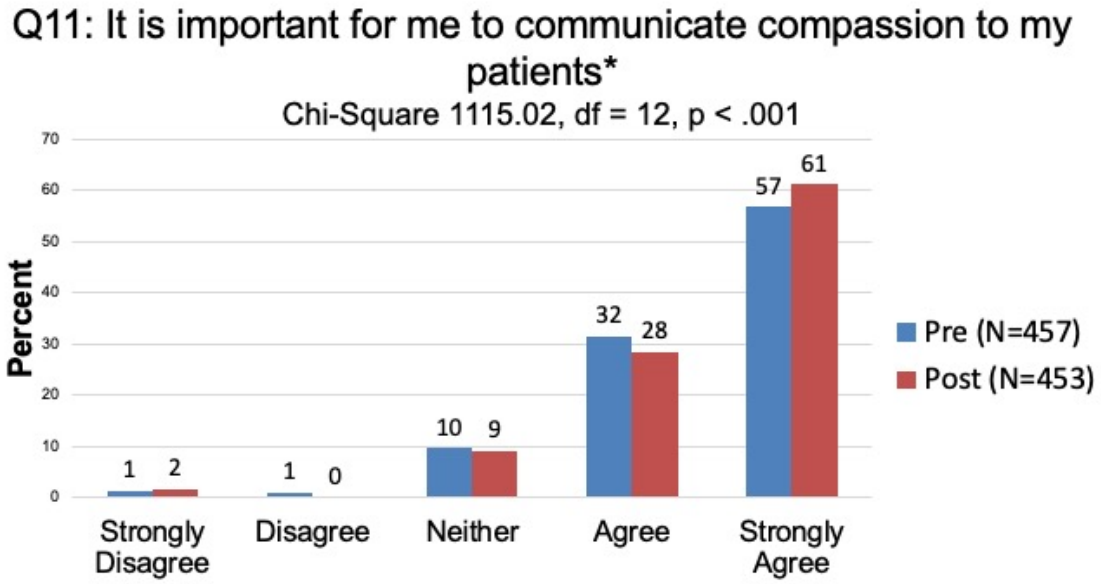
Q8: It is not necessary for health care trainees to learn together*

