

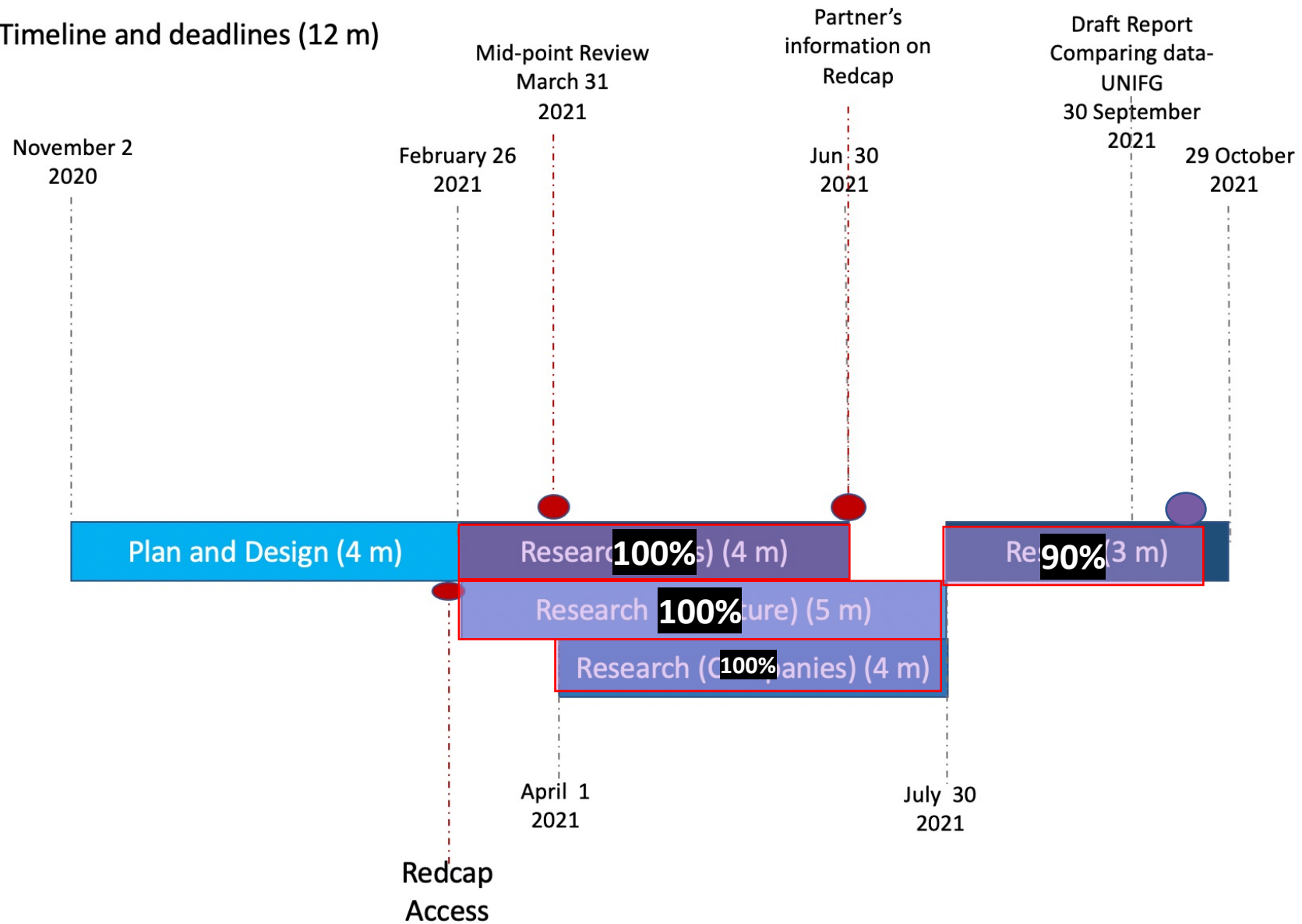
WP 1 Draft Report

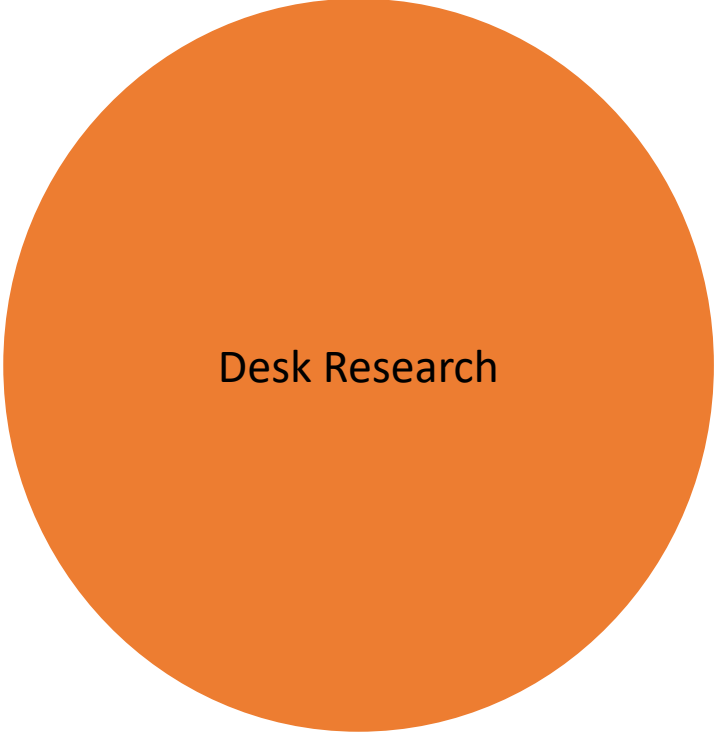
.....
Juan Perdomo, Clínic Hospital

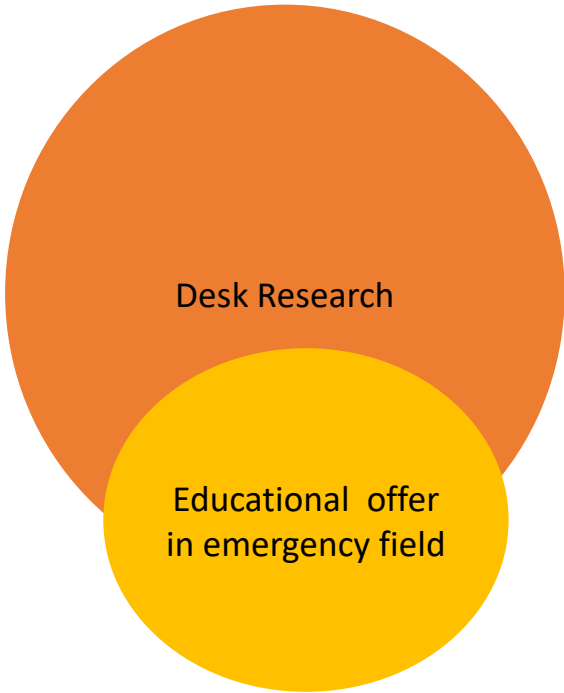


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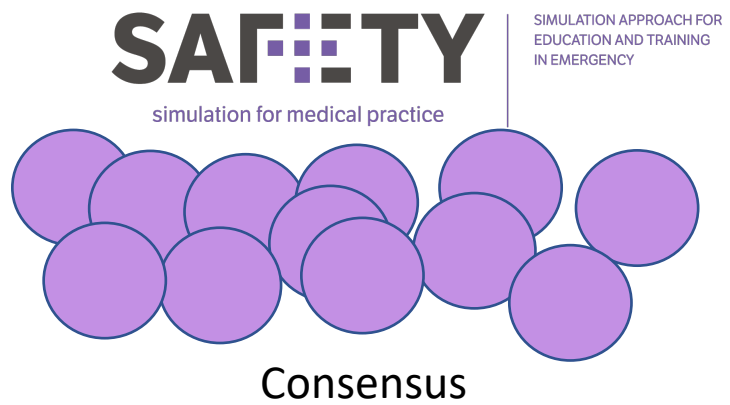
WP1 Timeline and deadlines (12 m)





