

Title: Residents' perspectives on the introduction, conduct and value of the Objective Structured Clinical Examination-Results of the 1st nationwide questionnaire survey

Abstract

Passing the Objective Structured Clinical Examination (OSCE) is currently a requirement for the majority of candidates to gain American Board of Anesthesiology (ABA) initial certification. Many publications from the ABA have attempted to justify its introduction, conduct and value. However, the ABA has never attempted to understand the views of residents.

A total of 4237 residents and fellows at various training levels from 132 programs were surveyed by asking to fill a Google questionnaire prospectively between March 8th, 2021 and April 10th, 2021. Every potential participant was sent an individual email followed by 2 reminders.

The overall response rate was 16.75% (710 responses to 4237 invitations). On a 5-point Likert scale with 1 as "very inaccurate" and 5 as "very accurate," the mean accuracy of objective structured clinical examination (OSCE) in assessing communication skills and professionalism was 2.33 (1.00) and 2.14 (1.00) respectively. In terms of the usefulness of OSCE training for improving physicians' clinical practice, avoiding lawsuits, teaching effective communication with patients and teaching effective communication with other providers, the means on a 5-point Likert scale with 1 as "Not at all useful" and 5 as "Very useful" were 1.86 (1.04), 1.69 (0.88), 1.79 (1.02), and 1.82 (1.07) respectively. Residents unanimously thought that factors such as culture, race/ethnicity, religion and language adversely influence the assessment of communication skills. On a 5-point Likert scale with 1 as "not at all affected" and 5 as "very affected," the corresponding scores were 3.45 (1.20), 3.19 (1.26), 3.89 (1.30), and 3.18 (1.12) respectively. Interestingly, nationality and political affiliation were also thought to influence this assessment, however, to a lesser extent 2.40 (1.26) and 2.28 (1.26). In addition, residents believed it is inappropriate to test non-cardiac anesthesiologists for TEE skills 2.39 (1.10), but felt it was appropriate to test non-regional anesthesiologists in Ultrasound skills 3.29 (1.21). Lastly, nearly 80% of the residents think that money was the primary motivating factor behind ABA's introduction of the OSCE. Over 96% residents think that OSCE should be stalled, either permanently scrapped (60.8%) or paused (35.8%).

CONCLUSIONS: Anesthesiology residents overwhelmingly indicated that the OSCE does not serve any useful purpose and should be immediately halted.

Component and questions	
Assessment in the OSCE ((Very inaccurate, inaccurate, neutral, accurate, very accurate)	<p>How accurate do you believe the OSCE is in assessing communication skills?</p> <p>How accurate do you believe the OSCE is in assessing professionalism? (Very inaccurate, inaccurate, neutral, accurate, very accurate)</p> <p>To what extent do you think that the OSCE's assessment of communication skills is affected by the following characteristics of the test taker? (Not at all affected, minimally affected, somewhat affected, affected, very affected)</p> <p>Culture</p> <p>Race/Ethnicity</p> <p>Language</p> <p>Nationality</p> <p>Religion</p> <p>Political affiliation</p>
Format of the OSCE ? (Very inappropriate, inappropriate, neutral, appropriate, very appropriate))	<p>How appropriate do you believe it is for the OSCE to assess non-cardiac anesthesiologists in transesophageal echocardiogram (TEE)?</p> <p>How appropriate do you believe it is for the OSCE to assess non-regional anesthesiologists in ultrasound?</p>
Value of the OSCE (very useful, somewhat useful, neutral, of very little use, not at all useful)	<p>How useful do you believe OSCE training is for improving physicians' clinical practice?</p> <p>How useful do you believe OSCE training is for avoiding lawsuits?</p> <p>How useful do you believe the OSCE training is for teaching physicians how to effectively communicate with patients?</p> <p>How useful do you believe OSCE training is for teaching physicians how to effectively communicate with other providers?</p>
Motive of the ABA with regards to the OSCE introduction	<p>What do you think is the main motive of the ABA to start OSCE?</p> <p>(Financial gain to the ABA, improve patient care, increase patient satisfaction, decrease disciplinary proceeding against anesthesiologists by the licensing bodies)</p>
Future of the OSCE	<p>What do you think should be the future of the OSCE? (Permanently scrapped, paused pending demonstration that it improves patient outcomes, paused pending demonstration that it decreases disciplinary proceeding against anesthesiologists by the licensing bodies, should continue as is)</p>

Table 1 Questions and response options posed to the residents and fellows.

Table 2-Responses by the attempts

Dates of email dispatch	Number of residents to whom emails were dispatched	Number of emails bounced/not delivered	Number of responses received	Overall percentage response
03/8/2021-03/17/2021 (1 st attempt)	4237	125	284	6.70
03/17/2021-03/26/2021(2 nd attempt)	4236	124	167	3.94
03/27/2021-04/04/2021 (3 rd and final reminder)	4235	123	259	6.11

Training Category	Number of emails presumably delivered, opened and read	Complete responses received (percentage)	Percentage response (Approximate)
Postgraduate Year 1	583	47	08.06
Clinical Anesthesia Training 1	1153	146	12.66
Clinical Anesthesia Training 2	1234	212	17.18
Clinical Anesthesia Training 3	1204	282	23.42
Clinical Anesthesia Training 4	63	23	36.51
Total	4237	710	16.75

Table 3. Percentage response for each for training year

State	Total emails presumed to be delivered, opened and read	Total responses received	Response in percentage
Alabama	60	12	20.00%
Arizona	44	15	34.09%
Arkansas	33	11	33.33%
California	360	70	19.44%
Colorado	50	10	20.00%
Connecticut	55	28	50.91%
Florida	282	48	17.02%
Georgia	81	17	20.99%
Illinois	198	25	12.63%
Indiana	74	10	13.51%
Iowa	56	3	5.36%
Kansas	52	4	7.69%
Kentucky	21	3	14.29%
Louisiana	103	8	7.77%
Maine	18	4	22.22%
Maryland	54	7	12.96%
Massachusetts	297	69	23.23%
Michigan	70	13	18.57%
Minnesota	24	15	62.50%
Mississippi	34	3	8.82%
Missouri	120	12	10.00%
Nebraska	51	17	33.33%
New Hampshire	20	3	15.00%
New Jersey	28	0	0.00%
New Mexico	25	3	12.00%
New York	572	63	11.01%
North Carolina	126	25	19.84%
Ohio	188	25	13.30%
Oklahoma	44	4	9.09%
Oregon	35	2	5.71%
Pennsylvania	196	33	16.84%
Puerto Rico	11	6	54.55%
Rhode Island	31	2	6.45%
South Carolina	62	12	19.35%
Tennessee	97	20	20.62%
Texas	200	34	17.00%
Utah	26	3	11.54%
Vermont	16	2	12.50%
Virginia	96	11	11.46%
Washington State	128	15	11.72%
Washington D.C.	47	9	19.15%
West Virginia	28	5	17.86%
Wisconsin	124	29	23.39%
Total	4237	710	16.75%