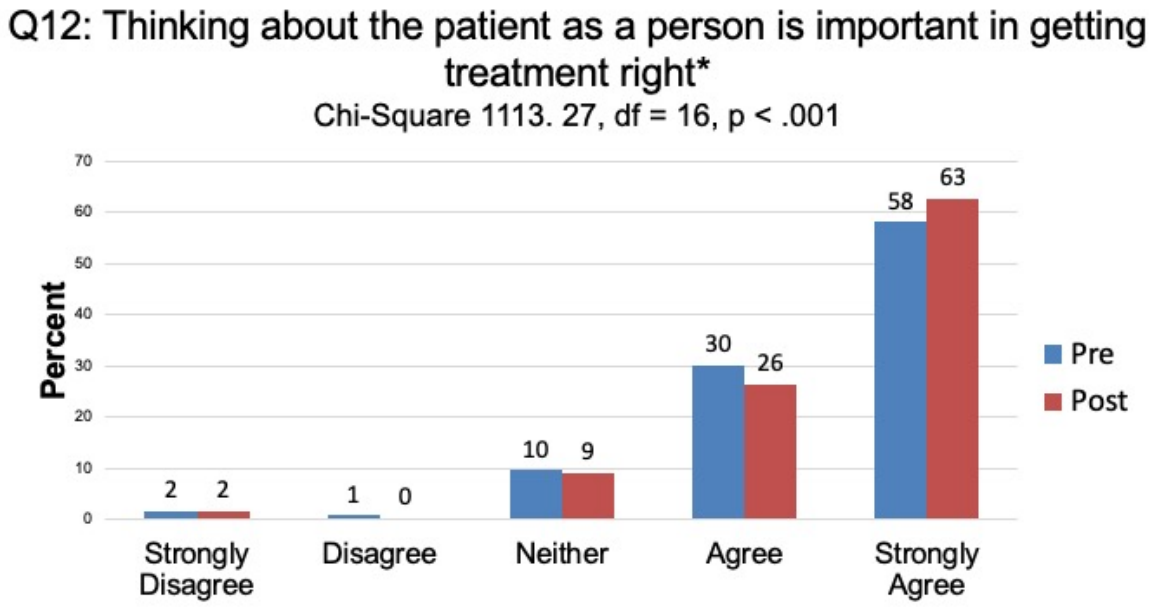
Chi-Square 1134.50, df = 16, p < .001

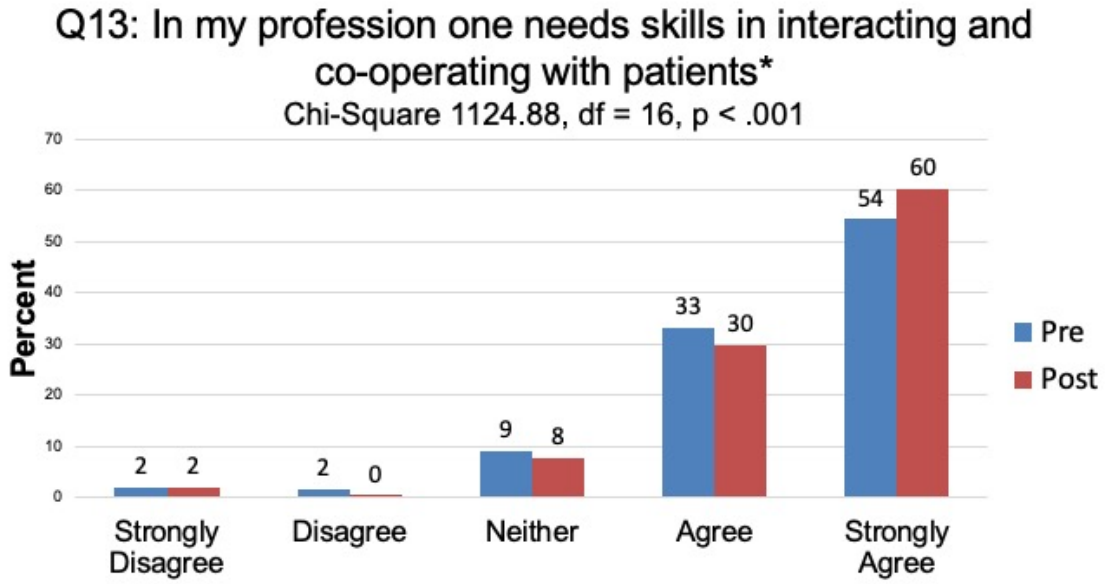


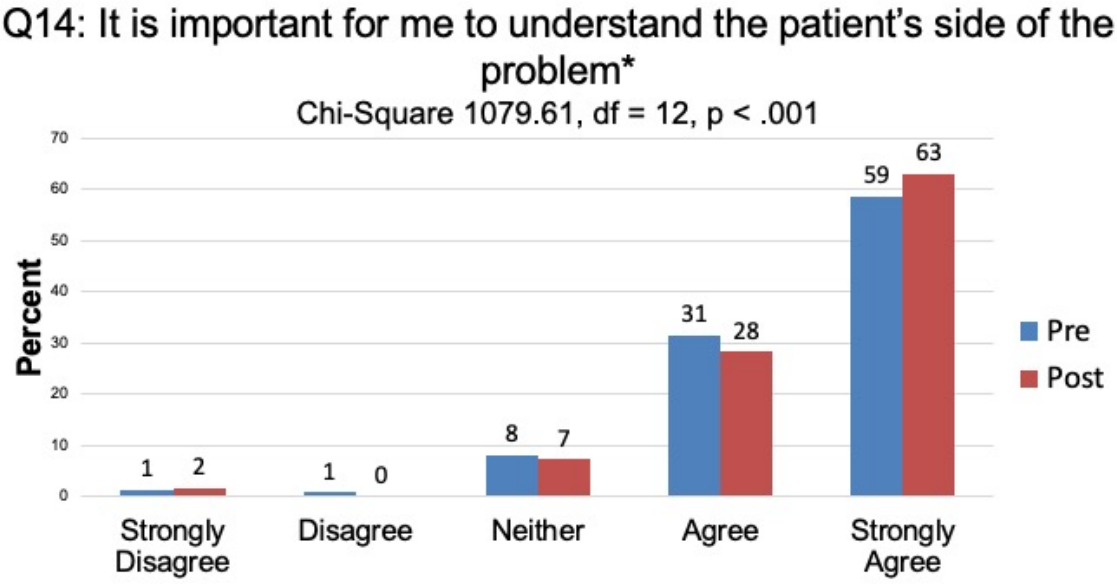

Q9: Shared learning experiences will help me understand my own limitations*
Chi-Square 975.60, df = 16, p < .001
Percent
60
50
40
30
20
10
0
2 2
2 2
19 12
55 50
22 34
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post


Q10: Establishing trust with my patients is important to me*
Chi-Square 1119.66, df = 16, p < .001
Percent
70
60
50
40
30
20
10
0
1 2
1 0
11 9
29 26
59 63
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post


Q11: It is important for me to communicate compassion to my patients*
Chi-Square 1115.02, df = 12, p < .001
Percent
70
60
50
40
30
20
10
0
1 2
1 0
10 9
32 28
57 61
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre (N=457)
Post (N=453)

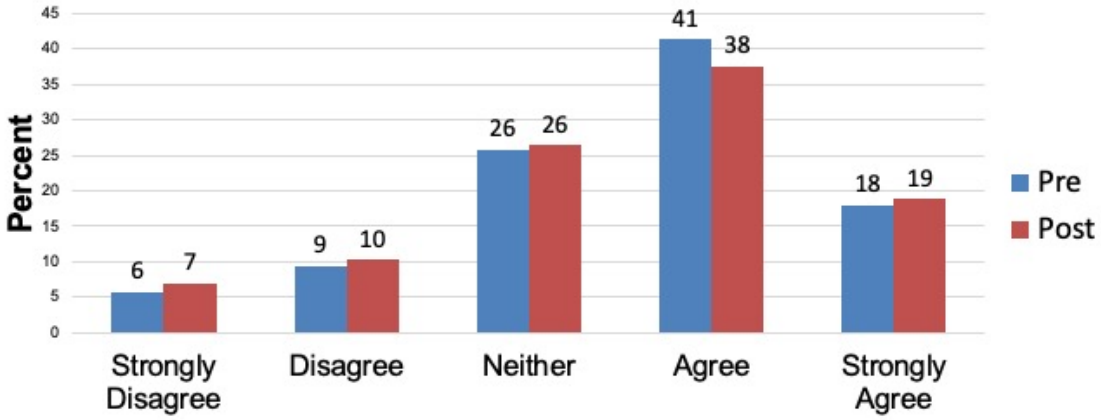

Q12: Thinking about the patient as a person is important in getting treatment right*
Chi-Square 1113. 27, df = 16, p < .001
Percent
70
60
50
40
30
20
10
0
2 2
1 0
10 9
30 26
58 63
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post


Q13: In my profession one needs skills in interacting and co-operating with patients*
Chi-Square 1124.88, df = 16, p < .001
Percent
70
60
50
40
30
20
10
0
2 2
2 0
9 8
33 30
54 60
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post