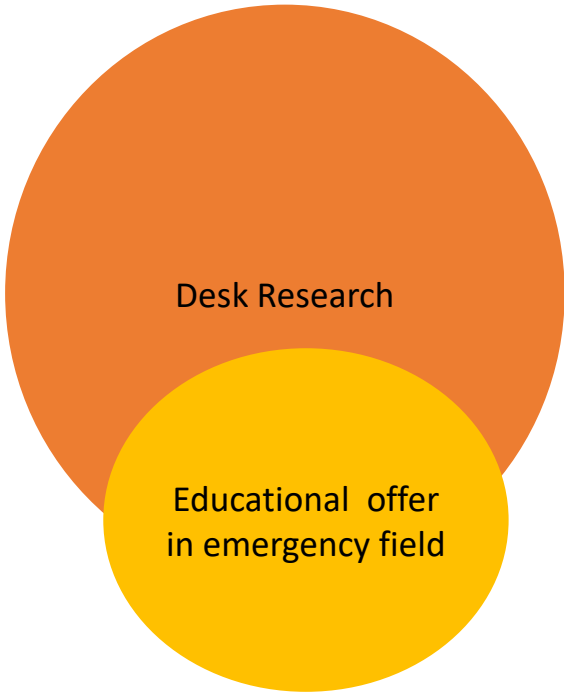


1. What we wanted to know?



Guide to data collection



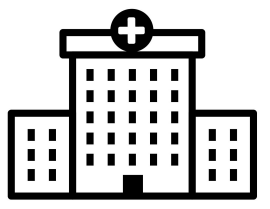


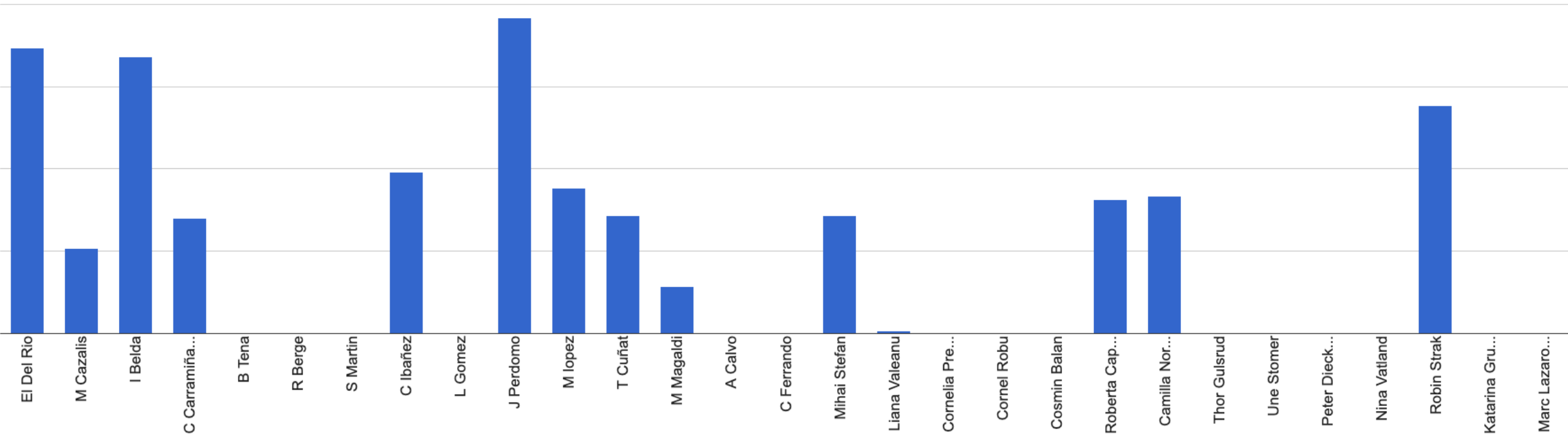
2. Source of information



Consensus

Inclusion criteria





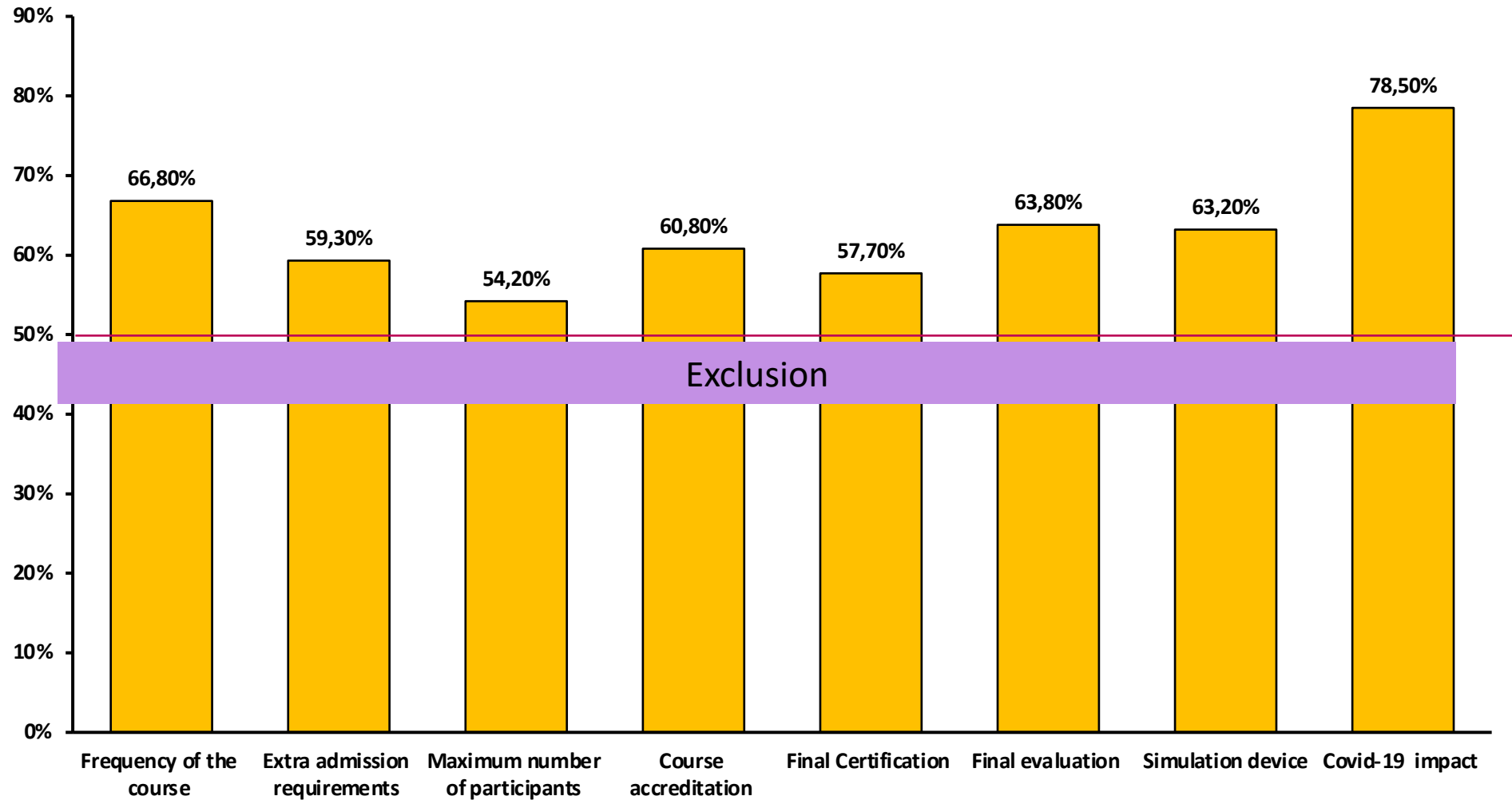


Desk Research

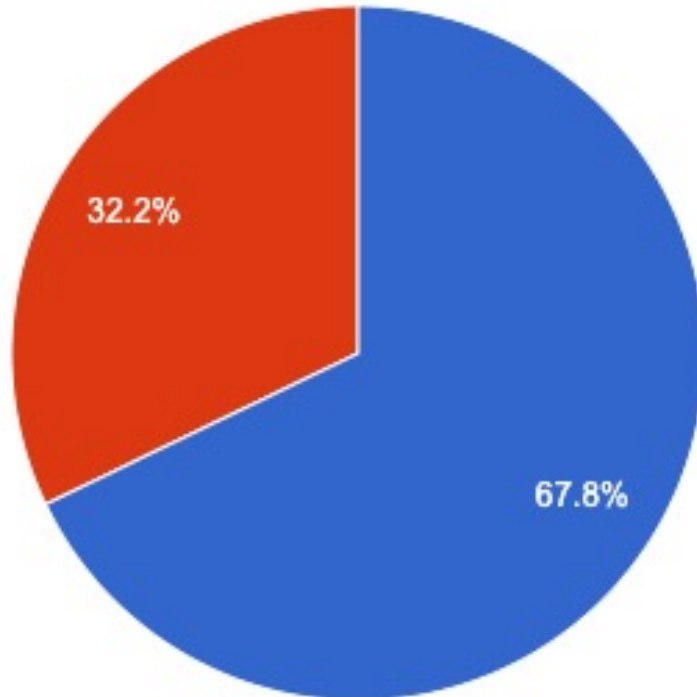
Educational offer
in emergency field

789 Emergency Courses

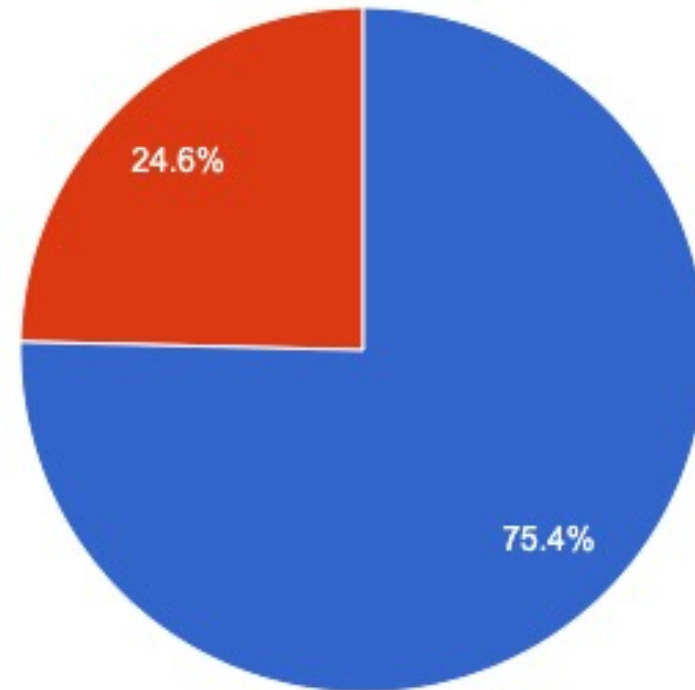
More than 50% of Information Unavailable