Table 4- Responses by state-percentage and total

Component and questions		Scoring scales and responses in percentage of the total respondents					Mean (SD)	Median
Assessment in the OSCE		1	2	3	4	5		
How accurate do you believe the OSCE is in assessing communication skills? (Very inaccurate, inaccurate, neutral, accurate, very accurate)		24.5	30.8	32.3	11.4	1.0	2.33 (1.00)	2
How accurate do you believe the OSCE is in assessing professionalism? (Very inaccurate, inaccurate, neutral, accurate, very accurate)		32.3	32.8	24.5	9.6	0.8	2.14 (1.00)	2
Format of the OSCE		1	2	3	4	5		
How appropriate do you believe it is for the OSCE to assess non-cardiac anesthesiologists in transesophageal echocardiogram (TEE)? (Very inappropriate, inappropriate, neutral, appropriate, very appropriate)		24.1	33.5	24.8	14.2	3.4	2.39 (1.10)	2
How appropriate do you believe it is for the OSCE to assess non-regional anesthesiologists in ultrasound? (Very inappropriate, inappropriate, neutral, appropriate, very appropriate)		10.8	14.5	24.5	34.9	15.2	3.29 (1.21)	2
Value of the OSCE		A	B	C	D	E		
How useful do you believe OSCE training is for improving physicians' clinical practice?		47.5	30.7	12.0	7.7	2.1	1.86 (1.04)	2
How useful do you believe OSCE training is for avoiding lawsuits?		53.2	29.9	12.4	3.9	0.6	1.69 (0.88)	1
How useful do you believe the OSCE training is for teaching physicians how to effectively communicate with patients?		52.4	28.0	9.61	8.6	1.4	1.79 (1.02)	1
How useful do you believe OSCE training is for teaching physicians how to effectively communicate with other providers?		52.7	25.2	11.3	9.0	1.8	1.82 (1.07)	1
Factors affecting the communication section of the OSCE		a	b	c	d	e		
To what extent do you think that the OSCE's assessment of communication skills is affected by the following characteristics of the test taker?	Culture	8.7	11.3	28.9	28.9	22.3	3.45 (1.20)	4
	Race/Ethnicity	12.1	18.5	24.8	27.5	17.2	3.19 (1.26)	3
	Religion	28.9	34.4	15.9	9.7	11.1	3.89 (1.30)	4
	Language	4.9	6.2	20.0	32.4	36.5	3.18 (1.12)	3
	Presumed nationality	11.8	18.7	27.2	23.9	18.3	2.40 (1.26)	2
	Presumed political affiliation	32.8	34.9	15.8	8.2	9.7	2.28 (1.26)	2
Motive of the ABA with regards to the OSCE introduction		I	II	III	IV			
What do you think is the main motive of the ABA to start OSCE?		78.9	14.1	0.7	6.3			
Future of the OSCE		IA	IB	IC	ID			
What do you think should be the future of the OSCE?		60.8	32.7	3.1	3.4			

Table 5. Questions asked in the survey, the response percentage for each category of the 5-point Likert scale with their mean and median

OSCE- Objective Structured Clinical Examination; ABA American Board of Anesthesiology

1-Very inaccurate, 2- inaccurate, 3- neutral, 4- accurate, 5- very accurate

A- Not at all useful, B- of very little use, C- neutral, D- somewhat useful, E- very useful

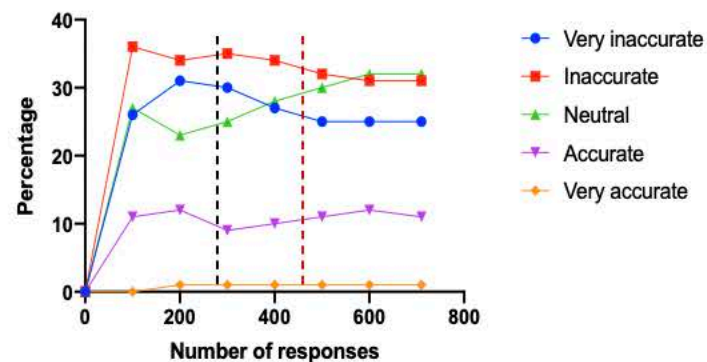
a- not at all affected, b- minimally affected, c- somewhat affected, d- affected, e- very affected

I- Financial gain to the ABA, II- improve patient care, III- increase patient satisfaction, IV- decrease disciplinary proceeding against anesthesiologists by the licensing bodies

IA - Permanently scrapped, IB- paused pending demonstration that it improves patient outcomes, IC- paused pending demonstration that it decreases disciplinary proceeding against anesthesiologists by the licensing bodies, ID- should continue as is

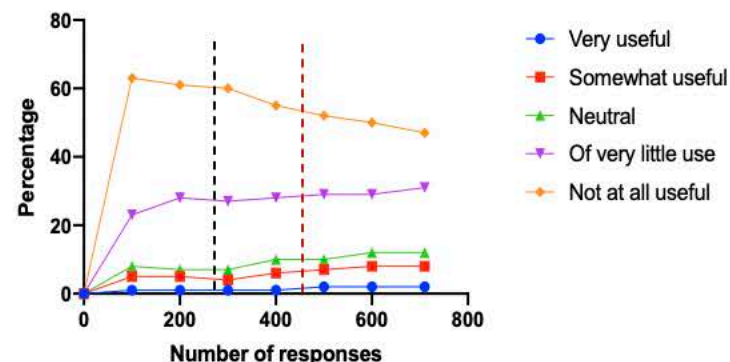
A

How accurate do you believe the OSCE is in assessing communication skills?



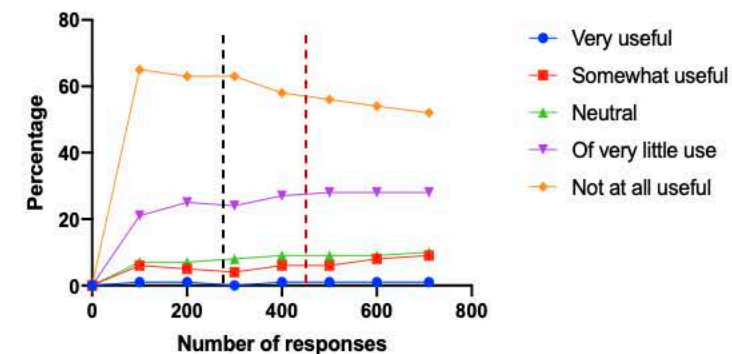
C

How useful do you believe OSCE training is for improving physicians' clinical practice?



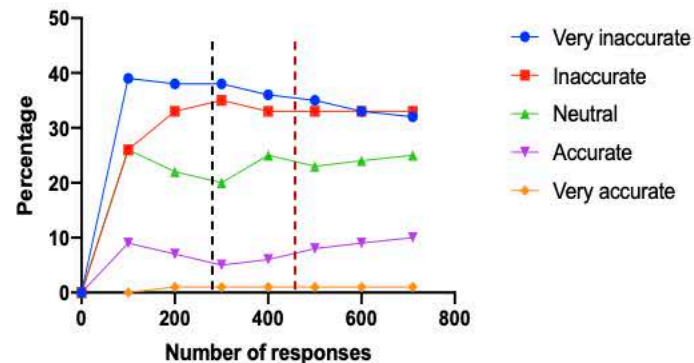
E

How useful do you believe the OSCE training is for teaching physicians how to effectively communicate with patients?