Q14: It is important for me to understand the patient's side of the problem*
Chi-Square 1079.61, df = 12, p < .001
Percent
70
60
50
40
30
20
10
0
1 2
1 0
8 7
31 28
59 63
Strongly Disagree
Disagree
Neither
Agree
Strongly Agree
Pre
Post

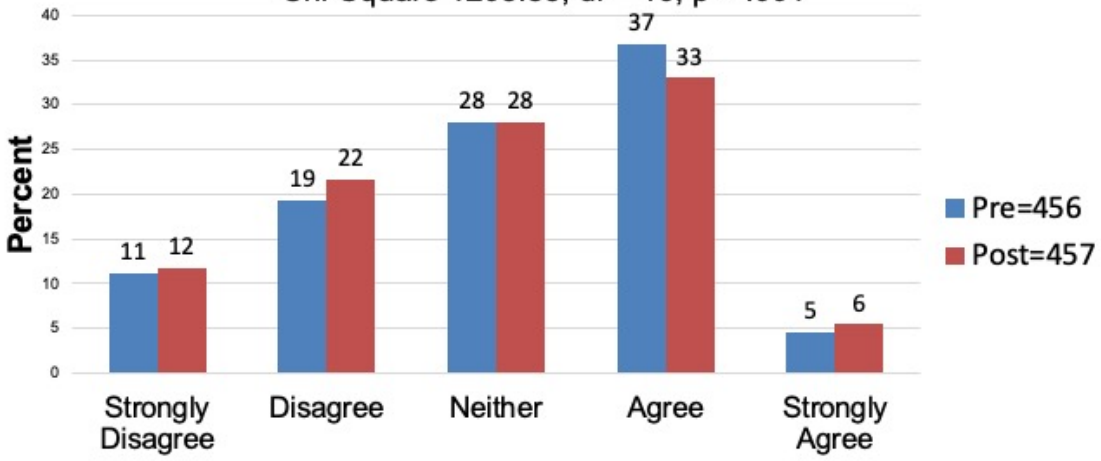
Q15: Health professionals/students from other disciplines have prejudices or make assumptions about me because of the discipline I am studying*

Chi-Square 1109.00, df = 16, p < .001



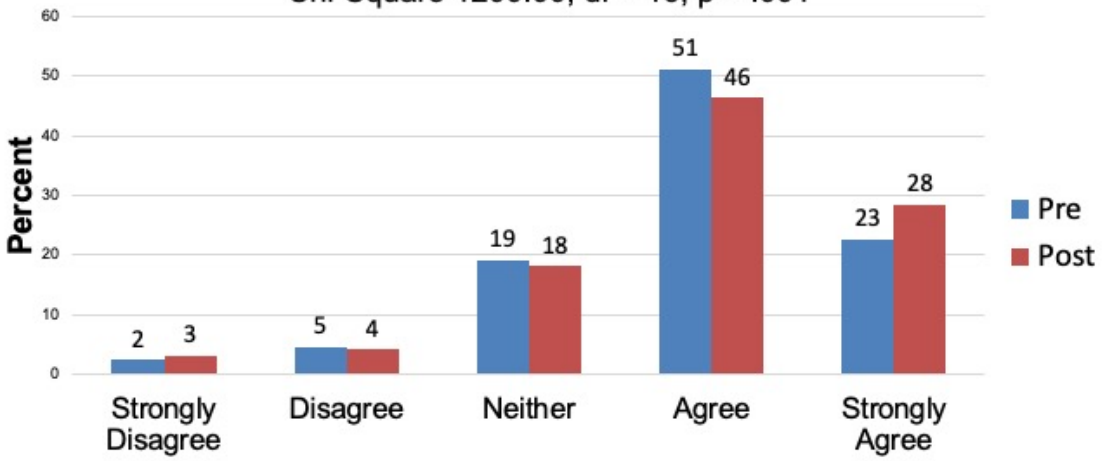
Q16: I have prejudices or make assumptions about health professionals/students from other disciplines*

Chi-Square 1203.85, df = 16, p < .001



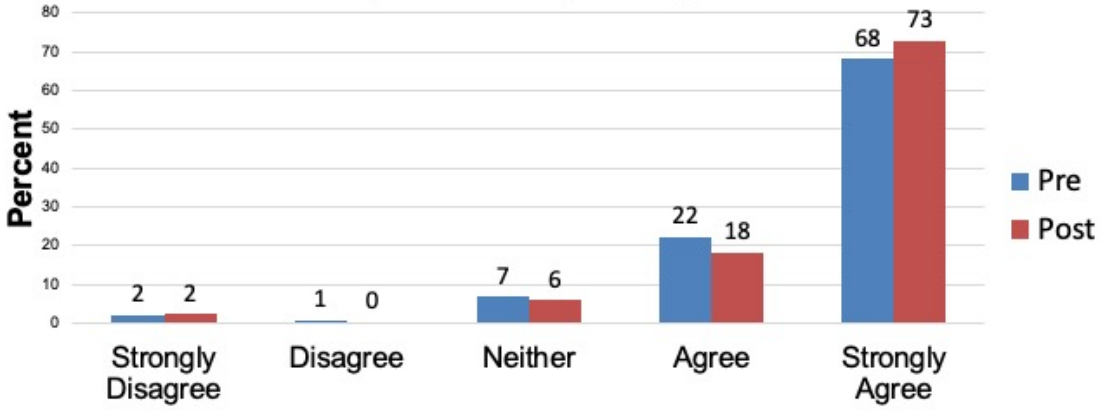
Q17: Prejudices and assumptions about health professionals from other disciplines get in the way of delivery of health care*