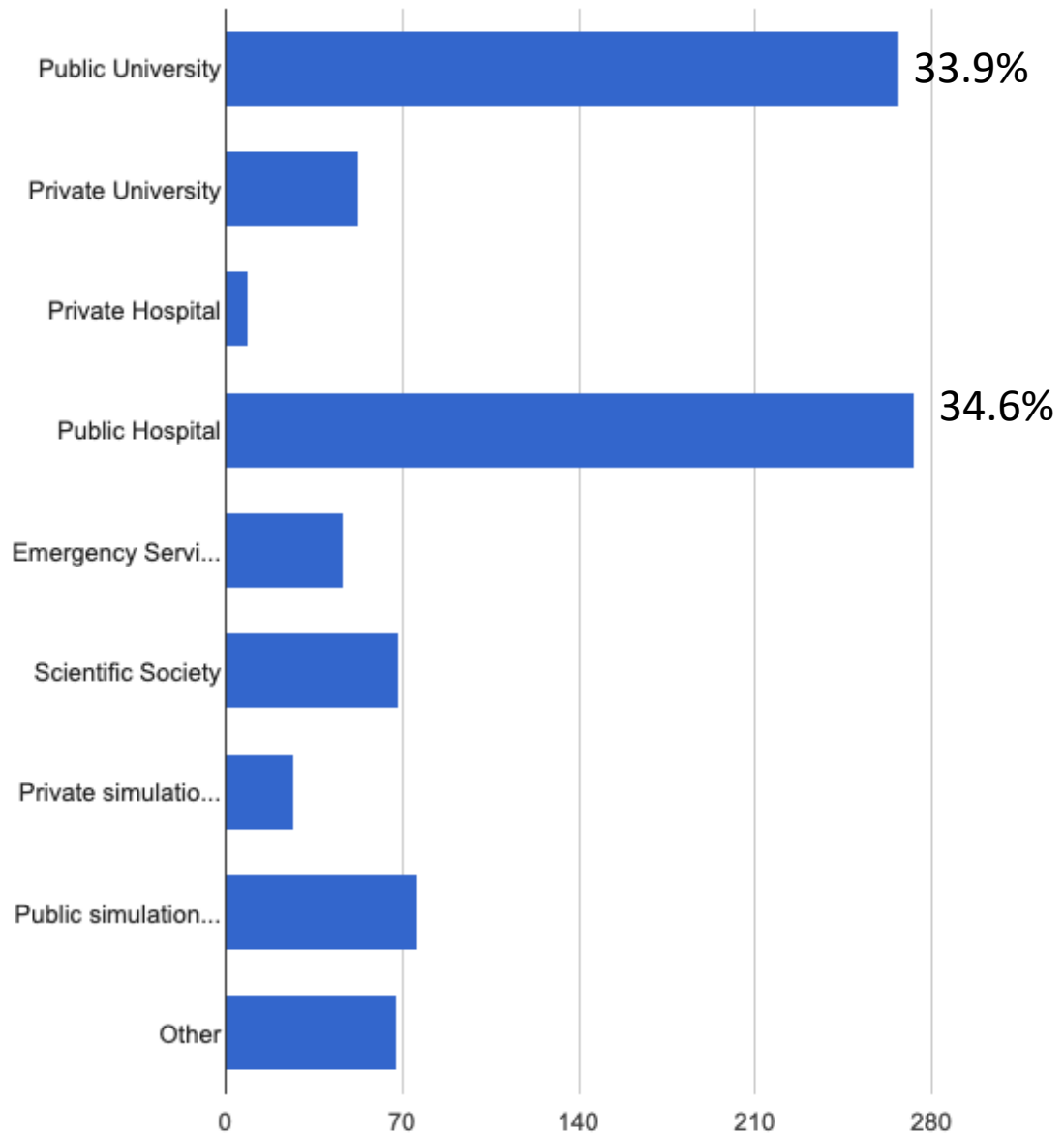


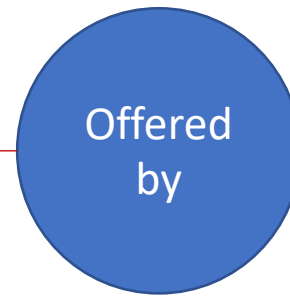
Syllabi availability

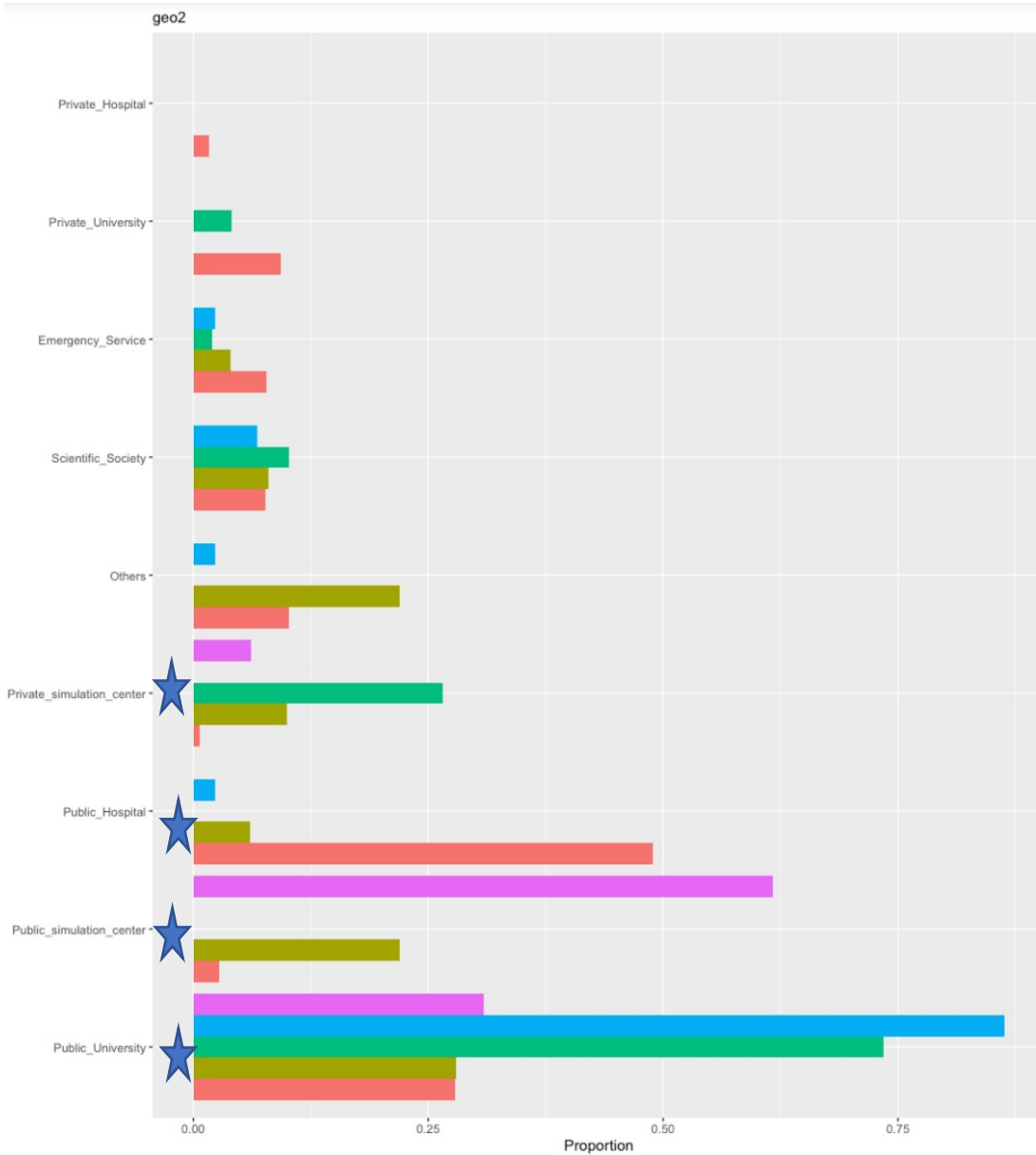


Aims and goals published



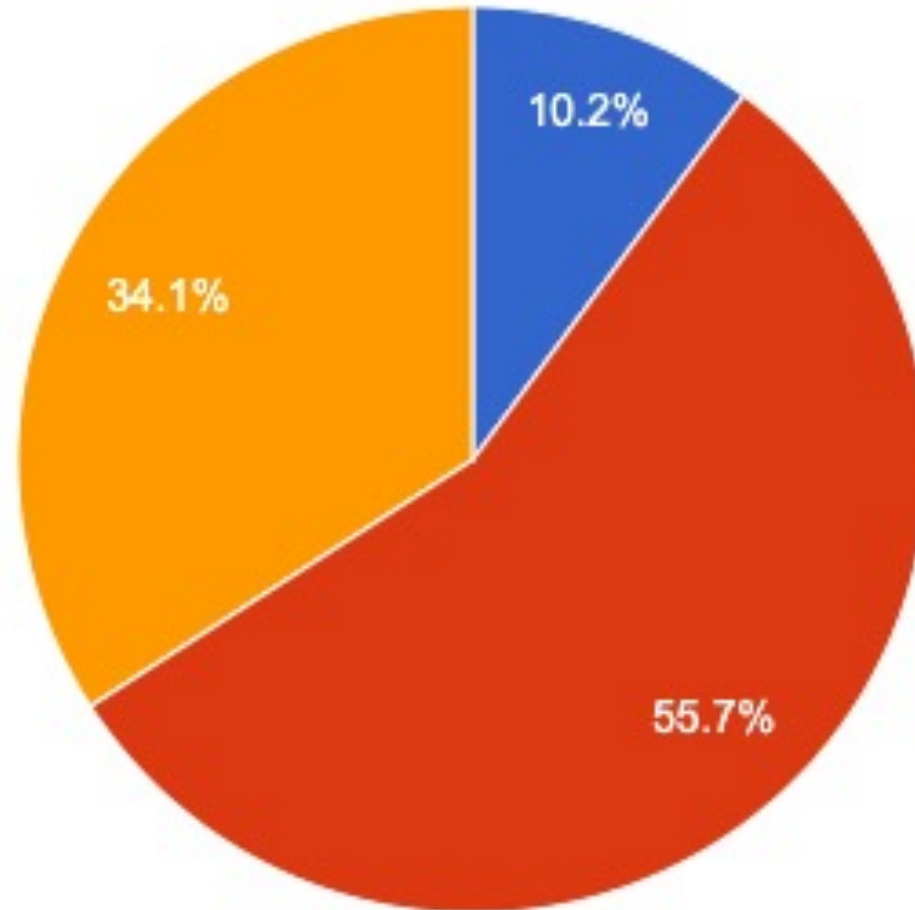




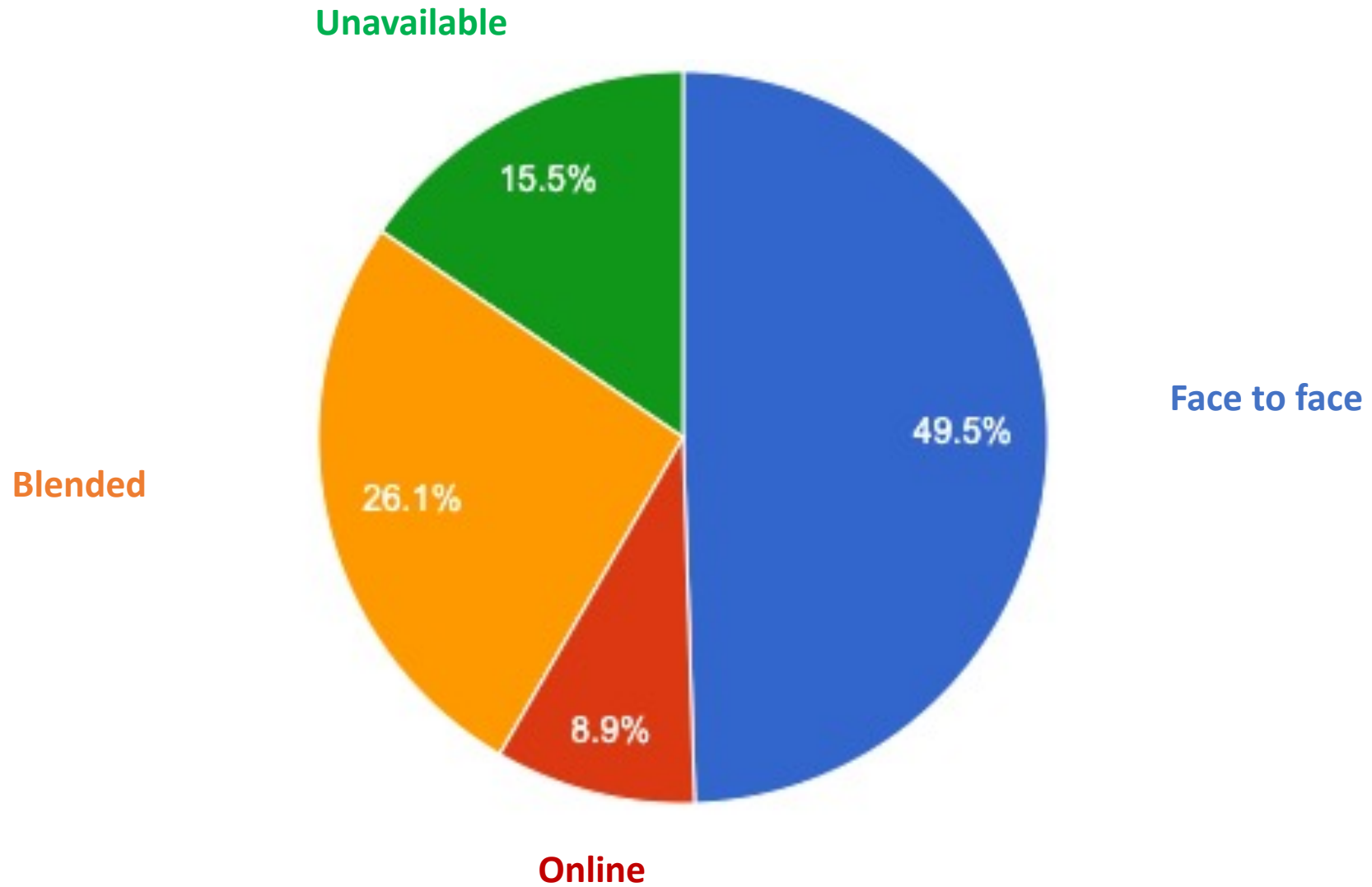


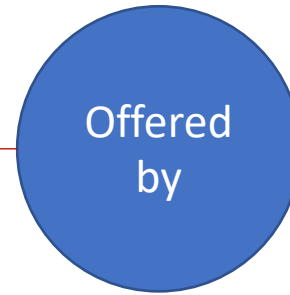
	Spain	Norway	Italy	Romania	Germany	p	test
n	550	50	49	44	81		
Public_University = 1 (%)	153 (27.8)	14 (28.0)	36 (73.5)	38 (86.4)	25 (30.9)	<0.001	
Private_University = 1 (%)	51 (9.3)	0 (0.0)	2 (4.1)	0 (0.0)	0 (0.0)	0.001	
Private_Hospital = 1 (%)	9 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0.447	
Public_Hospital = 1 (%)	269 (48.9)	3 (6.0)	0 (0.0)	1 (2.3)	0 (0.0)	<0.001	
Emergency_Service = 1 (%)	43 (7.8)	2 (4.0)	1 (2.0)	1 (2.3)	0 (0.0)	0.026	
Scientific_Society = 1 (%)	42 (7.6)	4 (8.0)	5 (10.2)	3 (6.8)	0 (0.0)	0.120	
Private_simulation_center = 1 (%)	4 (0.7)	5 (10.0)	13 (26.5)	0 (0.0)	5 (6.2)	<0.001	
Public_simulation_center = 1 (%)	15 (2.7)	11 (22.0)	0 (0.0)	0 (0.0)	50 (61.7)	<0.001	
Others = 1 (%)	56 (10.2)	11 (22.0)	0 (0.0)	1 (2.3)	0 (0.0)	<0.001	

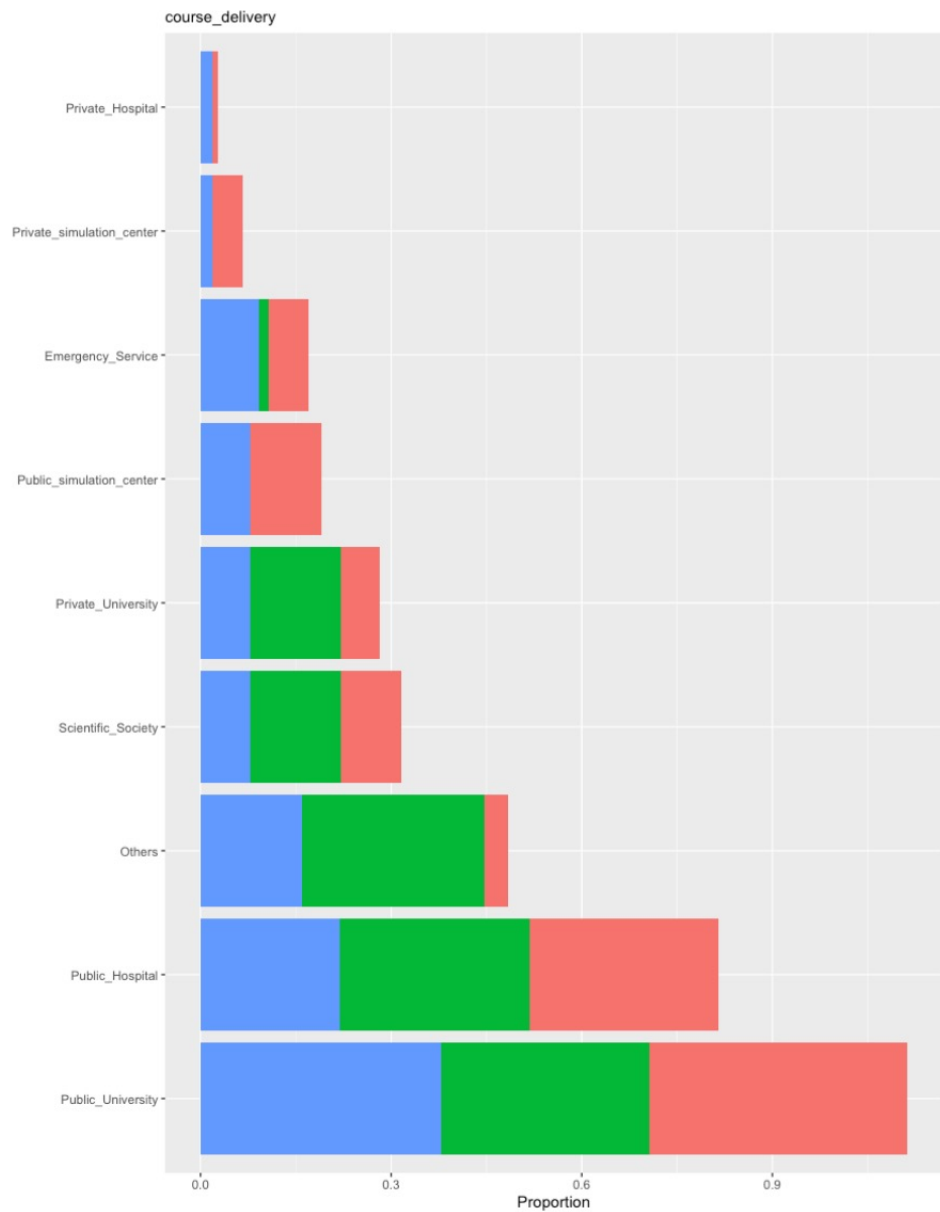
Mandatory vs Optional



Ways of delivery

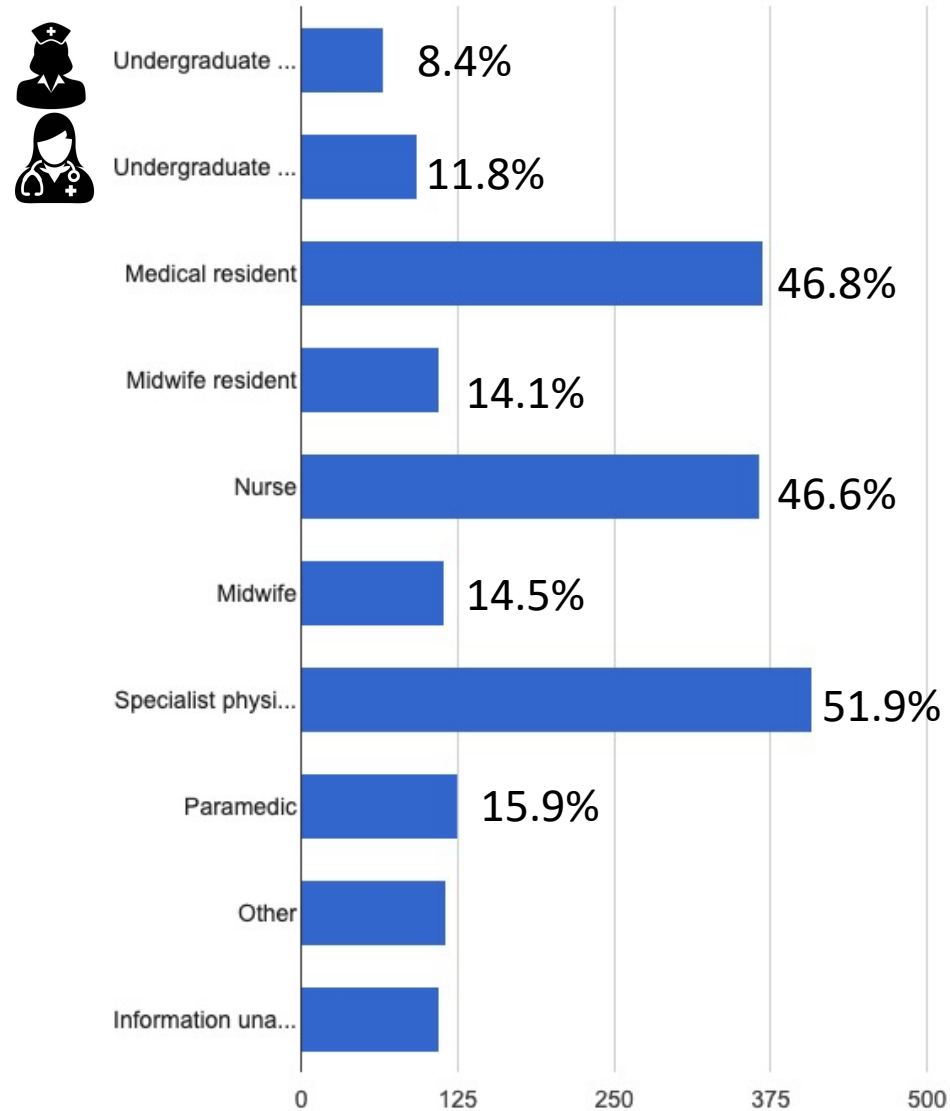






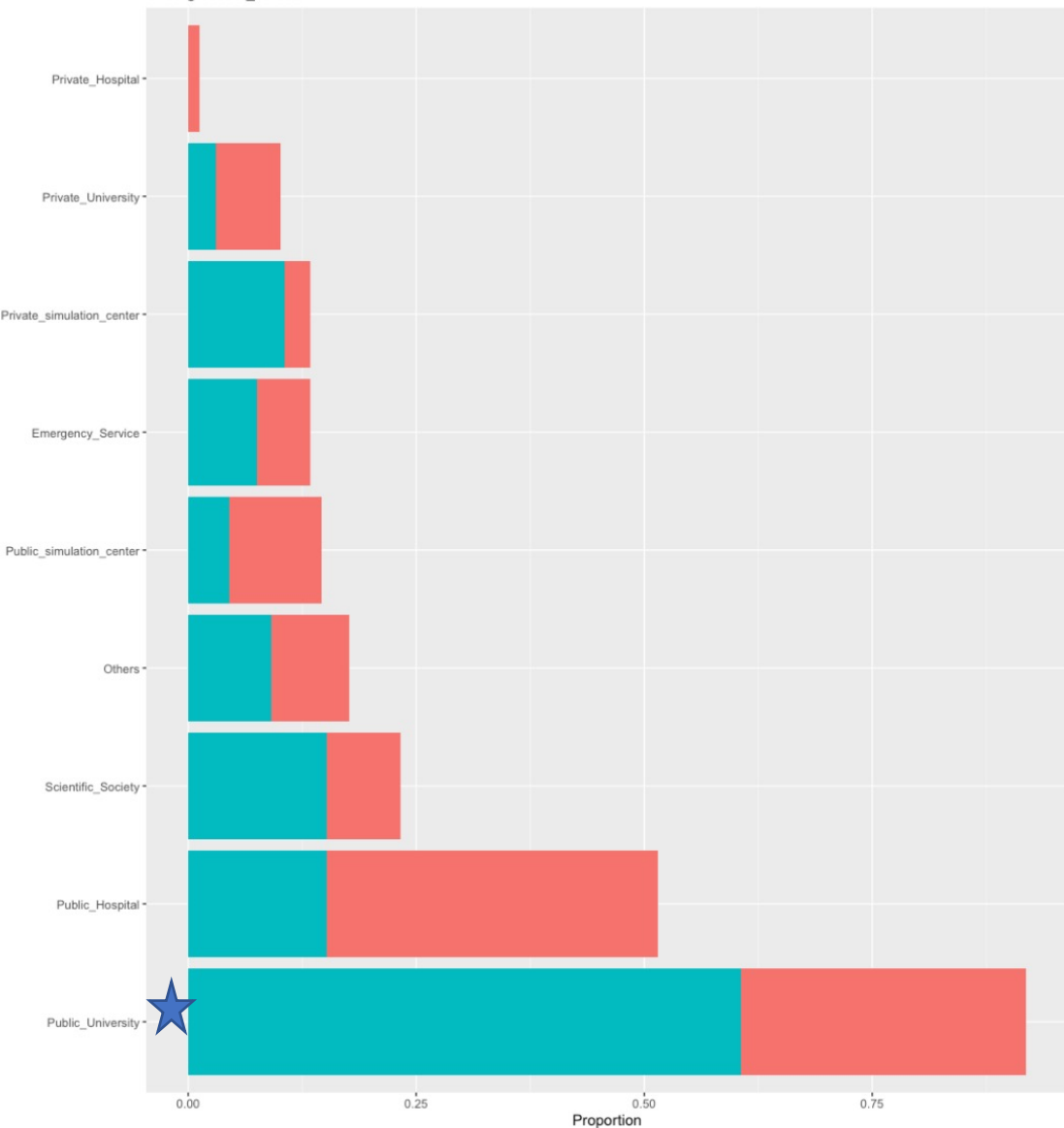
	Face.to.face	Online	Blended..both.face.to.face.and.online.	p	test
n	390	70	206		
Public_University = 1 (%)	158 (40.5)	23 (32.9)	78 (37.9)	0.450	
Private_University = 1 (%)	24 (6.2)	10 (14.3)	16 (7.8)	0.058	
Private_Hospital = 1 (%)	3 (0.8)	0 (0.0)	4 (1.9)	0.271	
Public_Hospital = 1 (%)	116 (29.7)	21 (30.0)	45 (21.8)	0.105	
Emergency_Service = 1 (%)	25 (6.4)	1 (1.4)	19 (9.2)	0.074	
Scientific_Society = 1 (%)	37 (9.5)	10 (14.3)	16 (7.8)	0.273	
Private_simulation_center = 1 (%)	18 (4.6)	0 (0.0)	4 (1.9)	0.058	
Public_simulation_center = 1 (%)	44 (11.3)	0 (0.0)	16 (7.8)	0.008	