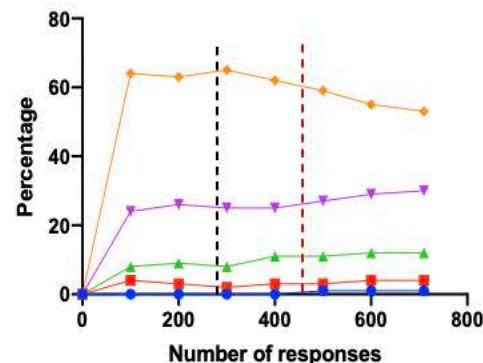
B

How accurate do you believe the OSCE is in assessing professionalism?



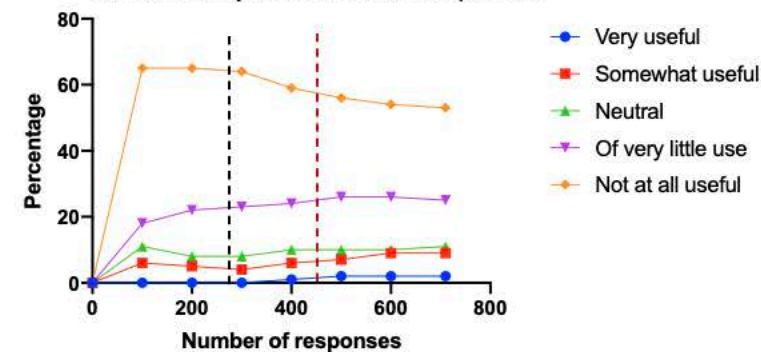
D

How useful do you believe OSCE training is for avoiding lawsuits?



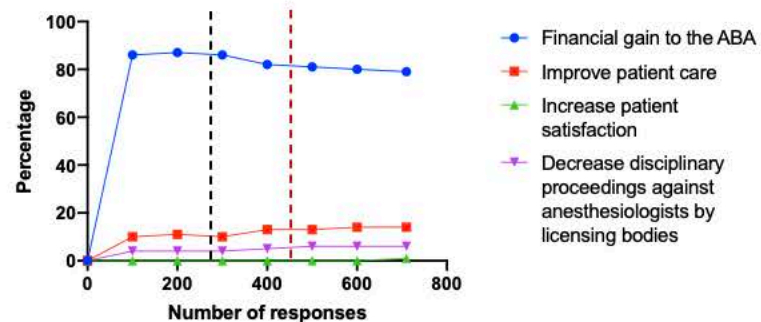
F

How useful do you believe OSCE training is for teaching physicians how to effectively communicate with other providers?



G

What do you think the ABA's primary motive is for carrying out the OSCE?



H

What do you think should be the future of OSCE?

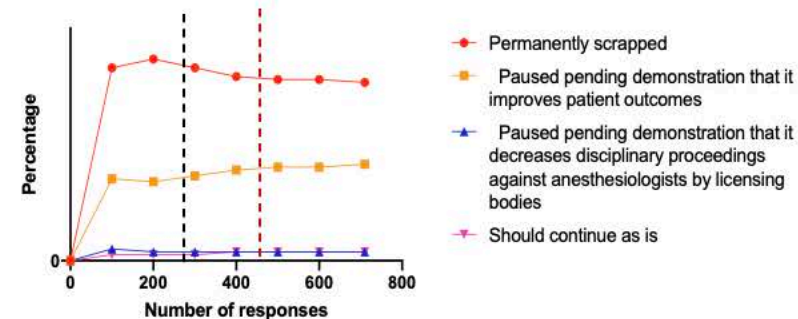


Figure 1: Total percentages for each response were recorded after every 100 responses gathered to demonstrate how the distribution of responses remain largely consistent throughout the duration of study. **A-B.** Questions regarding the assessment of communication skills and professionalism in OSCE were largely perceived as inaccurate. **C-F.** Resident responses regarding the value of OSCE were also largely viewed as not at all useful for all questions posed. **G.** The belief that OSCE was implemented for ABA financial gain was very strongly noted and persisted throughout the entire duration of the study. **H.** A large majority of respondents believed that the OSCE examination should be permanently scrapped or paused, a statistic which also remained consistent as more responses were introduced. Black dotted line indicates point at which second email was sent (first reminder). Red dotted line indicates point at which third and final email was sent (second reminder).

To what extent do you think that the OSCE's assessment of communication skills is affected by the following characteristics of the test taker?