Chi-Square 1200.00, df = 16, p < .001



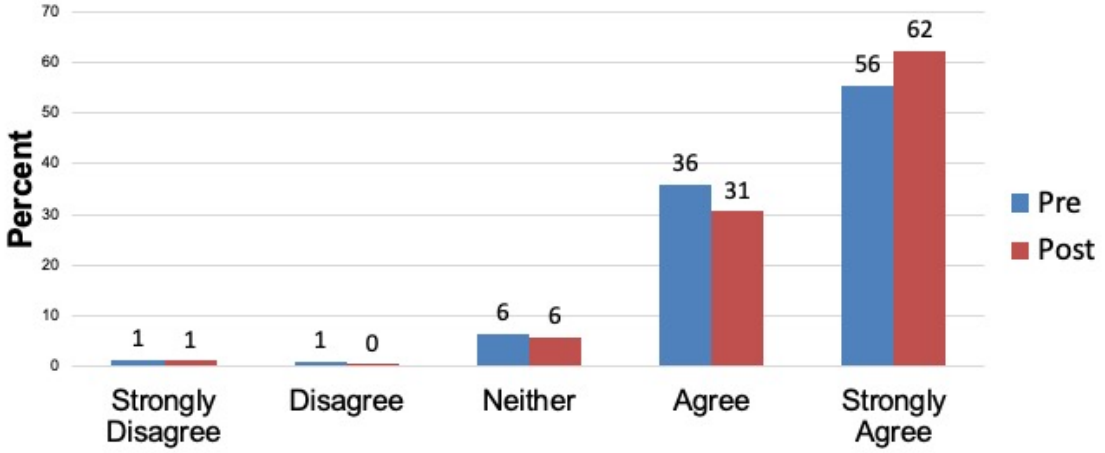
Q18: It is important for health professionals to respect the unique cultures, values, roles/responsibilities, and expertise of other health professions*

Chi-Square 1165.91, df = 16, p < .001



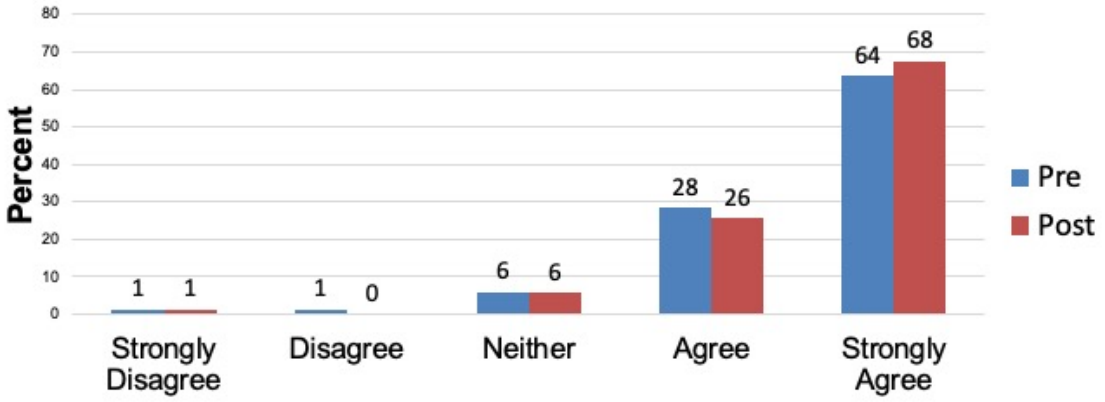
Q19: It is important for health professionals to understand what it takes to effectively communicate across cultures*

Chi-Square 1071.27, df = 16, p < .001



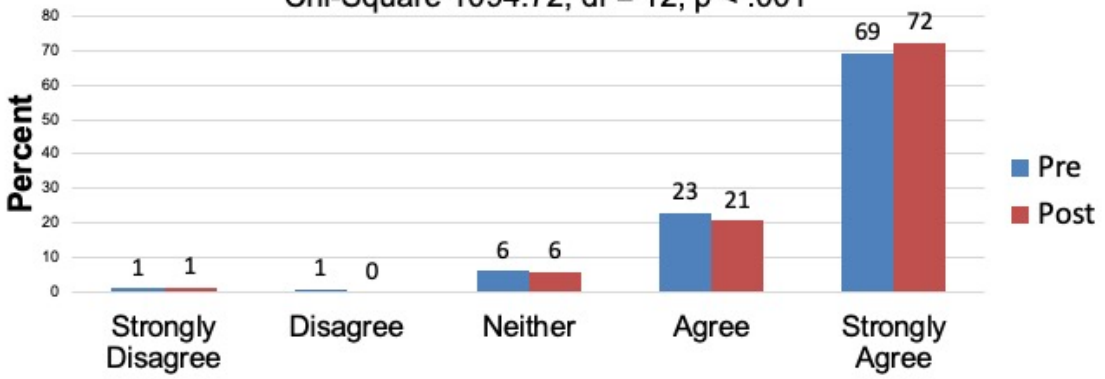
Q20: It is important for health professionals to respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care*