Target group





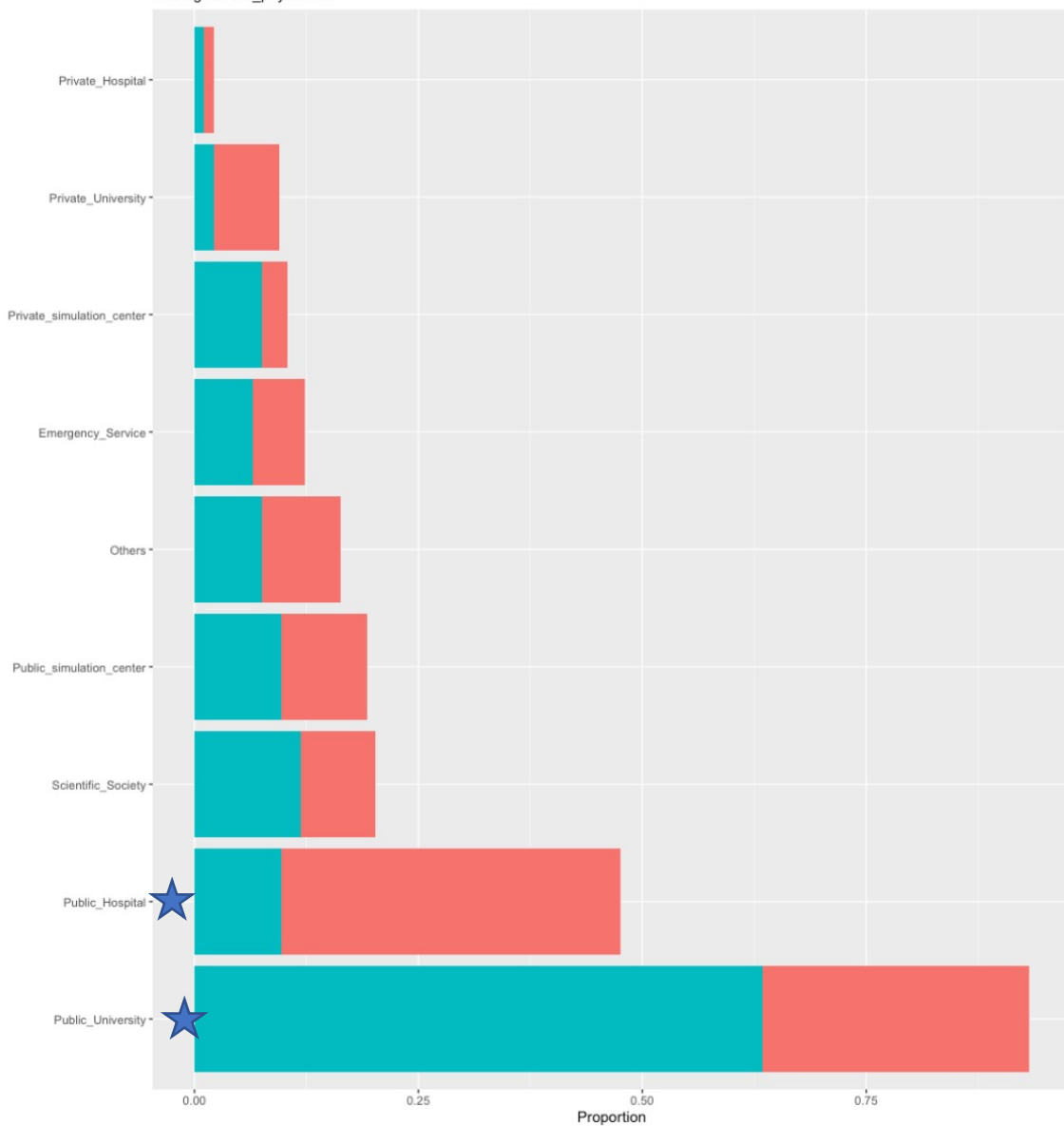
Undergraduate_nurses



No
Yes

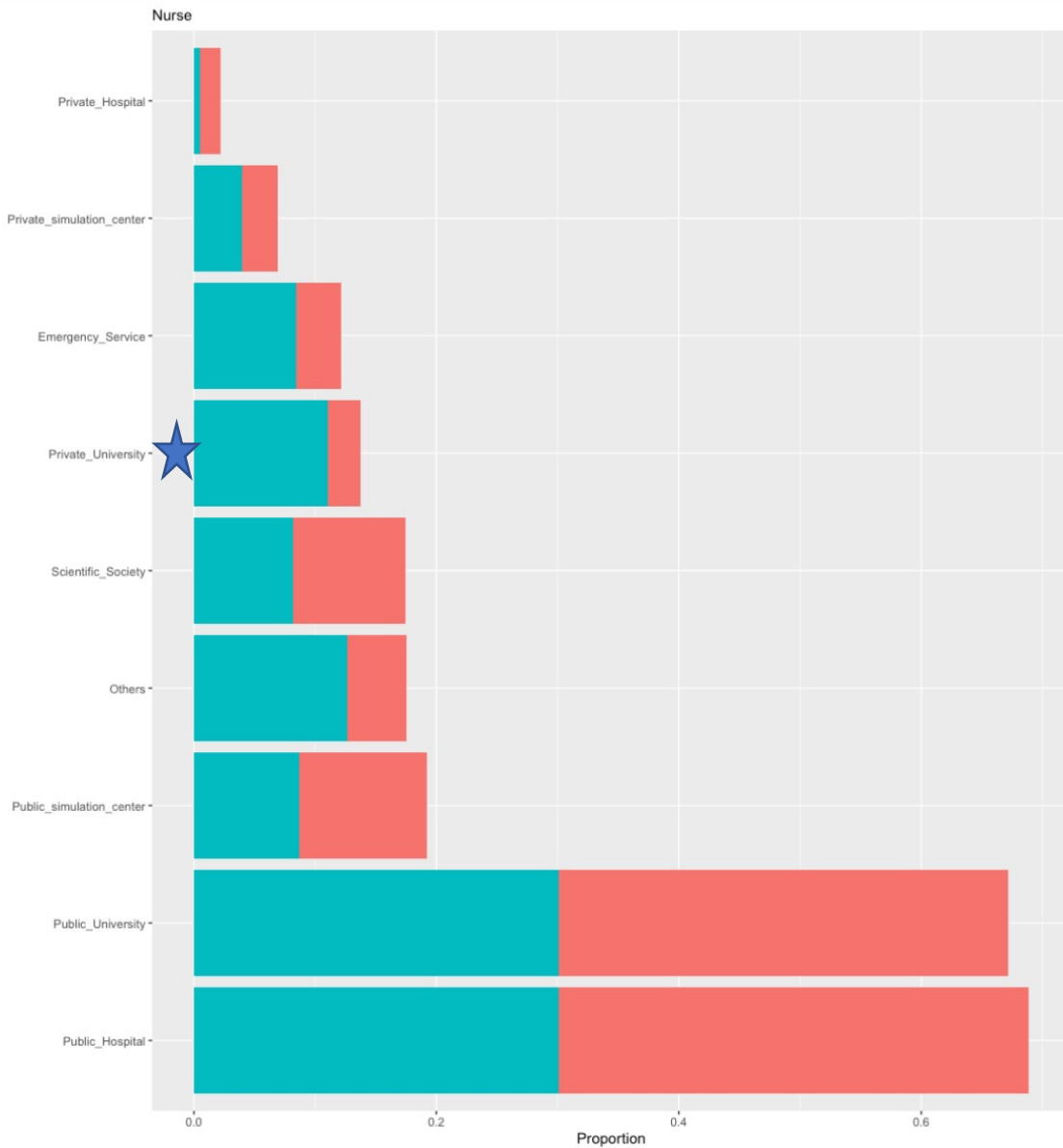
	No	Yes	p	test
n	723	66		
Public_University = 1 (%)	226 (31.3)	40 (60.6)	<0.001	
Private_University = 1 (%)	51 (7.1)	2 (3.0)	0.321	
Private_Hospital = 1 (%)	9 (1.2)	0 (0.0)	0.759	
Public_Hospital = 1 (%)	263 (36.4)	10 (15.2)	0.001	
Emergency_Service = 1 (%)	42 (5.8)	5 (7.6)	0.757	
Scientific_Society = 1 (%)	59 (8.2)	10 (15.2)	0.090	
Private_simulation_center = 1 (%)	20 (2.8)	7 (10.6)	0.003	
Public_simulation_center = 1 (%)	73 (10.1)	3 (4.5)	0.213	
Others = 1 (%)	62 (8.6)	6 (9.1)	1.000	

Undergraduate_physicians



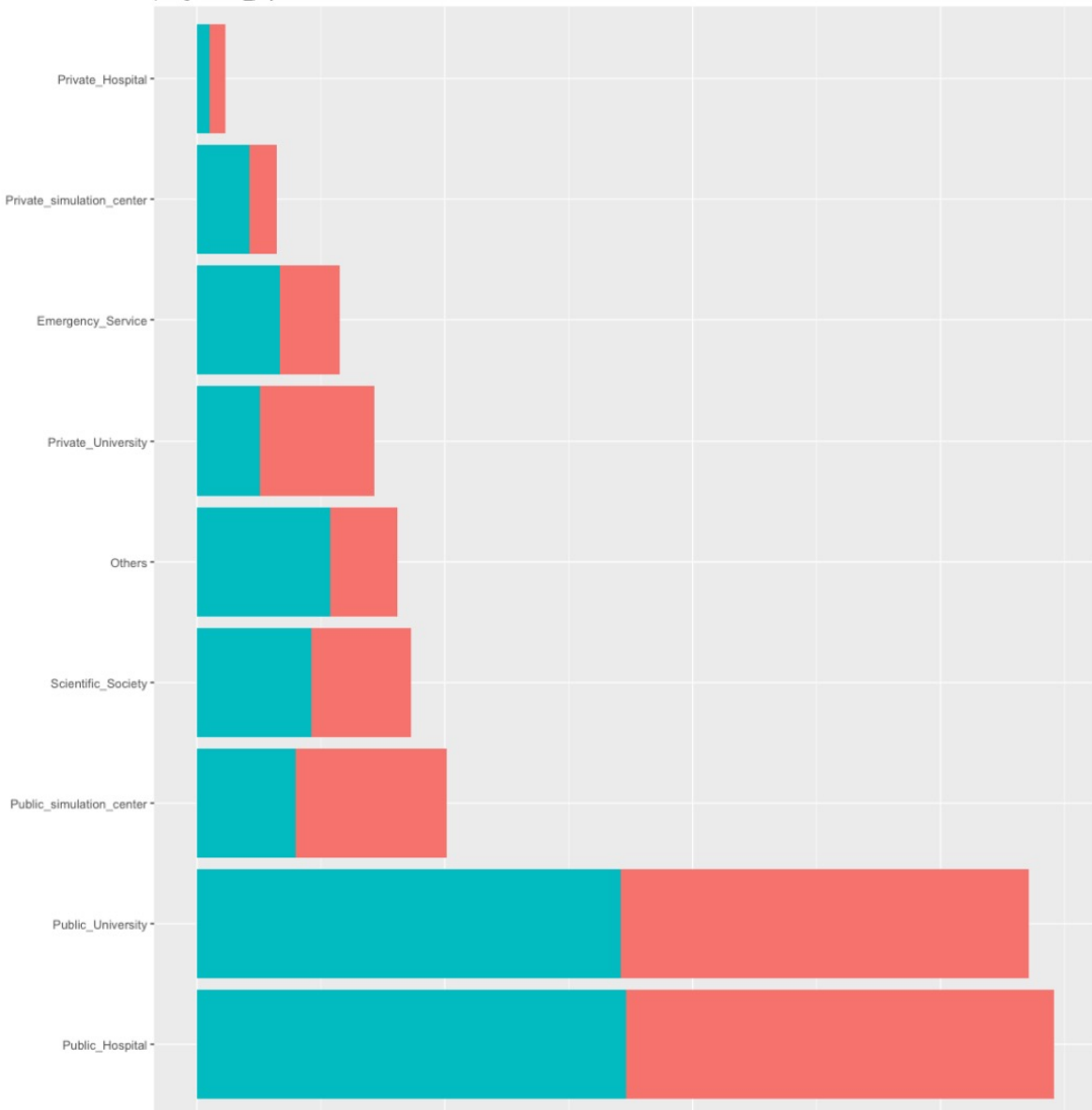
No
Yes

	No	Yes	p	test
n	696	93		
Public_University = 1 (%)	207 (29.7)	59 (63.4)	<0.001	
Private_University = 1 (%)	51 (7.3)	2 (2.2)	0.098	
Private_Hospital = 1 (%)	8 (1.1)	1 (1.1)	1.000	
Public_Hospital = 1 (%)	264 (37.9)	9 (9.7)	<0.001	
Emergency_Service = 1 (%)	41 (5.9)	6 (6.5)	1.000	
Scientific_Society = 1 (%)	58 (8.3)	11 (11.8)	0.355	
Private_simulation_center = 1 (%)	20 (2.9)	7 (7.5)	0.044	
Public_simulation_center = 1 (%)	67 (9.6)	9 (9.7)	1.000	
Others = 1 (%)	61 (8.8)	7 (7.5)	0.839	