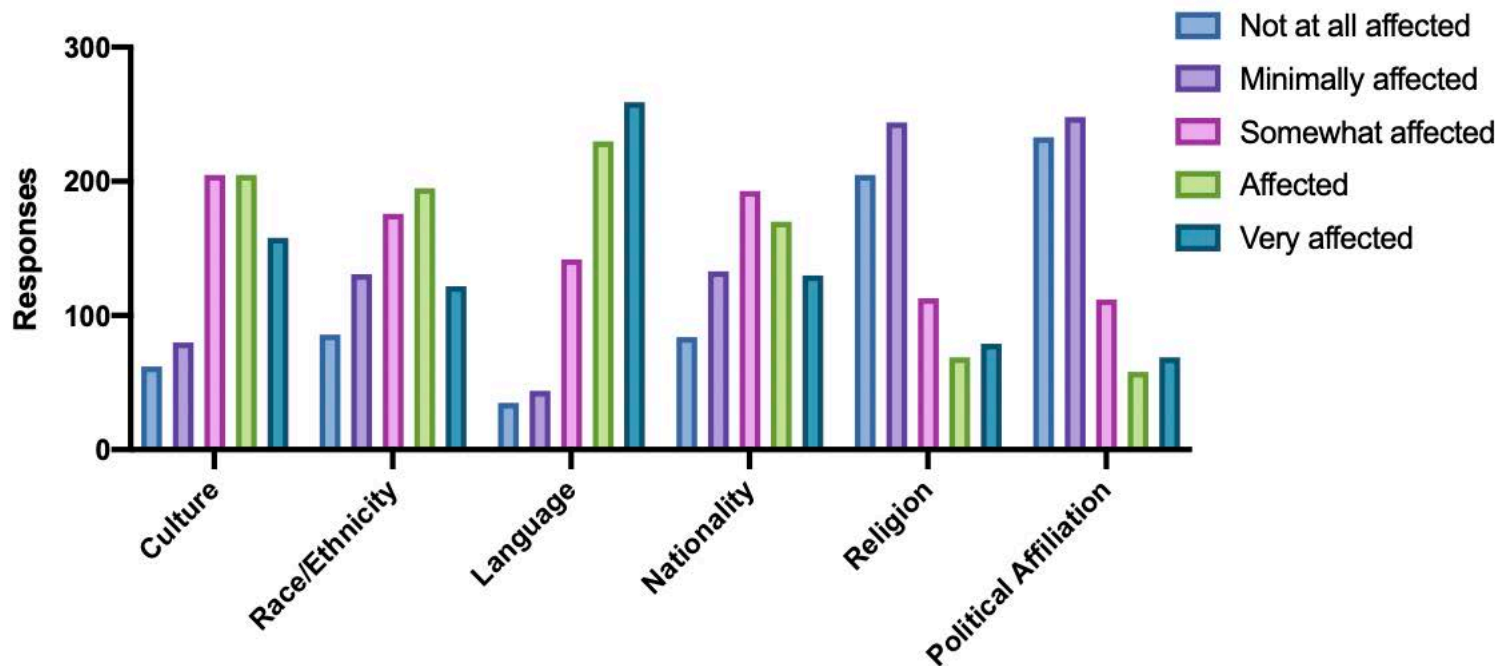
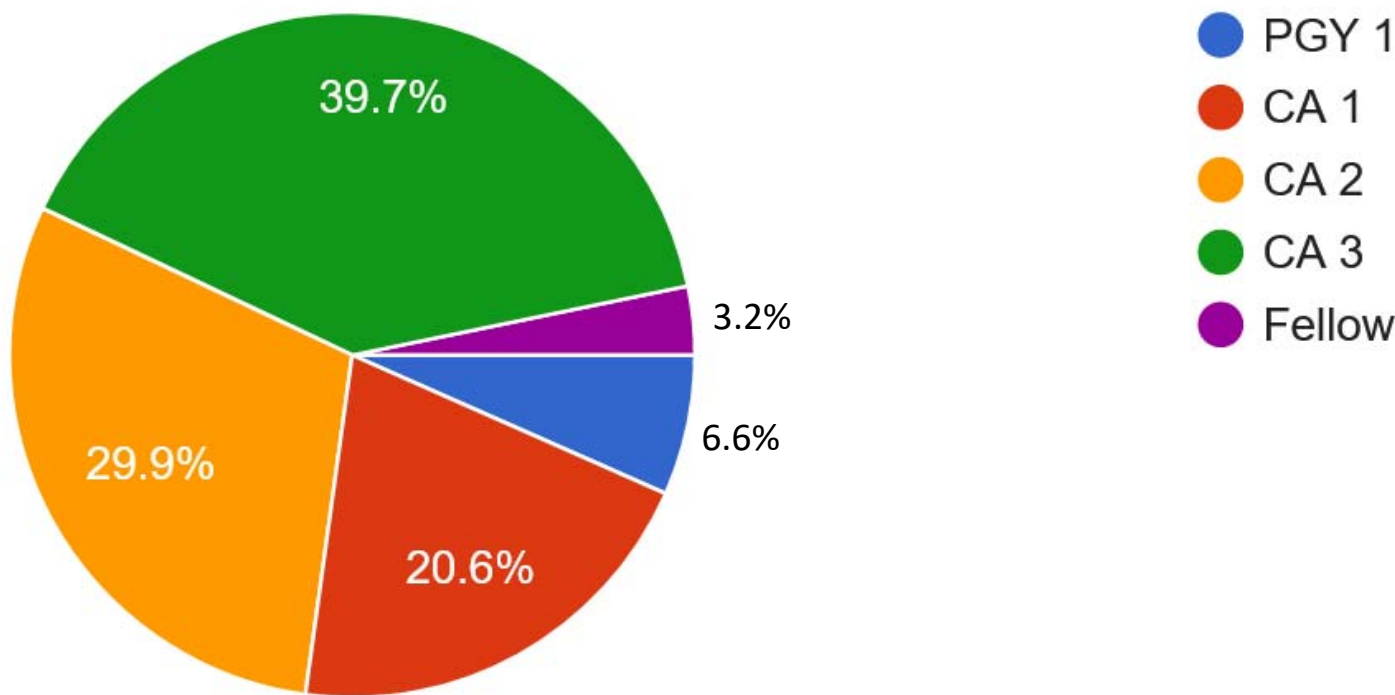


Figure 2: A multi bar graph showcasing to what extent respondents felt different external factors affected the OSCE's assessment of communication skills.

Training year

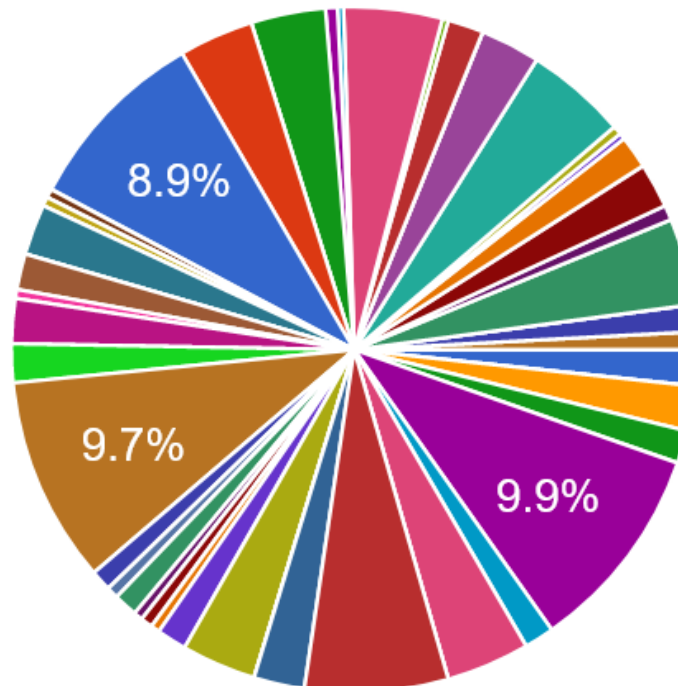
710 responses



Location of Program (state only)

710 responses

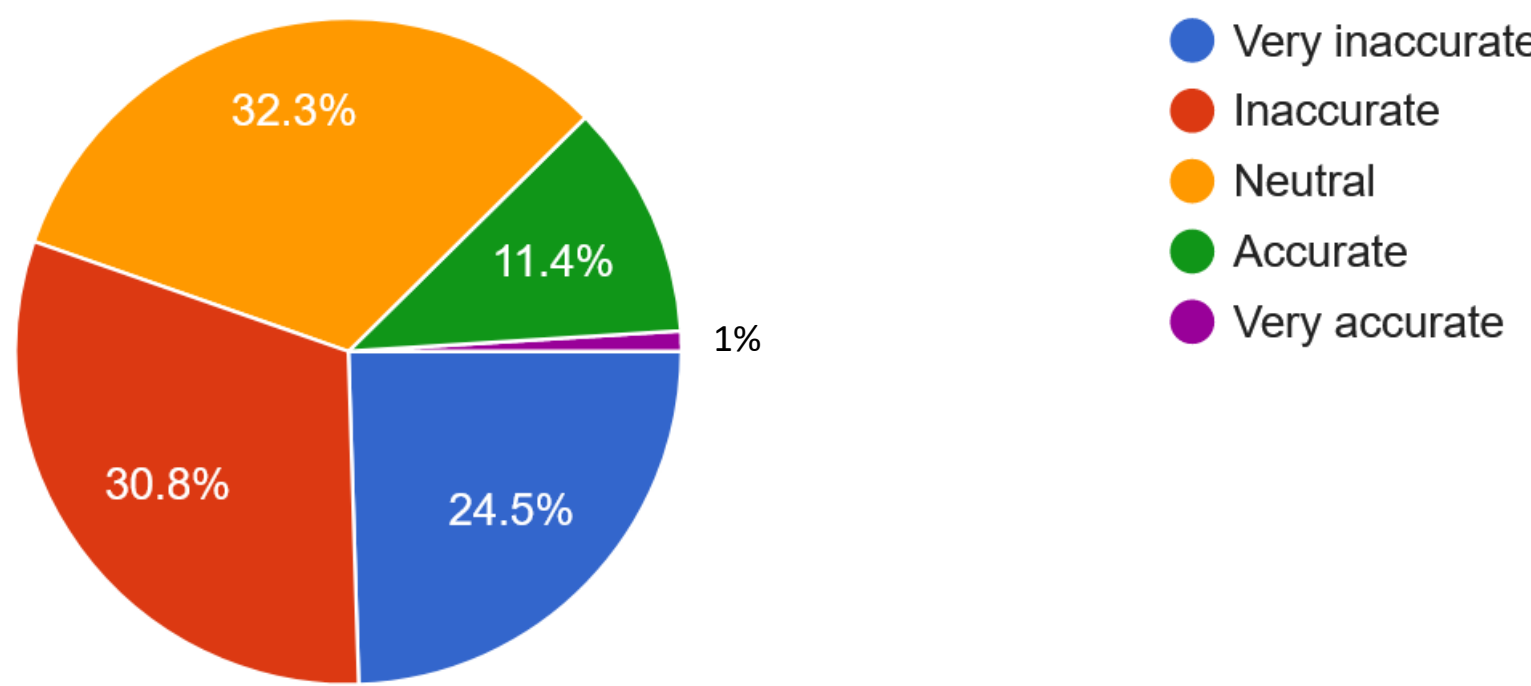
- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York



- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming
- Washington D.C.
- Puerto Rico
- Other

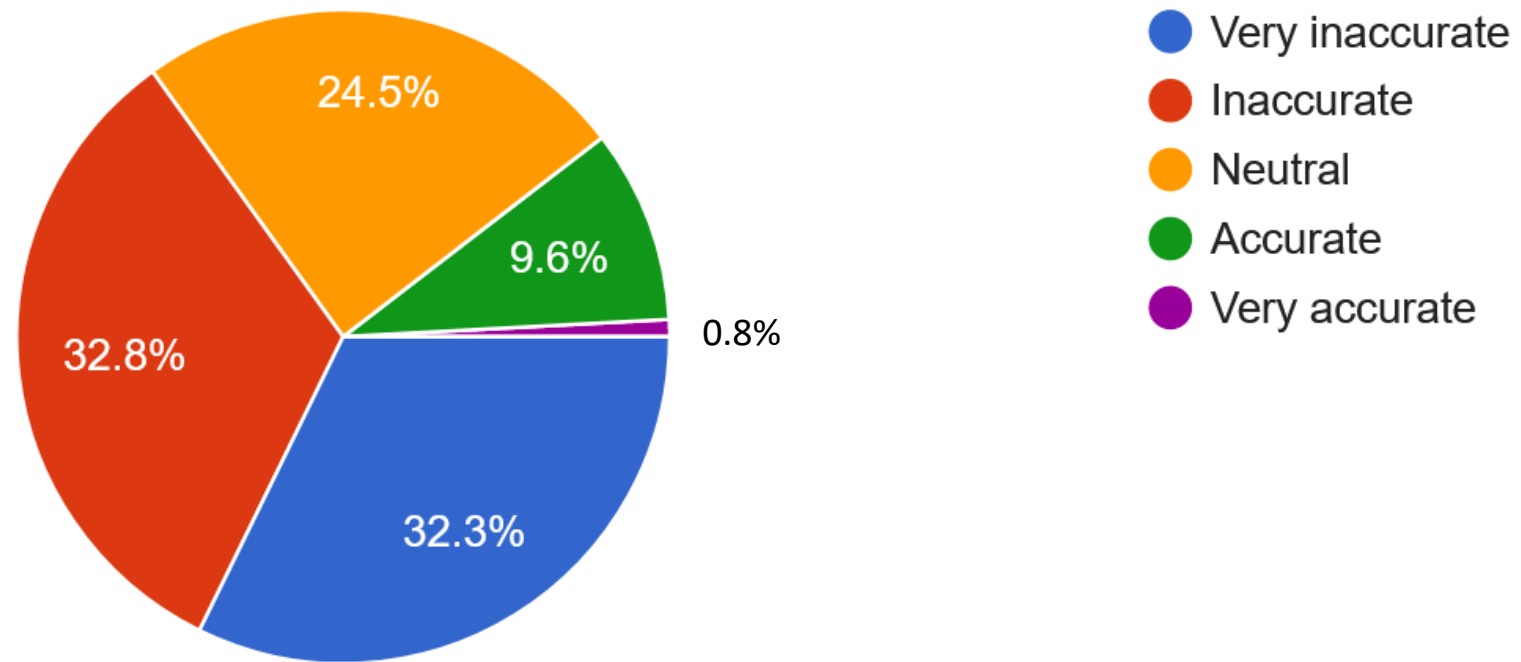
How accurate do you believe the OSCE is in assessing communication skills?

710 responses

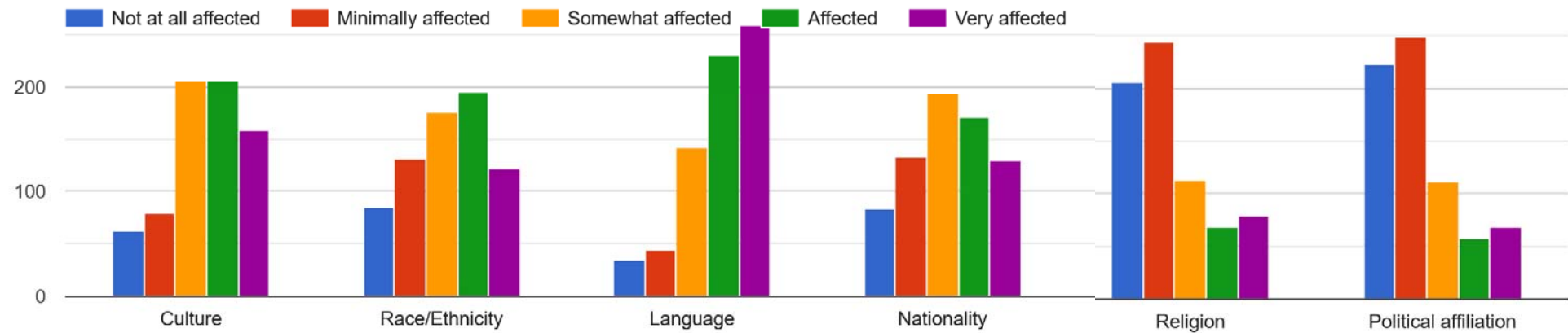


How accurate do you believe the OSCE is in assessing professionalism?