Chi-Square 1081.07, df = 12, p < .001



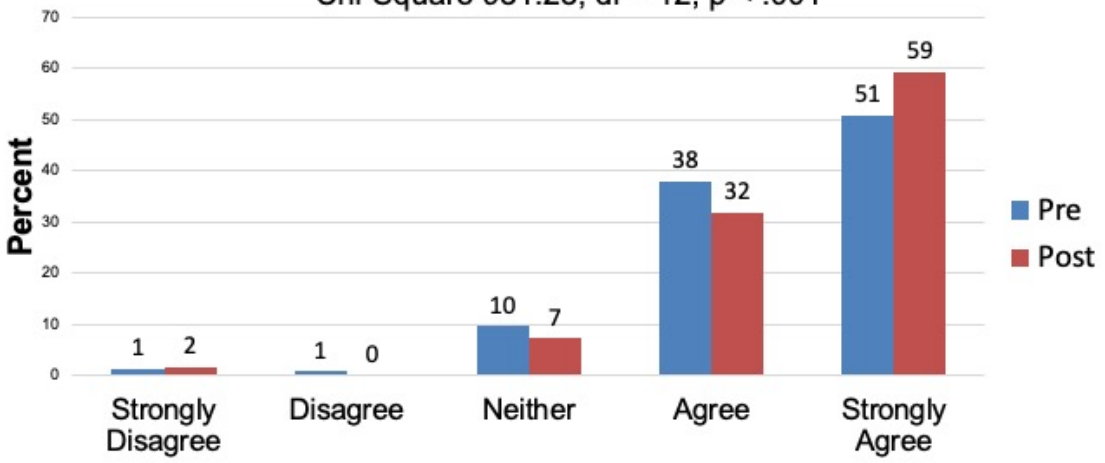
Q21: It is important for health professionals to provide excellent treatment to patients regardless of their background, e.g., race, ethnicity, gender, sexual orientation, religion, class, national origin, immigration status, or ability*

Chi-Square 1094.72, df = 12, p < .001



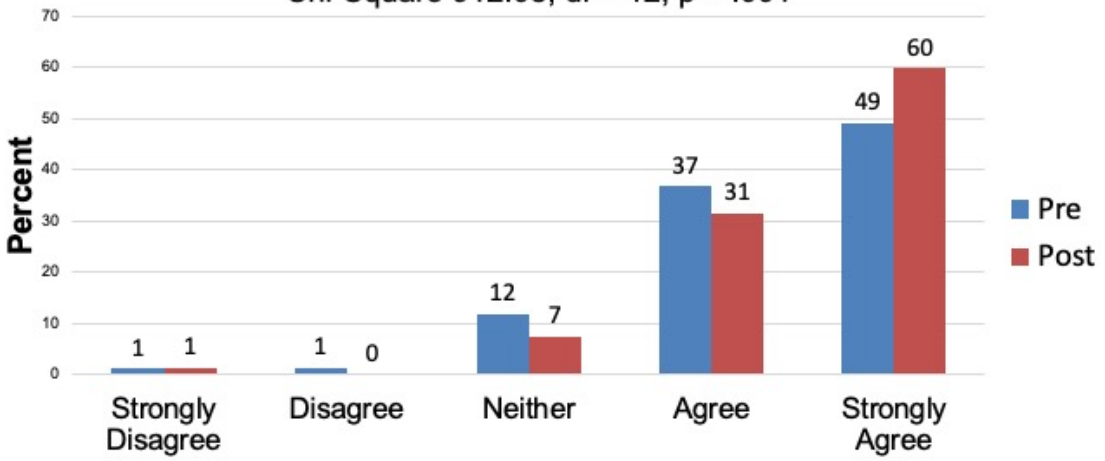
Q22: It is important for health professionals to work on projects to promote community and public health*

Chi-Square 981.28, df = 12, p < .001



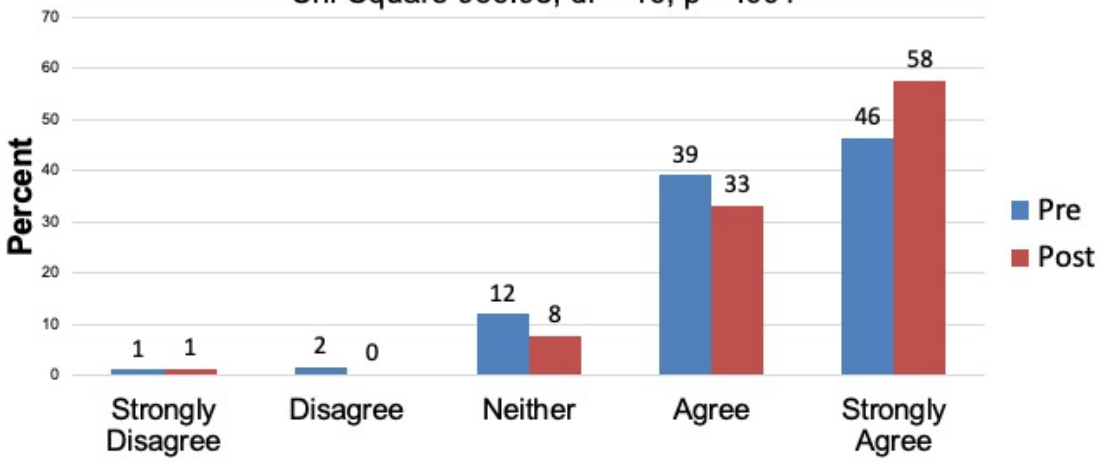
Q23: It is important for health professionals to work with legislators to develop laws, regulations, and policies that improve health care*

Chi-Square 912.08, df = 12, p < .001



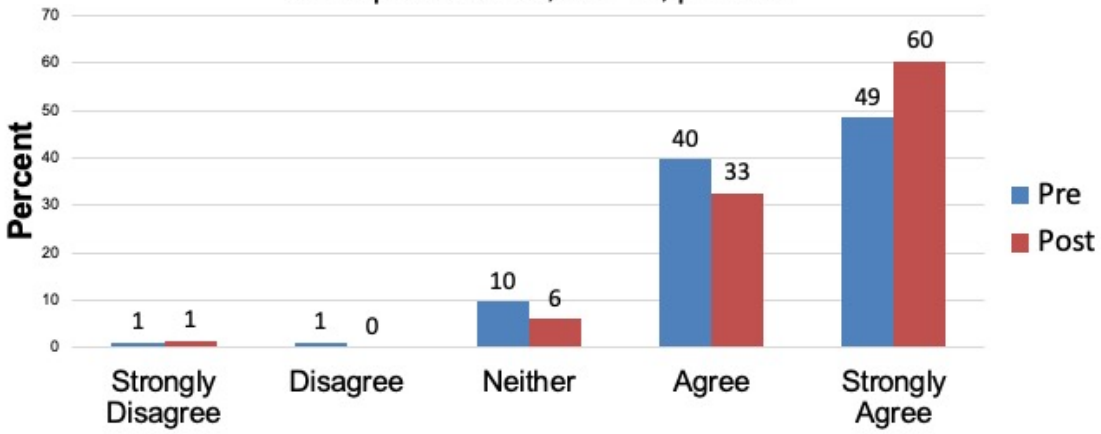
Q24: It is important for health professionals to work with non-clinicians to deliver more effective health care*