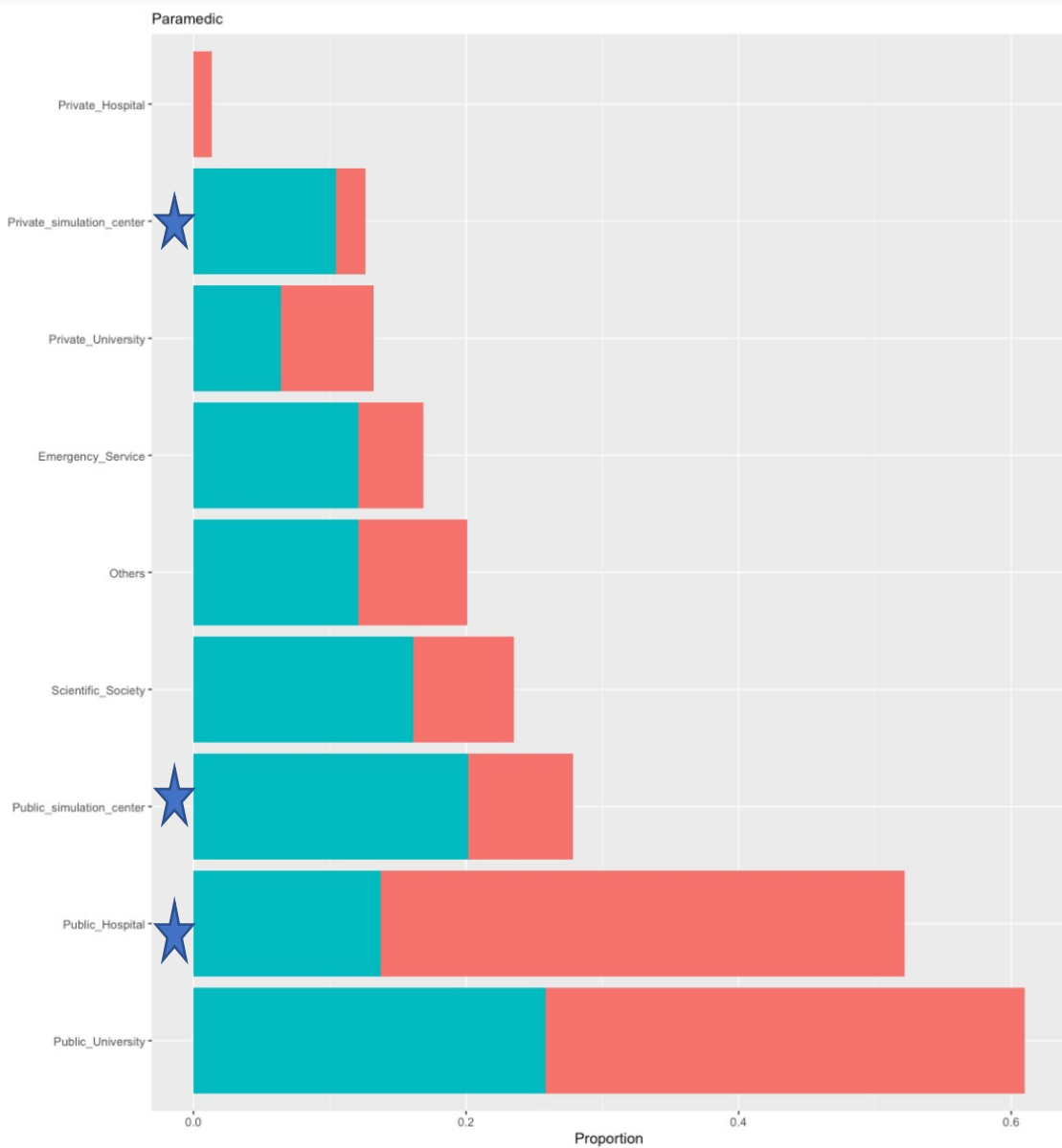
n	410	379	
Public_University = 1 (%)	152 (37.1)	114 (30.1)	0.045
Private_University = 1 (%)	11 (2.7)	42 (11.1)	<0.001
Private_Hospital = 1 (%)	7 (1.7)	2 (0.5)	0.221
Public_Hospital = 1 (%)	159 (38.8)	114 (30.1)	0.013
Emergency_Service = 1 (%)	15 (3.7)	32 (8.4)	0.007
Scientific_Society = 1 (%)	38 (9.3)	31 (8.2)	0.678
Private_simulation_center = 1 (%)	12 (2.9)	15 (4.0)	0.549
Public_simulation_center = 1 (%)	43 (10.5)	33 (8.7)	0.468
Others = 1 (%)	20 (4.9)	48 (12.7)	<0.001

postgraduate_physician



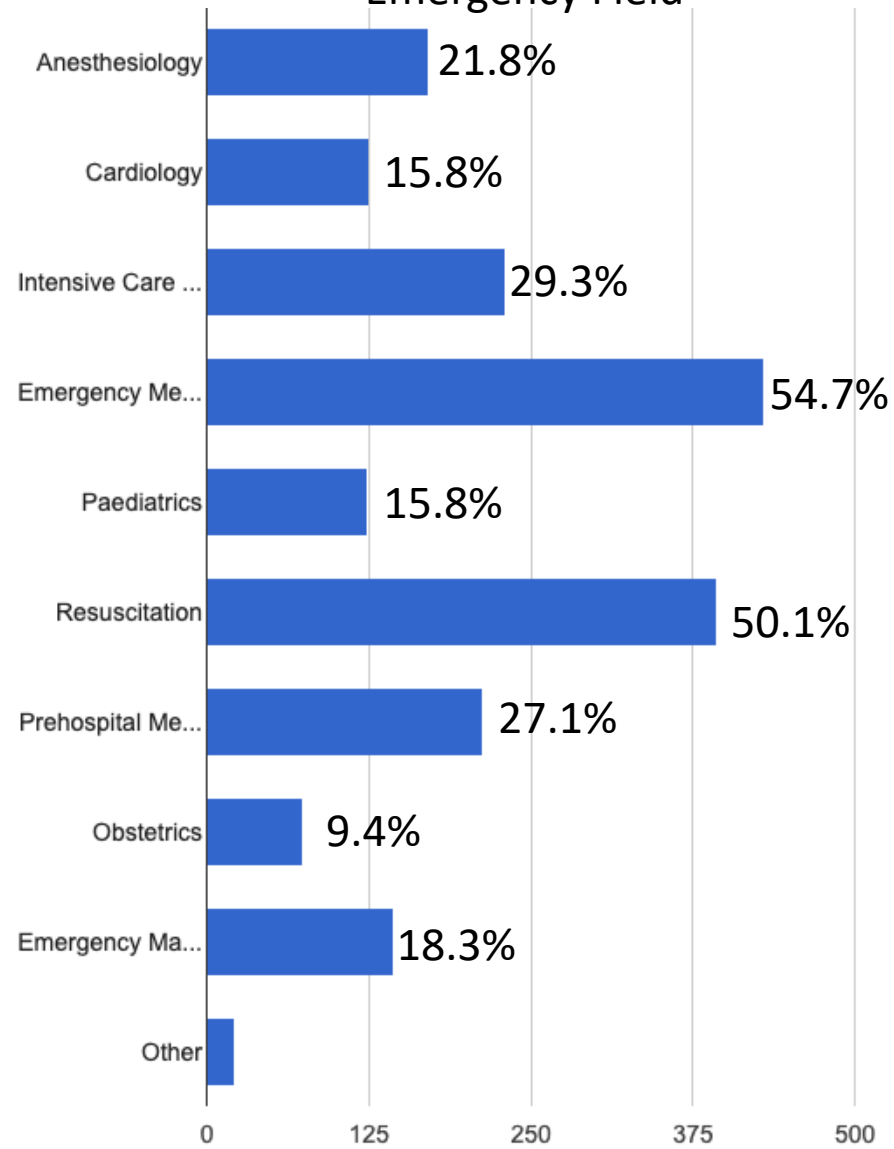
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Yes

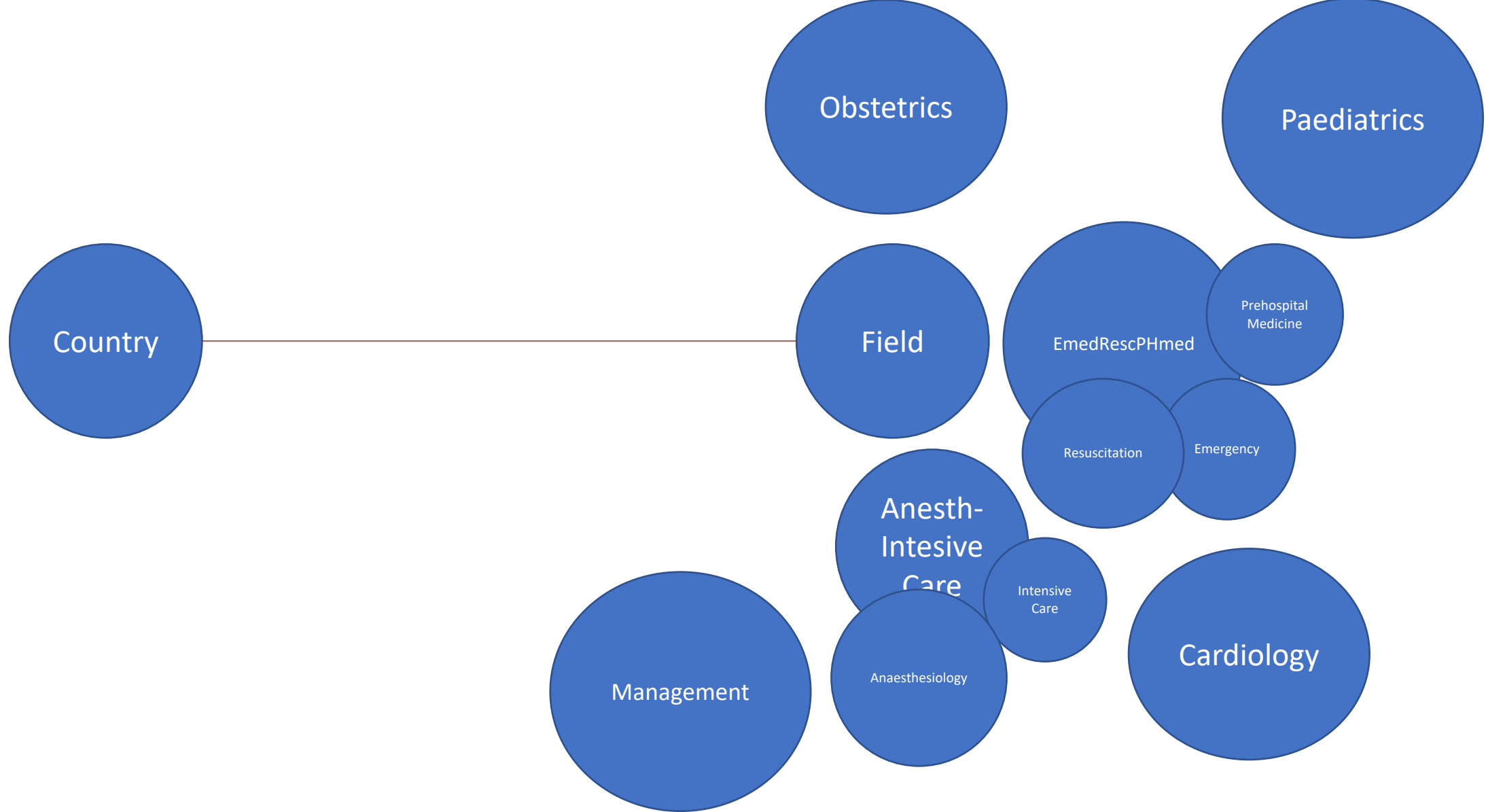
	No	Yes	p	test
n	313	476		
Public_University = 1 (%)	103 (32.9)	163 (34.2)	0.755	
Private_University = 1 (%)	29 (9.3)	24 (5.0)	0.030	
Private_Hospital = 1 (%)	4 (1.3)	5 (1.1)	1.000	
Public_Hospital = 1 (%)	108 (34.5)	165 (34.7)	1.000	
Emergency_Service = 1 (%)	15 (4.8)	32 (6.7)	0.334	
Scientific_Society = 1 (%)	25 (8.0)	44 (9.2)	0.630	
Private_simulation_center = 1 (%)	7 (2.2)	20 (4.2)	0.199	
Public_simulation_center = 1 (%)	38 (12.1)	38 (8.0)	0.070	
Others = 1 (%)	17 (5.4)	51 (10.7)	0.014	

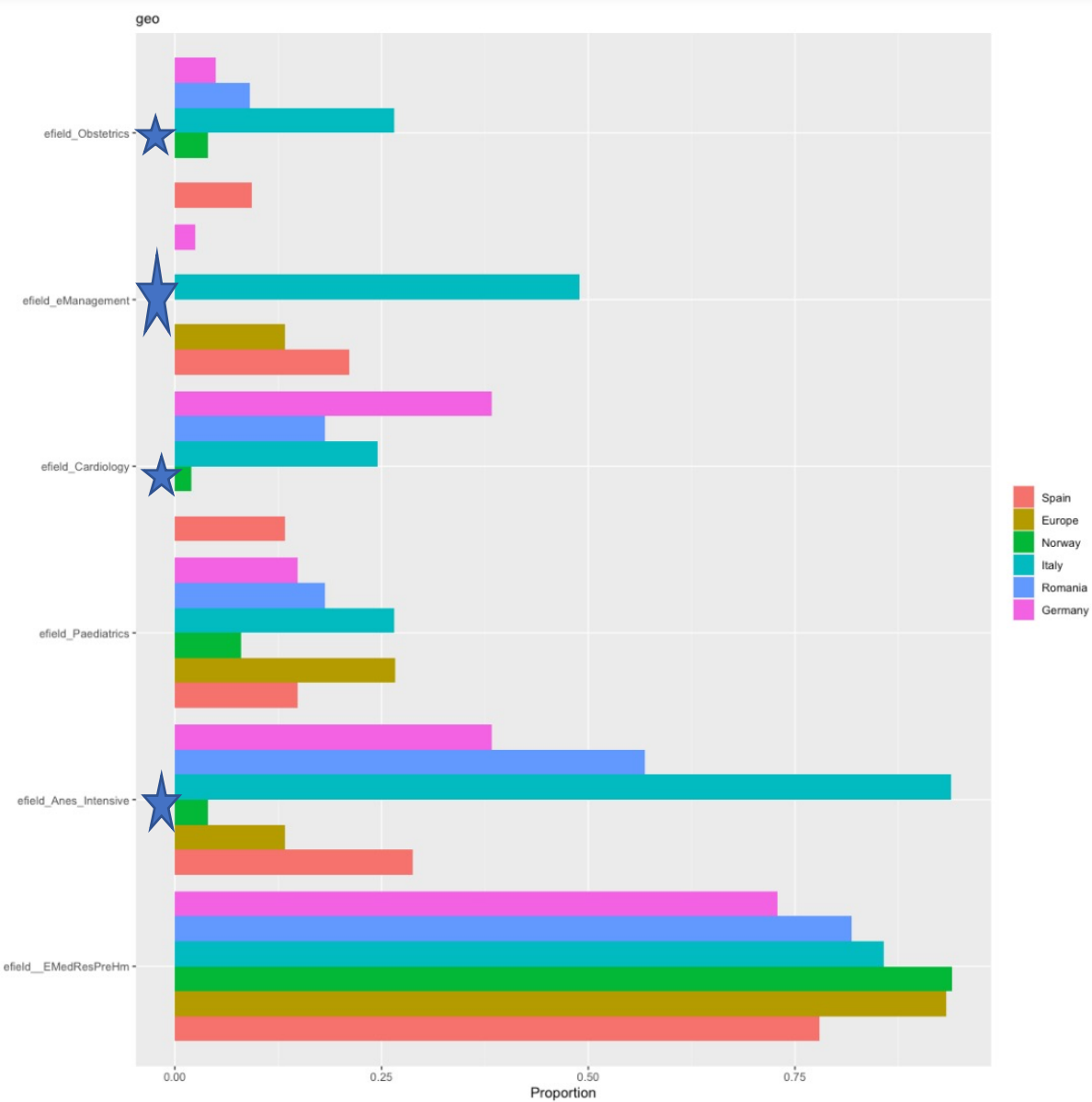


	No	Yes	p	test
n	665	124		
Public_University = 1 (%)	234 (35.2)	32 (25.8)	0.054	
Private_University = 1 (%)	45 (6.8)	8 (6.5)	1.000	
Private_Hospital = 1 (%)	9 (1.4)	0 (0.0)	0.400	
Public_Hospital = 1 (%)	256 (38.5)	17 (13.7)	<0.001	
Emergency_Service = 1 (%)	32 (4.8)	15 (12.1)	0.003	
Scientific_Society = 1 (%)	49 (7.4)	20 (16.1)	0.003	
Private_simulation_center = 1 (%)	14 (2.1)	13 (10.5)	<0.001	
Public_simulation_center = 1 (%)	51 (7.7)	25 (20.2)	<0.001	
Others = 1 (%)	53 (8.0)	15 (12.1)	0.184	