710 responses

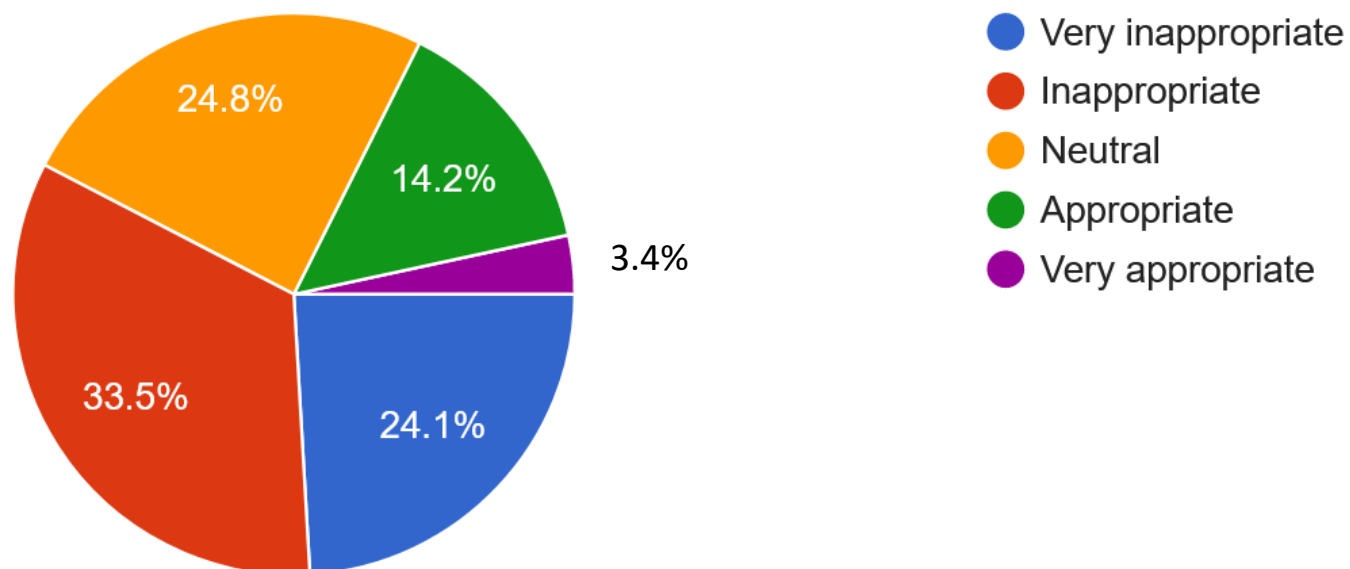


To what extent do you think that the OSCE's assessment of communication skills is affected by the following characteristics of the test taker?



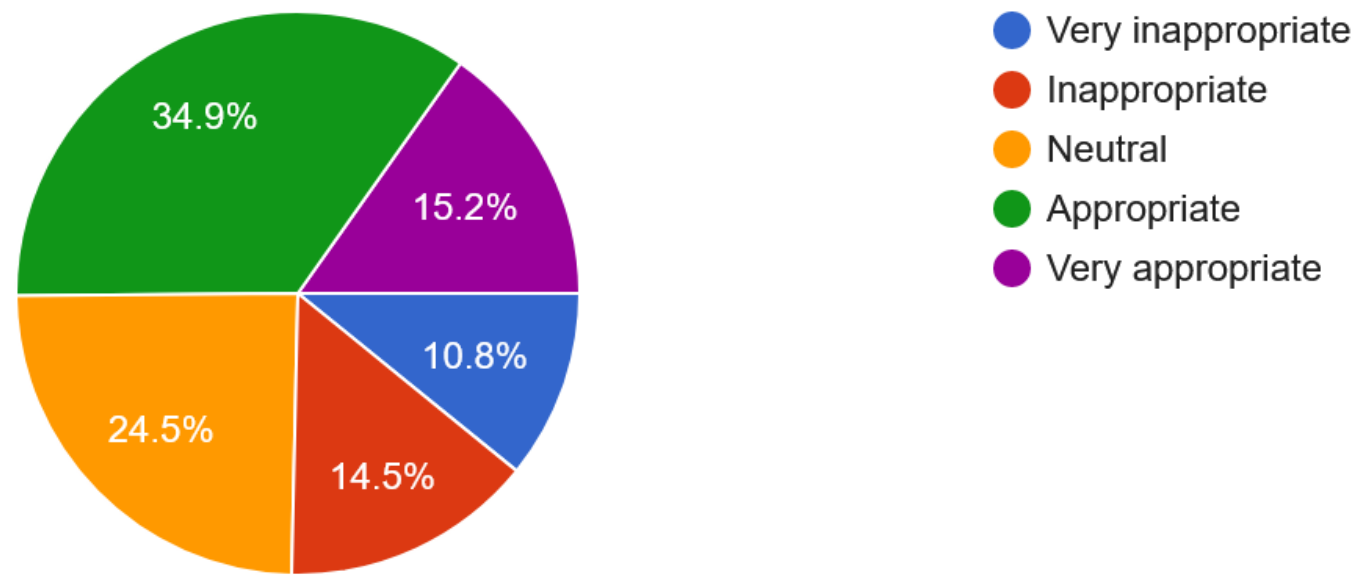
How appropriate do you believe it is for the OSCE to assess non-cardiac anesthesiologists in transesophageal echocardiogram (TEE)?

710 responses



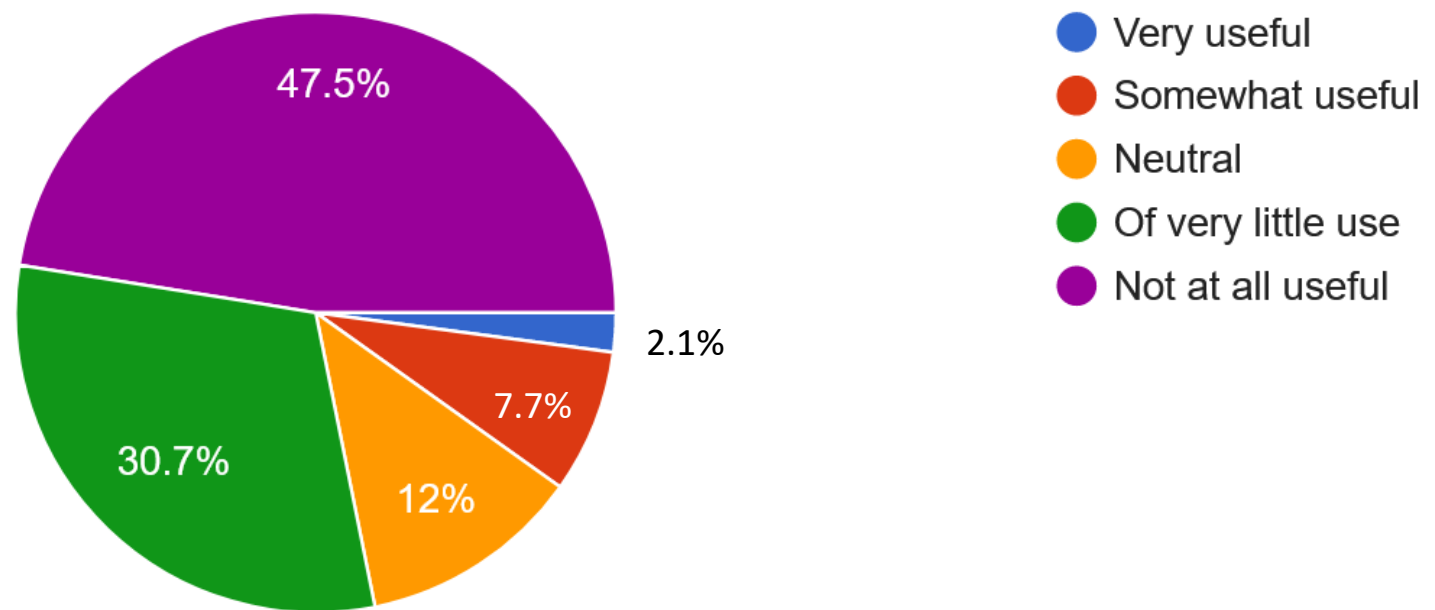
How appropriate do you believe it is for the OSCE to assess non-regional anesthesiologists in ultrasound?