Chi-Square 966.98, df = 16, p < .001



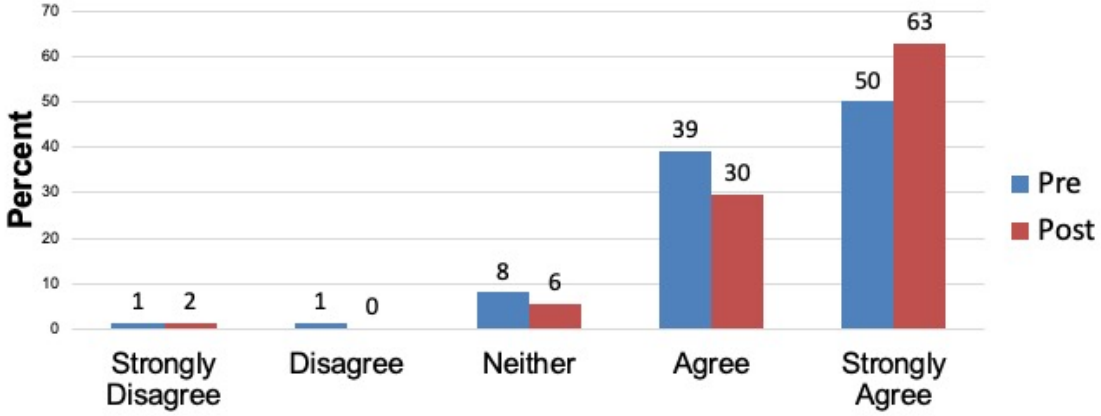
Q25: It is important for health professionals to work with public health administrators and policy makers to improve delivery of health care*

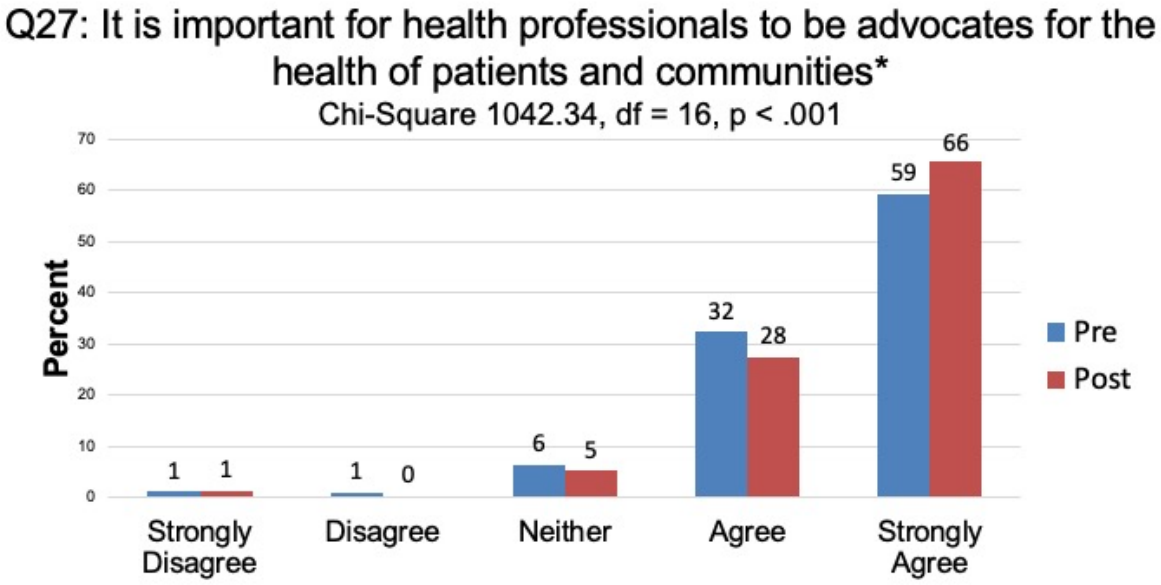
Chi-Square 899.58, df = 12, p < .001



Q26: It is important for health professionals to focus on populations and communities in addition to individual patients, to deliver effective health care*

Chi-Square 882.58, df = 16, p < .001





Footnote: Degrees of freedom (df) was either 12 or 16 in the graphs. This means that despite the graph showing 0%, there is one student who chose a particular response (df = 16). If df = 12 this means that no student chose a particular response.

There were two items in the post-survey that showed a significant difference between the ASTEC and Other Rooms. They were:

- *Q12. Thinking about the patient as a person is important in getting treatment right.*
  - *Chi-Square 17.04, df = 4, p = .002*

- *Q15: Health professionals/students from other disciplines have prejudices or make assumptions about me because of the discipline I am studying.*
  - *Chi-Square 11.47, df = 4, p = .022*

Summary of Post-Survey Results

In summary, the post-survey identified that even if many items were not significantly different between the ASTEC lab and the Other Rooms, as a general rule the ASTEC students were more positive about their experience. The possible reasons can be understood by exploring the tools that were available in a lab, student instructions and activities, the heightened sense of the environment that would make the information more relevant, the facilitation skills, presentation of the materials, and student attention to each other. In the IPAS questions, most of the change occurred with the response of Agree that became Strongly Agree. Overall, this was a very successful and relevant activity. Please refer to the student comments file for more detail.