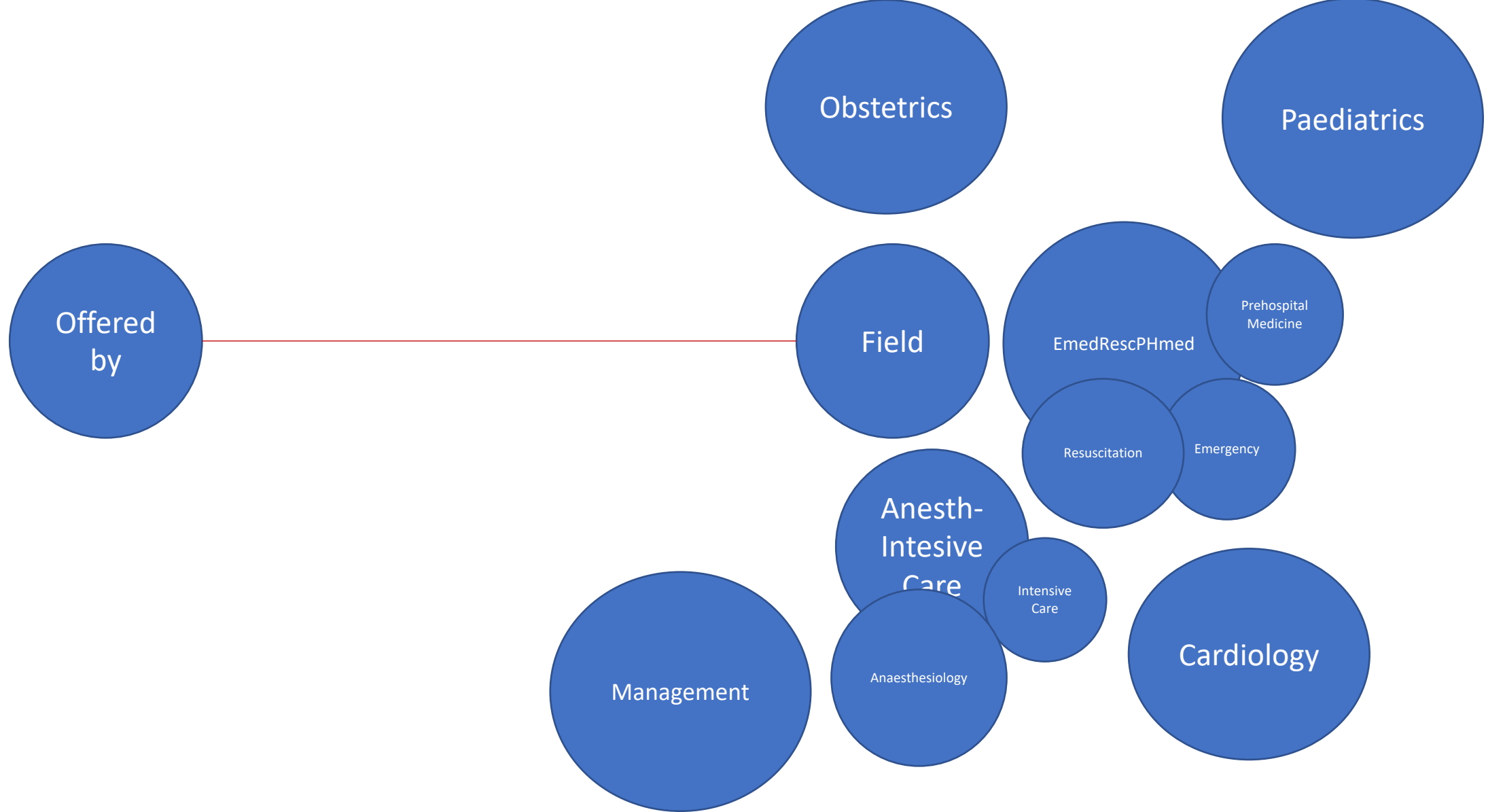
Emergency Field

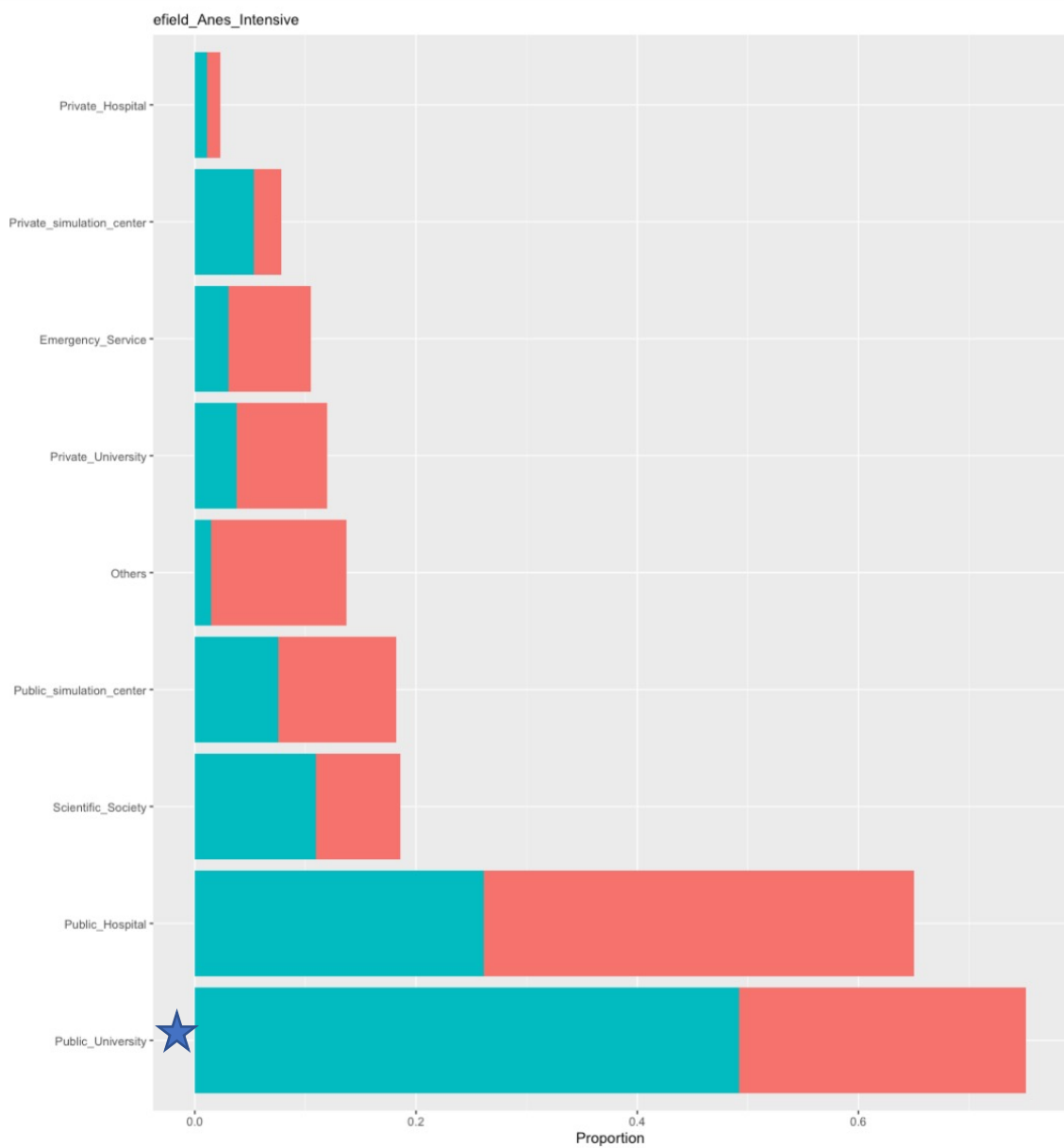






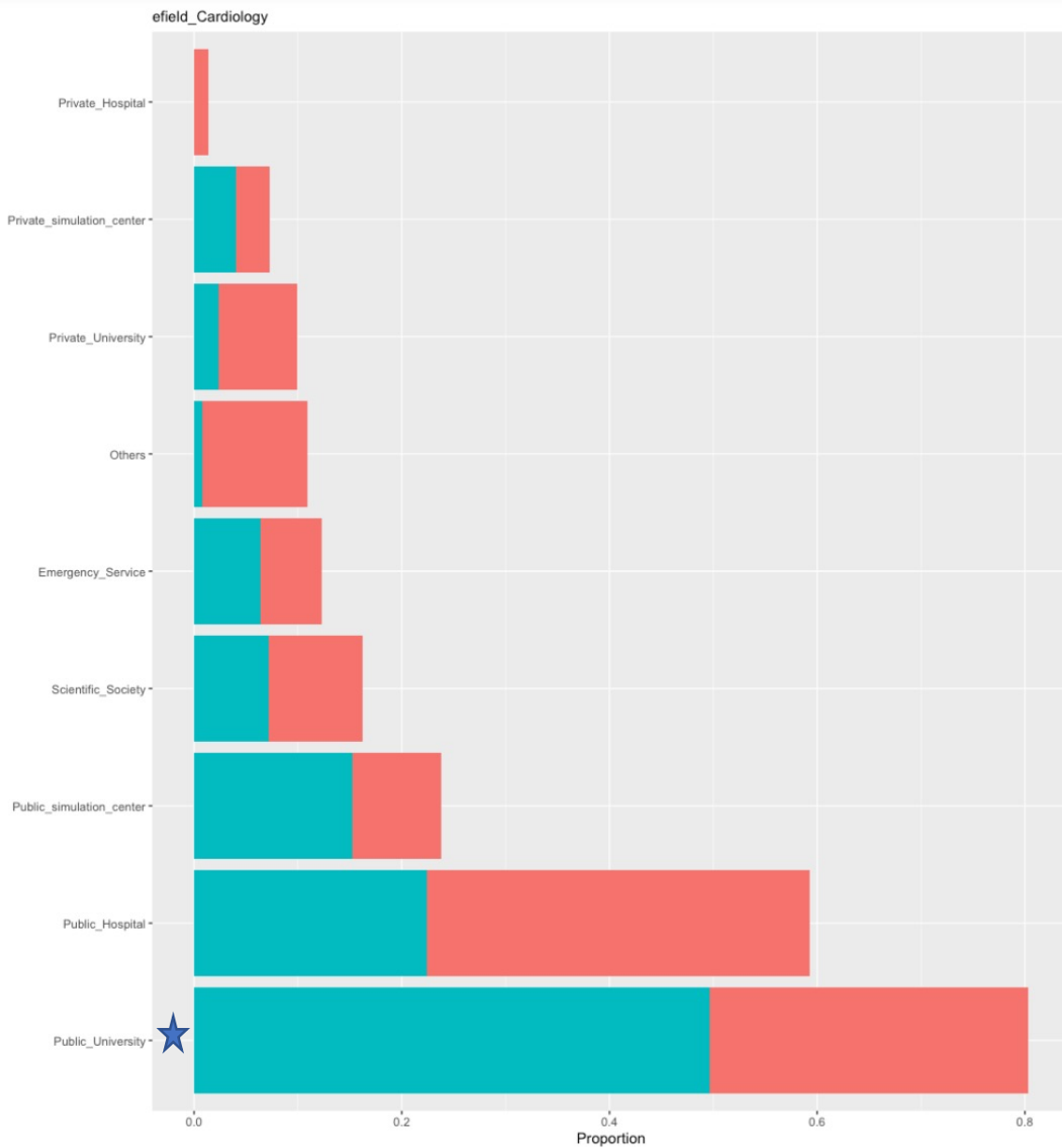
	Spain	Europe	Norway	Italy	Romania	Germany	p	test
n	550	15	50	49	44	81		
efield_Anes_Intensive = Yes (%)	158 (28.7)	2 (13.3)	2 (4.0)	46 (93.9)	25 (56.8)	31 (38.3)	<0.001	
efield_Cardiology = Yes (%)	73 (13.3)	0 (0.0)	1 (2.0)	12 (24.5)	8 (18.2)	31 (38.3)	<0.001	
efield_EMedResPreHm = Yes (%)	429 (78.0)	14 (93.3)	47 (94.0)	42 (85.7)	36 (81.8)	59 (72.8)	0.029	
efield_Paediatrics = Yes (%)	82 (14.9)	4 (26.7)	4 (8.0)	13 (26.5)	8 (18.2)	12 (14.8)	0.131	
efield_Obstetrics = Yes (%)	51 (9.3)	0 (0.0)	2 (4.0)	13 (26.5)	4 (9.1)	4 (4.9)	<0.001	
efield_eManagement = Yes (%)	116 (21.1)	2 (13.3)	0 (0.0)	24 (49.0)	0 (0.0)	2 (2.5)	<0.001	