710 responses



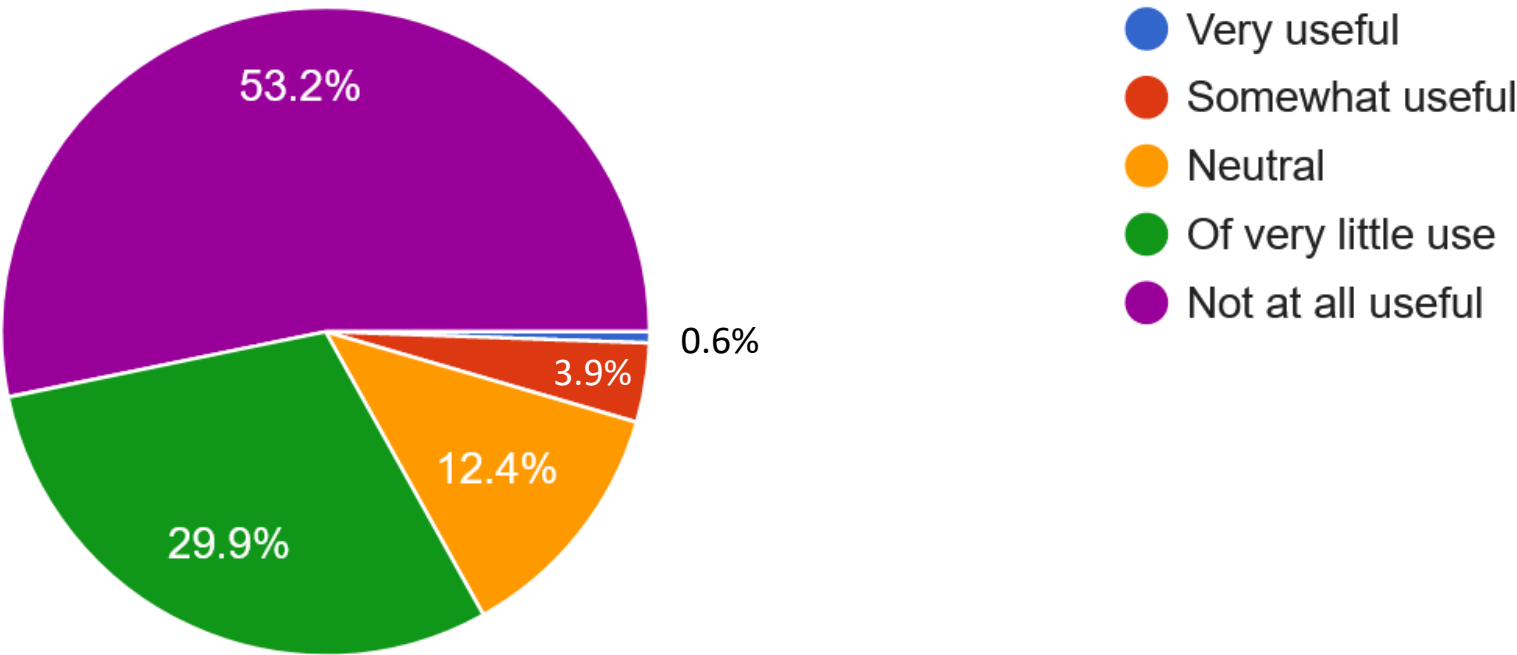
How useful do you believe OSCE training is for improving physicians' clinical practice?

710 responses



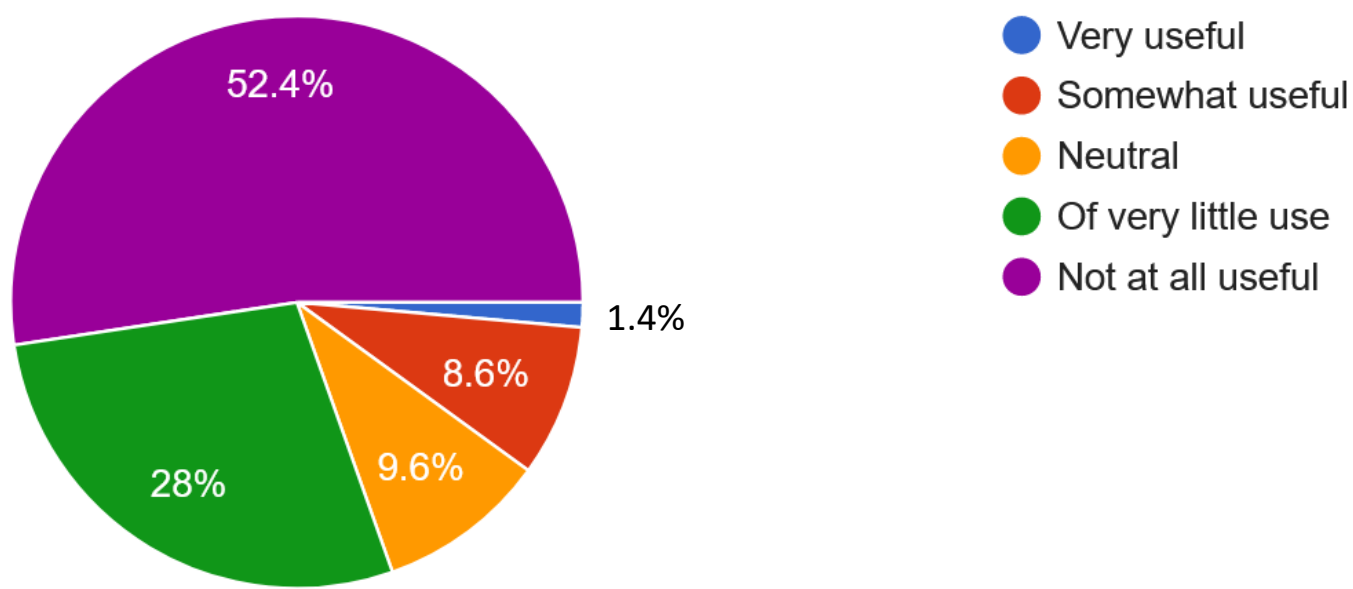
How useful do you believe OSCE training is for avoiding lawsuits?