IPAS Means Pre and Post with Paired t-test

The pre and post Means are presented for each group in the following table. The Paired t-test should be viewed with caution because the scale of Strongly Disagree to Strongly Agree is an ordinal scale where the measurement indicates direction. The required assumption for the Paired t-test is that the scale should be an interval measurement where each interval is equal.

	Mean Pre (SD)	Mean Post (SD)	Difference	Paired *t* (df)	*p* -value
Shared learning before graduation will help me become a better team worker (Q1)					
ASTEC	4.20 (.61)	4.20 (.66)	.00	.00 (29)	1.00
Non-ASTEC	3.89 (1.05)	3.93 (1.18)	-.04	-.44 (56)	.659
Other Rooms	4.03 (.89)	4.16 (.95)	-.13	-5.81 (427)	.001
Shared learning will help me think positively about other professionals (Q2)					
ASTEC	4.00 (.87)	4.07 (.83)	-.07	-.57 (29)	.573
Non-ASTEC	3.89 (1.08)	4.02 (1.09)	-.13	-1.85 (56)	.070
Other Rooms	3.99 (.90)	4.08 (.99)	-.09	-3.25 (427)	.001
Learning with other students will help me become a more effective member of a health care team (Q3)					
ASTEC	4.13 (.63)	4.30 (.60)	-.17	-1.72 (29)	.096
Non-ASTEC	4.02 (1.08)	4.11 (1.11)	-.09	-1.40 (56)	.168
Other Rooms	4.04 (.90)	4.15 (.95)	-.11	-4.40 (427)	.000
Shared learning experiences with other health care students will increase my ability to understand clinical problems (Q4)					
ASTEC	4.17 (.60)	4.33 (.71)	-.16	-1.22 (29)	.231
Non-ASTEC	3.96 (1.09)	4.12 (1.07)	-.16	-2.13 (56)	.038
Other Rooms	4.01 (.89)	4.15 (.95)	-.14	-5.83 (427)	.000
Patients would ultimately benefit if health science students worked together to solve patient problems (Q5)					
ASTEC	4.50 (.57)	4.57 (.73)	-.07	-.52 (29)	.601
Non-ASTEC	4.02 (1.08)	4.18 (1.07)	-.16	-2.13 (56)	.038
Other Rooms	4.19 (.91)	4.28 (.93)	-.09	-4.21 (427)	.000
Shared learning experiences with other health care trainees will help me communicate better with patients and other professionals (Q6)					
ASTEC	4.20 (.71)	4.13 (.90)	.07	.44 (29)	.662
Non-ASTEC	4.00 (1.05)	4.14 (1.06)	-.14	-2.06 (56)	.044
Other Rooms	4.05 (.90)	4.18 (.95)	-.13	-5.36 (427)	.000
I welcome the opportunity to work on small-group projects with other health care professions (Q7)					
ASTEC	3.87 (1.01)	4.13 (.86)	-.26	-2.5 (29)	.018
Non-ASTEC	3.81 (1.14)	4.00 (1.09)	-.19	-2.10 (56)	.040
Other Rooms	3.87 (.93)	4.04 (.97)	-.17	-6.04 (427)	.000
It is not necessary for health care trainees to learn together (Q8)					
ASTEC	2.27 (1.11)	2.30 (1.34)	-.033	-.30 (29)	.769
Non-ASTEC	2.68 (1.43)	2.65 (1.56)	.035	.44 (56)	.659
Other Rooms	2.13 (1.14)	2.06 (1.22)	.07	3.25 (427)	.001
Shared learning experiences will help me understand my own limitations (Q9)					
ASTEC	4.03 (.67)	4.27 (.64)	-.23	-2.98 (29)	.006