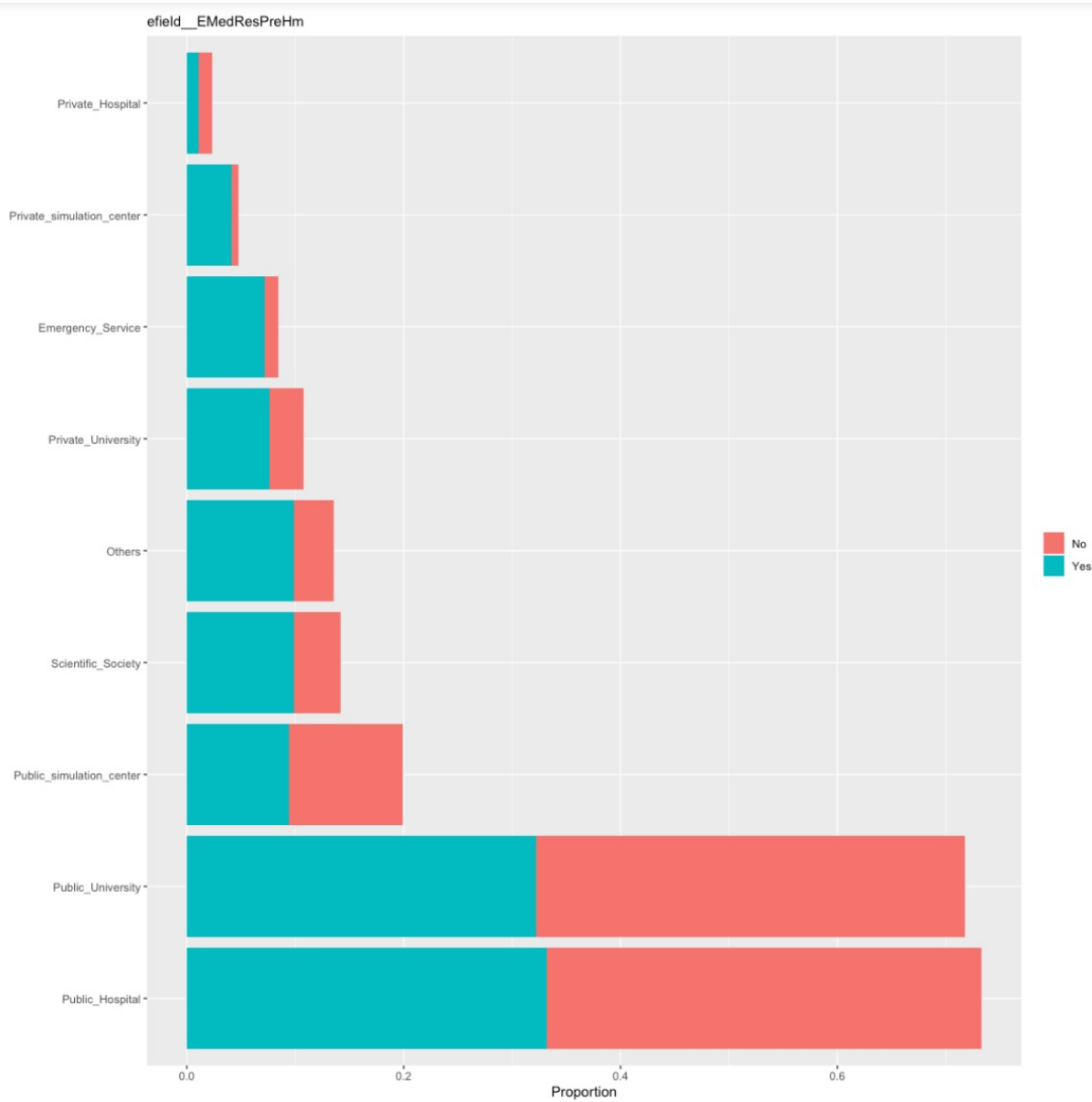


No
Yes

	No	Yes	p	test
n	525	264		
Public_University = 1 (%)	136 (25.9)	130 (49.2)	<0.001	
Private_University = 1 (%)	43 (8.2)	10 (3.8)	0.029	
Private_Hospital = 1 (%)	6 (1.1)	3 (1.1)	1.000	
Public_Hospital = 1 (%)	204 (38.9)	69 (26.1)	0.001	
Emergency_Service = 1 (%)	39 (7.4)	8 (3.0)	0.021	
Scientific_Society = 1 (%)	40 (7.6)	29 (11.0)	0.148	
Private_simulation_center = 1 (%)	13 (2.5)	14 (5.3)	0.064	
Public_simulation_center = 1 (%)	56 (10.7)	20 (7.6)	0.207	
Others = 1 (%)	64 (12.2)	4 (1.5)	<0.001	

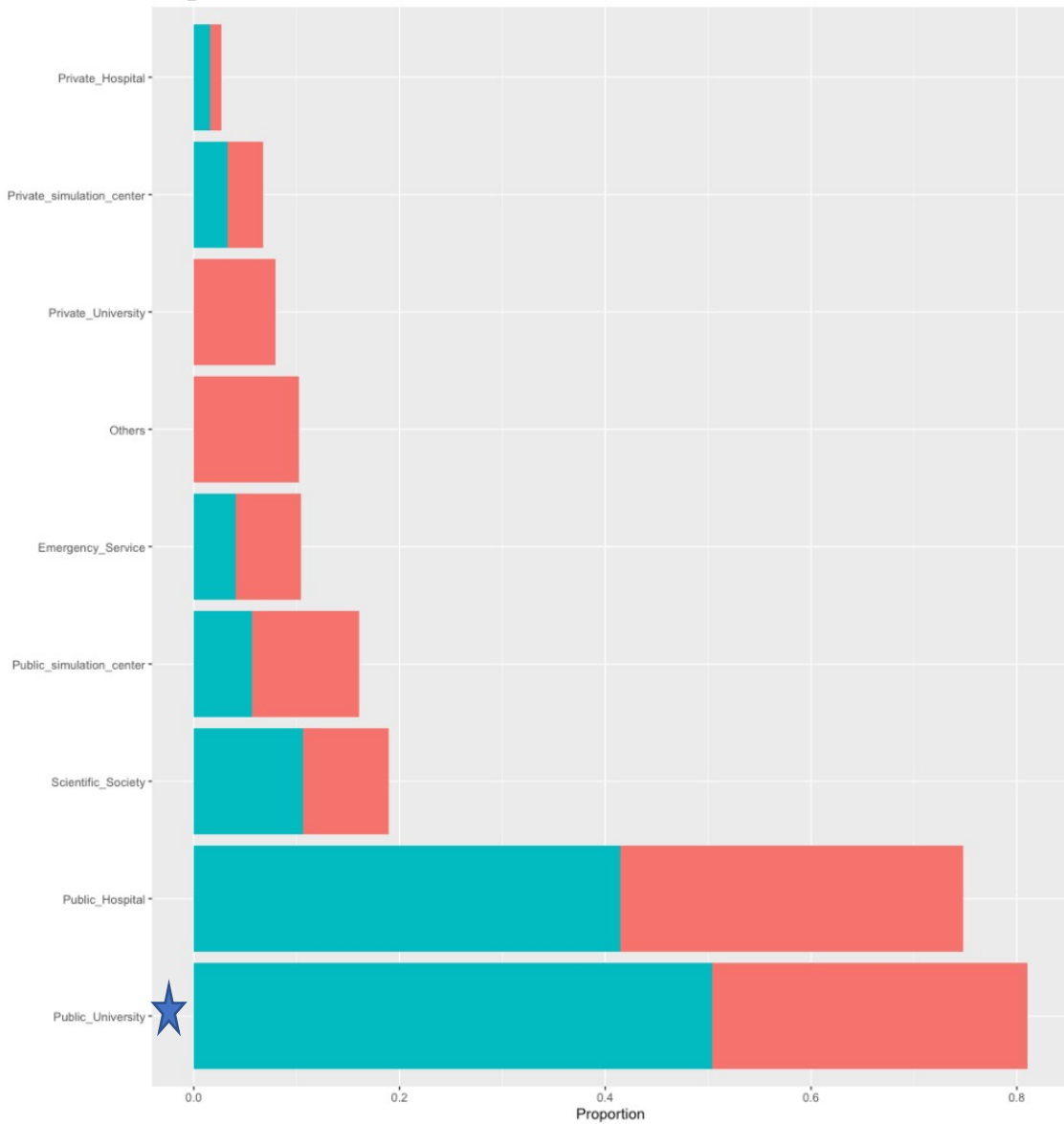


	No	Yes	p	test
n	664	125		
Public_University = 1 (%)	204 (30.7)	62 (49.6)	<0.001	
Private_University = 1 (%)	50 (7.5)	3 (2.4)	0.056	
Private_Hospital = 1 (%)	9 (1.4)	0 (0.0)	0.395	
Public_Hospital = 1 (%)	245 (36.9)	28 (22.4)	0.002	
Emergency_Service = 1 (%)	39 (5.9)	8 (6.4)	0.982	
Scientific_Society = 1 (%)	60 (9.0)	9 (7.2)	0.621	
Private_simulation_center = 1 (%)	22 (3.3)	5 (4.0)	0.905	
Public_simulation_center = 1 (%)	57 (8.6)	19 (15.2)	0.033	
Others = 1 (%)	67 (10.1)	1 (0.8)	0.001	



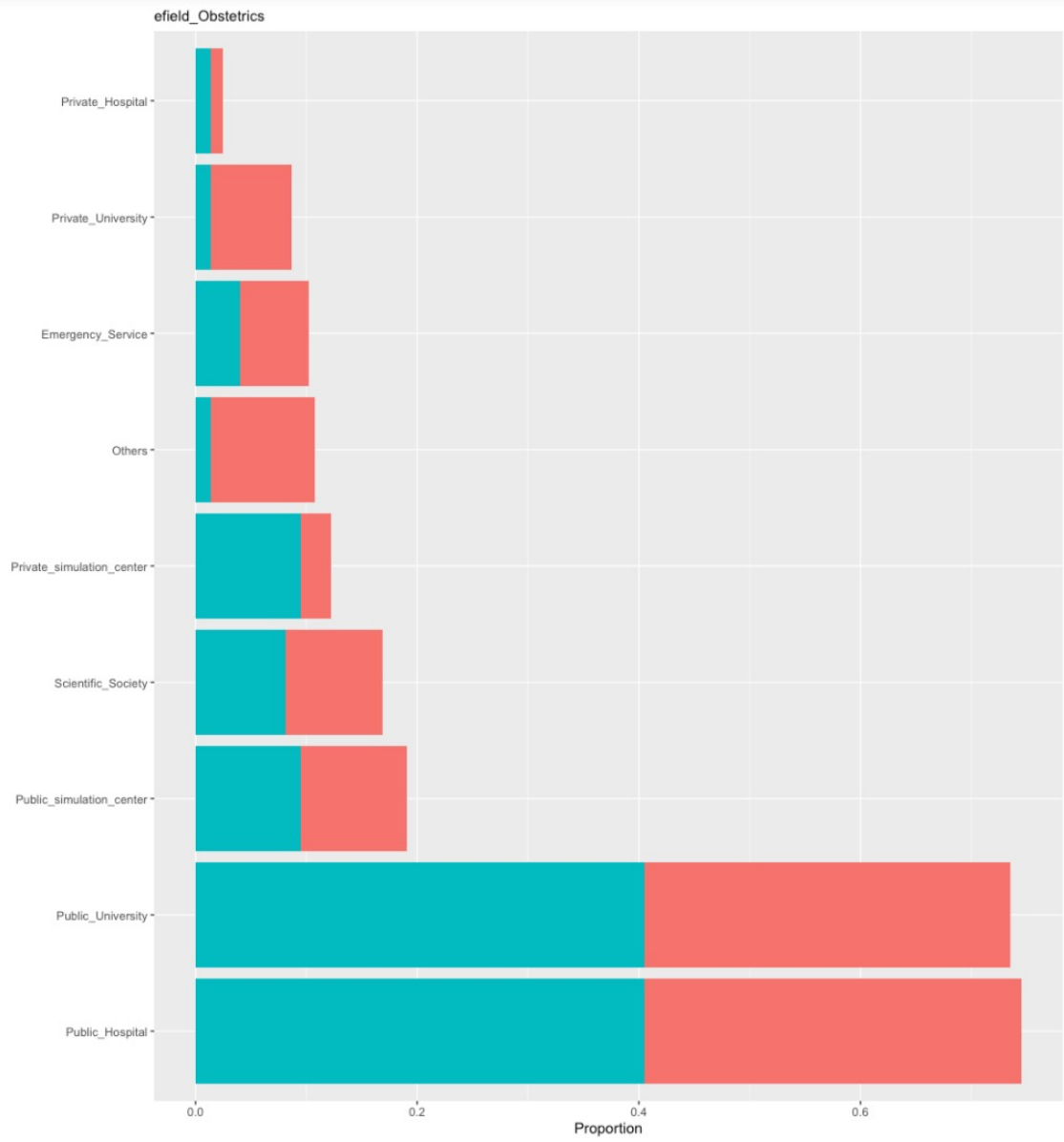
	No	Yes	p	test
n	162	627		
Public_University = 1 (%)	64 (39.5)	202 (32.2)	0.098	
Private_University = 1 (%)	5 (3.1)	48 (7.7)	0.058	
Private_Hospital = 1 (%)	2 (1.2)	7 (1.1)	1.000	
Public_Hospital = 1 (%)	65 (40.1)	208 (33.2)	0.118	
Emergency_Service = 1 (%)	2 (1.2)	45 (7.2)	0.008	
Scientific_Society = 1 (%)	7 (4.3)	62 (9.9)	0.038	
Private_simulation_center = 1 (%)	1 (0.6)	26 (4.1)	0.050	
Public_simulation_center = 1 (%)	17 (10.5)	59 (9.4)	0.789	
Others = 1 (%)	6 (3.7)	62 (9.9)	0.019	

efield_Paediatrics



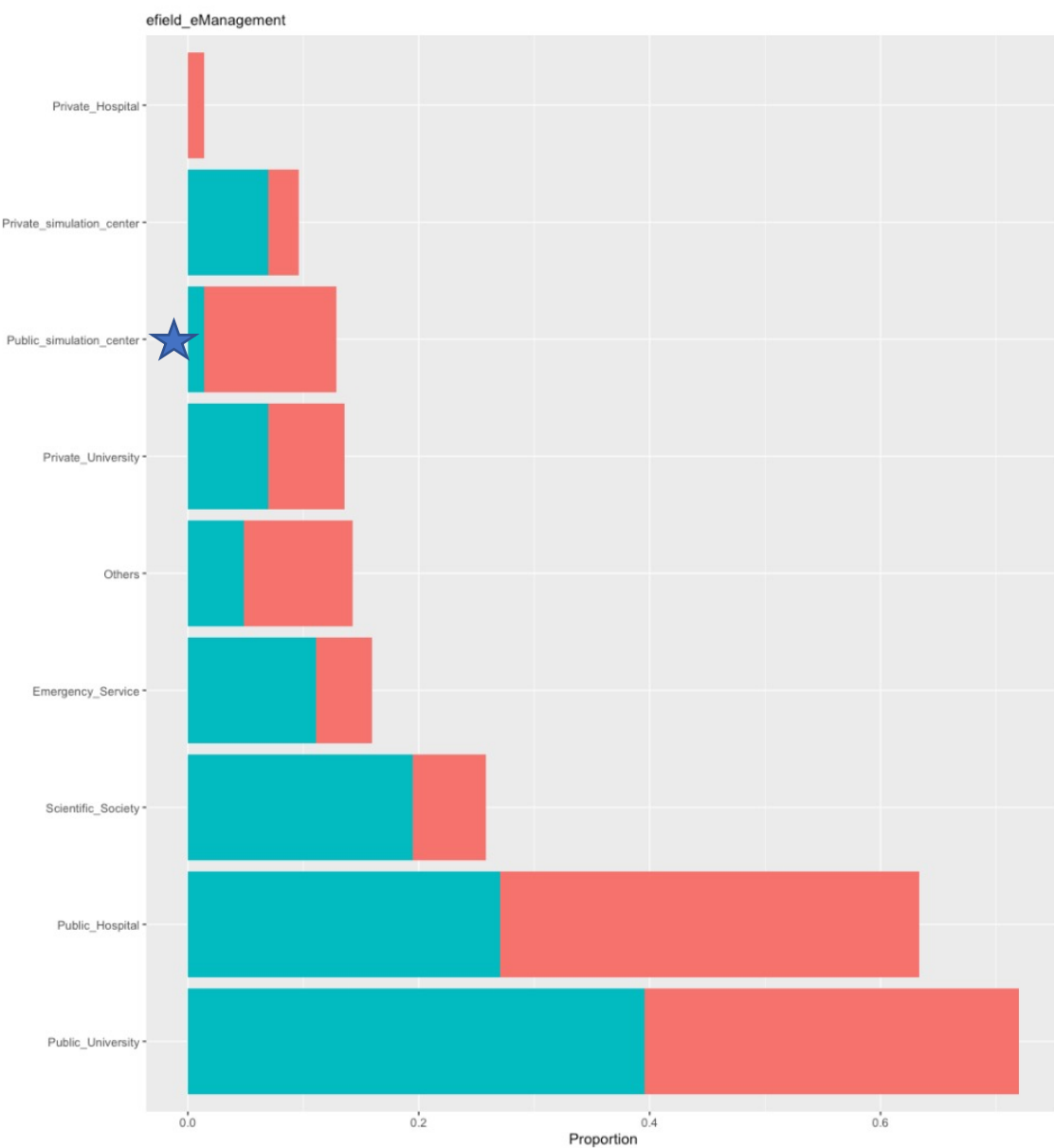
No
Yes

	No	Yes	p	test
n	666	123		
Public_University = 1 (%)	204 (30.6)	62 (50.4)	<0.001	
Private_University = 1 (%)	53 (8.0)	0 (0.0)	0.002	
Private_Hospital = 1 (%)	7 (1.1)	2 (1.6)	0.929	
Public_Hospital = 1 (%)	222 (33.3)	51 (41.5)	0.101	
Emergency_Service = 1 (%)	42 (6.3)	5 (4.1)	0.449	
Scientific_Society = 1 (%)	56 (8.4)	13 (10.6)	0.545	
Private_simulation_center = 1 (%)	23 (3.5)	4 (3.3)	1.000	
Public_simulation_center = 1 (%)	69 (10.4)	7 (5.7)	0.148	
Others = 1 (%)	68 (10.2)	0 (0.0)	<0.001	