710 responses



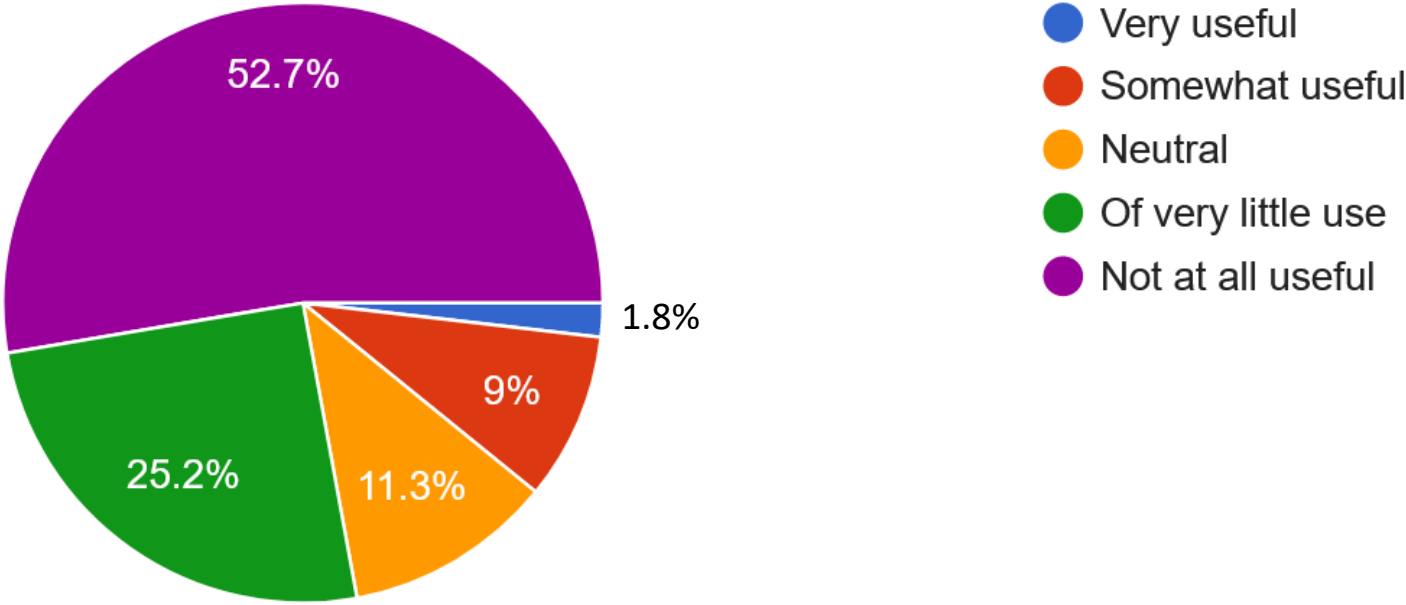
How useful do you believe the OSCE training is for teaching physicians how to effectively communicate with patients?

710 responses



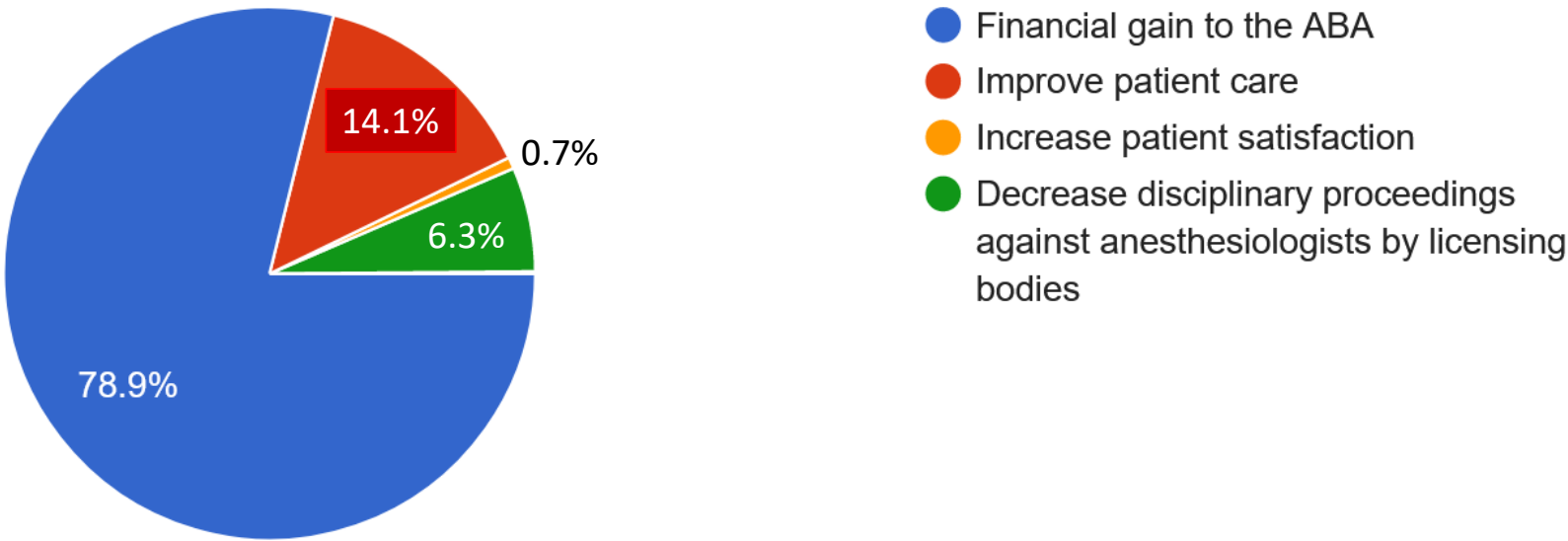
How useful do you believe OSCE training is for teaching physicians how to effectively communicate with other providers?

710 responses



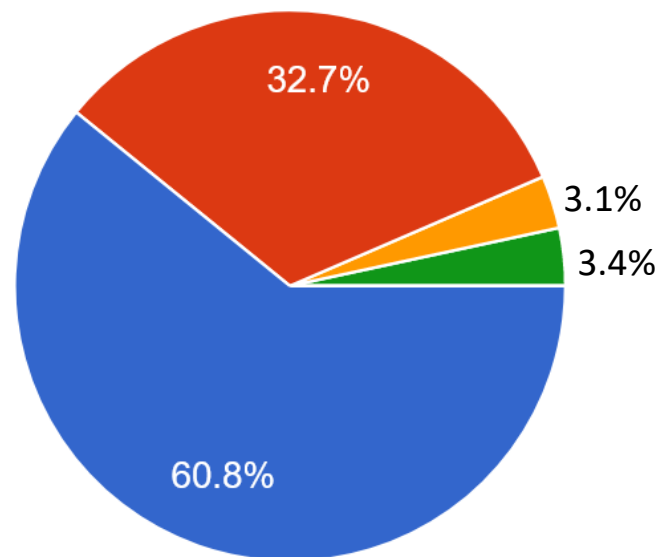
What do you think the ABA’s primary motive is for carrying out the OSCE?

710 responses



What do you think should be the future of the OSCE?

710 responses



- Permanently scrapped
- Paused pending demonstration that it improves patient outcomes
- Paused pending demonstration that it decreases disciplinary proceedings against anesthesiologists by licensing bodies
- Should continue as is