	Mean Pre (SD)	Mean Post (SD)	Difference	Paired *t* (df)	*p* -value
Non-ASTEC	3.98 (.95)	4.14 (.95)	-.16	-2.42 (56)	.019
Other Rooms	3.90 (.84)	4.11 (.86)	-.20	-7.64 (427)	.000
Establishing trust with my patients is important to me (Q10)					
ASTEC	4.60 (.62)	4.63 (.62)	-.03	-1.00 (29)	.326
Non-ASTEC	4.32 (.99)	4.44 (.93)	-.12	-2.18 (56)	.034
Other Rooms	4.42 (.82)	4.48 (.81)	-.06	-4.08 (427)	.000
It is important for me to communicate compassion to my patients (Q11)					
ASTEC	4.57 (.57)	4.63 (.56)	-.06	-1.43 (29)	.161
Non-ASTEC	4.30 (.98)	4.44 (.93)	-.14	-2.40 (56)	.020
Other Rooms	4.40 (.82)	4.46 (.80)	-.06	-4.82(422)	.000
Thinking about the patient as a person is important in getting treatment right (Q12)					
ASTEC	4.63 (.56)	4.63 (.72)	.00	.00 (29)	1.00
Non-ASTEC	4.23 (1.04)	4.37 (.99)	-.14	-2.40 (56)	.020
Other Rooms	4.41 (.83)	4.47 (.81)	-.06	-4.08 (427)	.000
In my profession one needs skills in interacting and co-operating with patients (Q13)					
ASTEC	4.53 (.68)	4.60 (.62)	-.07	-1.43 (29)	.161
Non-ASTEC	4.23 (1.00)	4.42 (.94)	-1.9	-2.82 (56)	.007
Other Rooms	4.35 (.87)	4.45 (.83)	-.10	-5.73 (427)	.000
It is important for me to understand the patient's side of the problem (Q14)					
ASTEC	4.57 (.57)	4.67 (.61)	-.10	-1.36 (29)	.184
Non-ASTEC	4.28 (1.0)	4.40 (.94)	-.12	-2.18 (56)	.034
Other Rooms	4.44 (.79)	4.50 (.77)	-.06	-3.97 (427)	.000
Health professionals/students from other disciplines have prejudices or make assumptions about me because of the discipline I am studying (Q15)					
ASTEC	3.77 (1.07)	3.67 (1.16)	.100	1.14 (29)	.264
Non-ASTEC	3.75 (1.12)	3.79 (1.18)	-.04	-.39 (56)	.699
Other Rooms	3.55 (1.07)	3.50 (1.12)	.05	2.00 (427)	.046
I have prejudices or make assumptions about health professionals/students from other disciplines (Q16)					
ASTEC	3.30 (1.09)	3.27 (1.14)	.03	.44 (29)	.662
Non-ASTEC	3.30 (1.17)	3.29 (1.23)	.01	.23 (55)	.821
Other Rooms	3.03 (1.09)	2.96 (1.11)	.06	2.70 (425)	.007
Prejudices and assumptions about health professionals from other disciplines get in the way of delivery of health care (Q17)					
ASTEC	4.13 (.68)	4.10 (.80)	.03	.571 (29)	.573
Non-ASTEC	3.88 (1.07)	4.05 (1.03)	-.17	-2.46 (56)	.017
Other Rooms	3.85 (.91)	3.92 (.96)	.06	-3.11 (427)	.002
It is important for health professionals to respect the unique cultures, values, roles/responsibilities, and expertise of other health professions (Q18)					
ASTEC	4.67 (.60)	4.70 (.60)	-.03	-.57 (29)	.573
Non-ASTEC	4.33 (1.01)	4.42 (.94)	-.09	-1.70 (56)	.096
Other Rooms	4.53 (.84)	4.58 (.84)	-.05	-3.37 (427)	.001
It is important for health professionals to understand what it takes to effectively communicate across cultures (Q19)					

	Mean Pre (SD)	Mean Post (SD)	Difference	Paired *t* (df)	*p* -value
ASTEC	4.57 (.62)	4.63 (.56)	-.06	-1.44 (29)	.161
Non-ASTEC	4.26 (.99)	4.39 (.92)	-.13	-2.18 (56)	.034
Other Rooms	4.43 (.77)	4.52 (.73)	-.09	-5.54 (427)	.000
It is important for health professionals to respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care (Q20)					
ASTEC	4.63 (.62)	4.70 (.60)	-.07	-1.44 (29)	.161
Non-ASTEC	4.28 (1.00)	4.37 (.94)	-.09	-1.69 (56)	.096
Other Rooms	4.51 (.76)	4.57 (.73)	-.06	-3.86 (427)	.000
It is important for health professionals to provide excellent treatment to patients regardless of their background, e.g., race, ethnicity, gender, sexual orientation, religion, class, national origin, immigration status, or ability (Q21)					
ASTEC	4.70 (.54)	4.73 (.52)	-.03	-1.00 (29)	.326
Non-ASTEC	4.28 (1.03)	4.39 (.94)	-.11	-1.94 (56)	.057
Other Rooms	4.57 (.76)	4.61 (.73)	-.04	-3.35 (427)	.001
It is important for health professionals to work on projects to promote community and public health (Q22)					
ASTEC	4.47 (.63)	4.60 (.56)	-.13	-2.11 (29)	.043
Non-ASTEC	4.18 (.97)	4.32 (.93)	-.14	-2.40 (56)	.020
Other Rooms	4.35 (.80)	4.47 (.77)	-.12	-5.72 (427)	.000
It is important for health professionals to work with legislators to develop laws, regulations, and policies that improve health care (Q23)					
ASTEC	4.27 (.74)	4.60 (.62)	-.33	-3.34 (29)	.002
Non-ASTEC	4.20 (1.03)	4.32 (.97)	-.12	-1.99 (55)	.051
Other Rooms	4.32 (.82)	4.48 (.75)	-.16	-7.83 (427)	.000
It is important for health professionals to work with non-clinicians to deliver more effective health care (Q24)					
ASTEC	4.30 (.70)	4.50 (.69)	-.20	-2.70 (29)	.012
Non-ASTEC	4.14 (1.03)	4.33 (.93)	-.19	-2.50 (56)	.015
Other Rooms	4.28 (.82)	4.45 (.76)	-.17	-7.99 (427)	.000
It is important for health professionals to work with public health administrators and policy makers to improve delivery of health care (Q25)					
ASTEC	4.37 (.72)	4.57 (.63)	-.20	-2.26 (29)	.031
Non-ASTEC	4.19 (1.01)	4.35 (.95)	-.16	-2.62 (56)	.011
Other Rooms	4.33 (.79)	4.50 (.73)	-.17	-8.37 (427)	.000
It is important for health professionals to focus on populations and communities in addition to individual patients, to deliver effective health care (Q26)					
ASTEC	4.37 (.67)	4.53 (.57)	-.16	-1.98 (29)	.057
Non-ASTEC	4.19 (.99)	4.35 (.94)	-.16	-2.62 (56)	.011
Other Rooms	4.35 (.80)	4.51 (.77)	-.16	-7.81 (427)	.000
It is important for health professionals to be advocates for the health of patients and communities (Q27)					
ASTEC	4.60 (.56)	4.63 (.56)	-.03	-1.00 (29)	.326
Non-ASTEC	4.33 (.99)	4.40 (.92)	-.07	-1.27 (56)	.209
Other Rooms	4.47 (.76)	4.56 (.73)	-.09	-4.76 (427)	.000