No
Yes

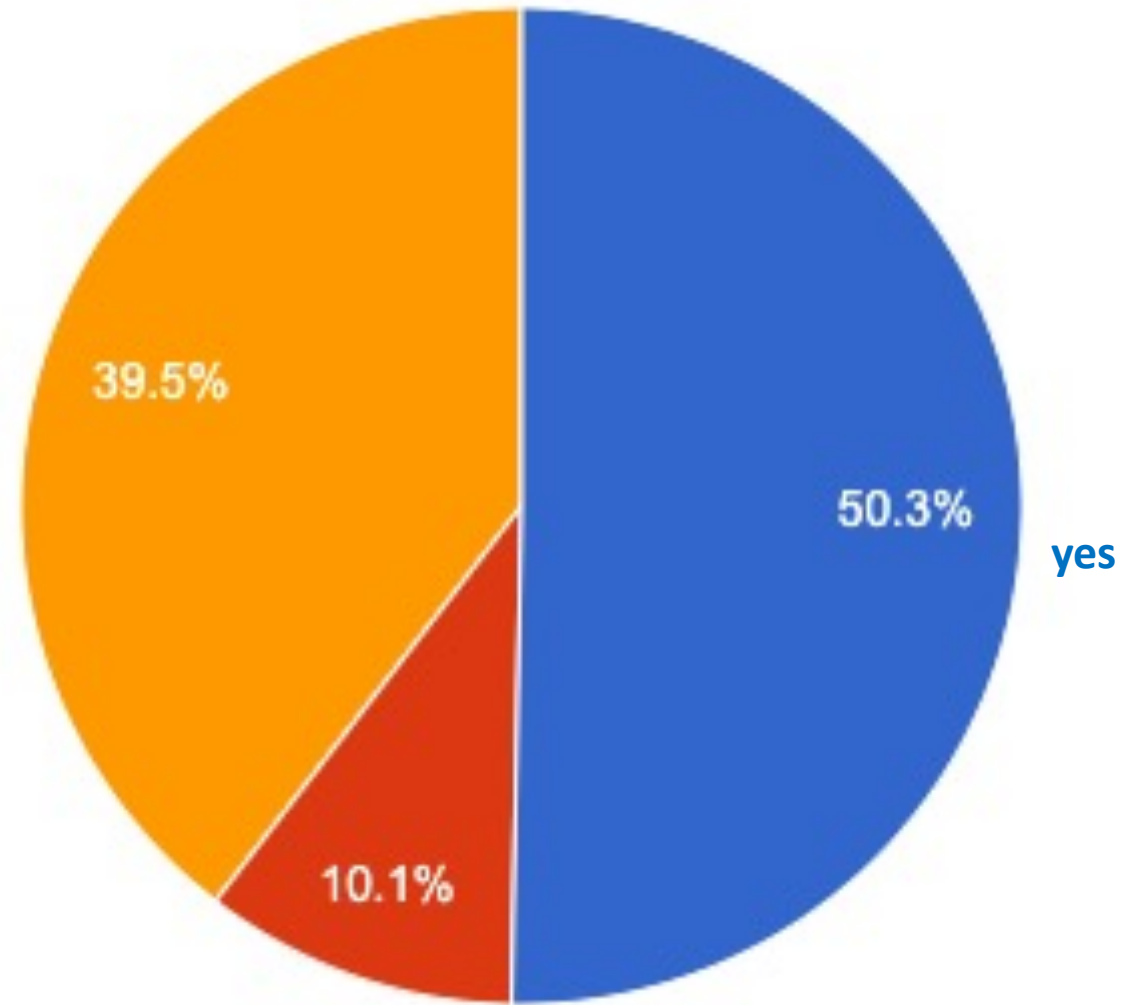
	No	Yes	p	test
n	715	74		
Public_University = 1 (%)	236 (33.0)	30 (40.5)	0.240	
Private_University = 1 (%)	52 (7.3)	1 (1.4)	0.090	
Private_Hospital = 1 (%)	8 (1.1)	1 (1.4)	1.000	
Public_Hospital = 1 (%)	243 (34.0)	30 (40.5)	0.317	
Emergency_Service = 1 (%)	44 (6.2)	3 (4.1)	0.639	
Scientific_Society = 1 (%)	63 (8.8)	6 (8.1)	1.000	
Private_simulation_center = 1 (%)	20 (2.8)	7 (9.5)	0.008	
Public_simulation_center = 1 (%)	69 (9.7)	7 (9.5)	1.000	
Others = 1 (%)	67 (9.4)	1 (1.4)	0.034	



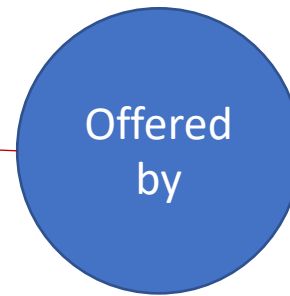
No
Yes

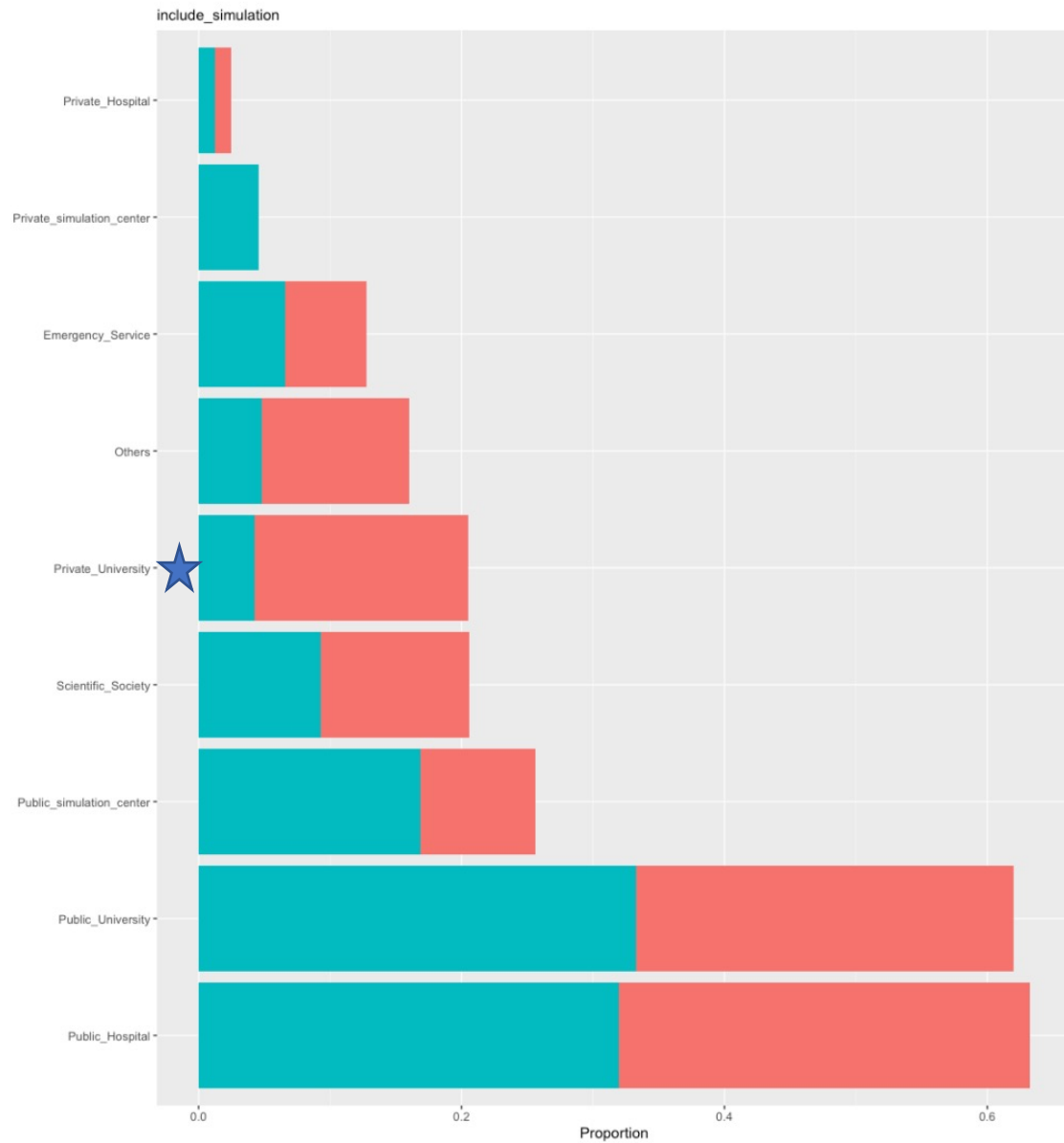
	No	Yes	p	test
n	645	144		
Public_University = 1 (%)	209 (32.4)	57 (39.6)	0.121	
Private_University = 1 (%)	43 (6.7)	10 (6.9)	1.000	
Private_Hospital = 1 (%)	9 (1.4)	0 (0.0)	0.321	
Public_Hospital = 1 (%)	234 (36.3)	39 (27.1)	0.045	
Emergency_Service = 1 (%)	31 (4.8)	16 (11.1)	0.007	
Scientific_Society = 1 (%)	41 (6.4)	28 (19.4)	<0.001	
Private_simulation_center = 1 (%)	17 (2.6)	10 (6.9)	0.020	
Public_simulation_center = 1 (%)	74 (11.5)	2 (1.4)	<0.001	
Others = 1 (%)	61 (9.5)	7 (4.9)	0.107	

Simulation?



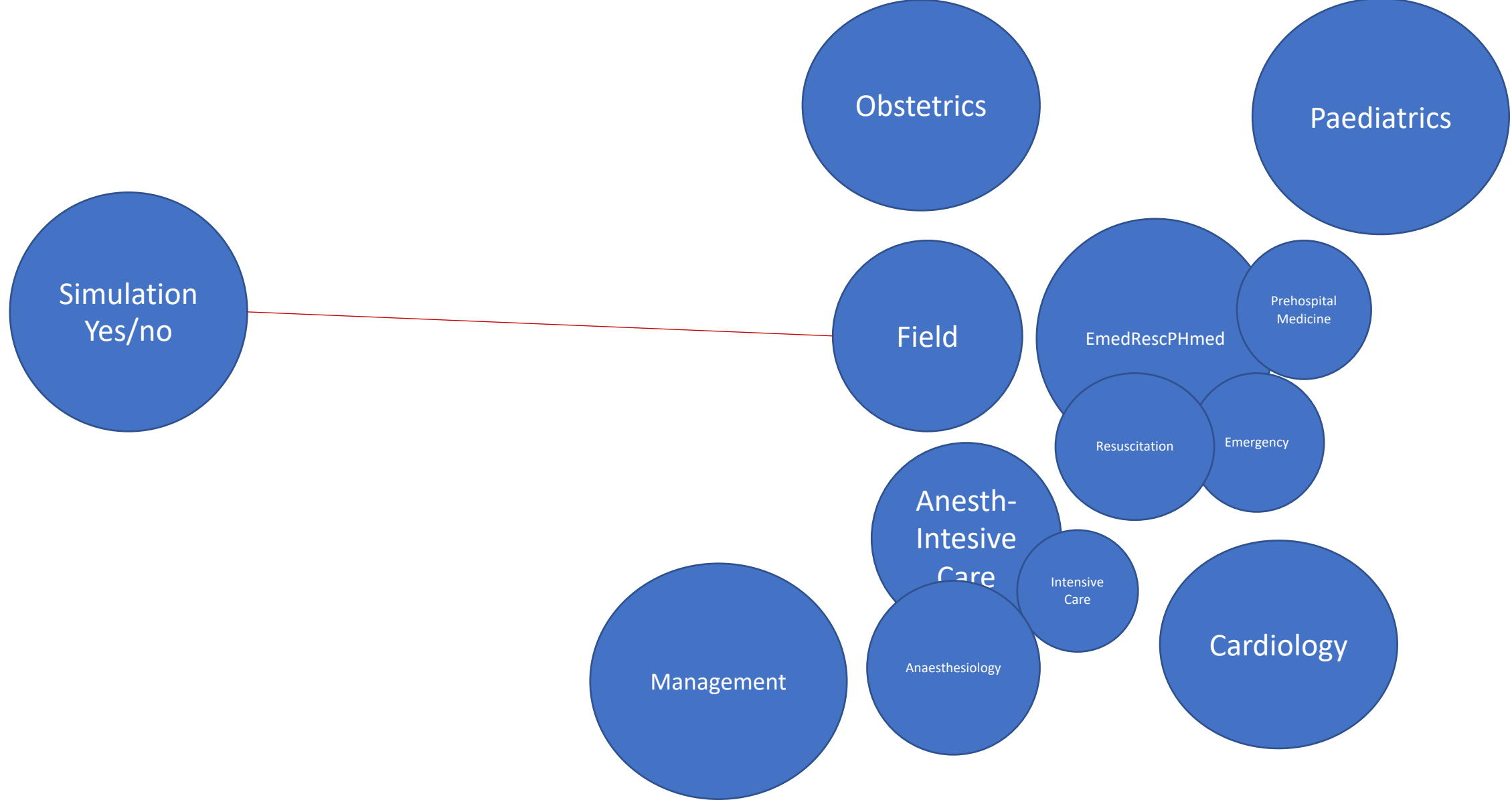
No

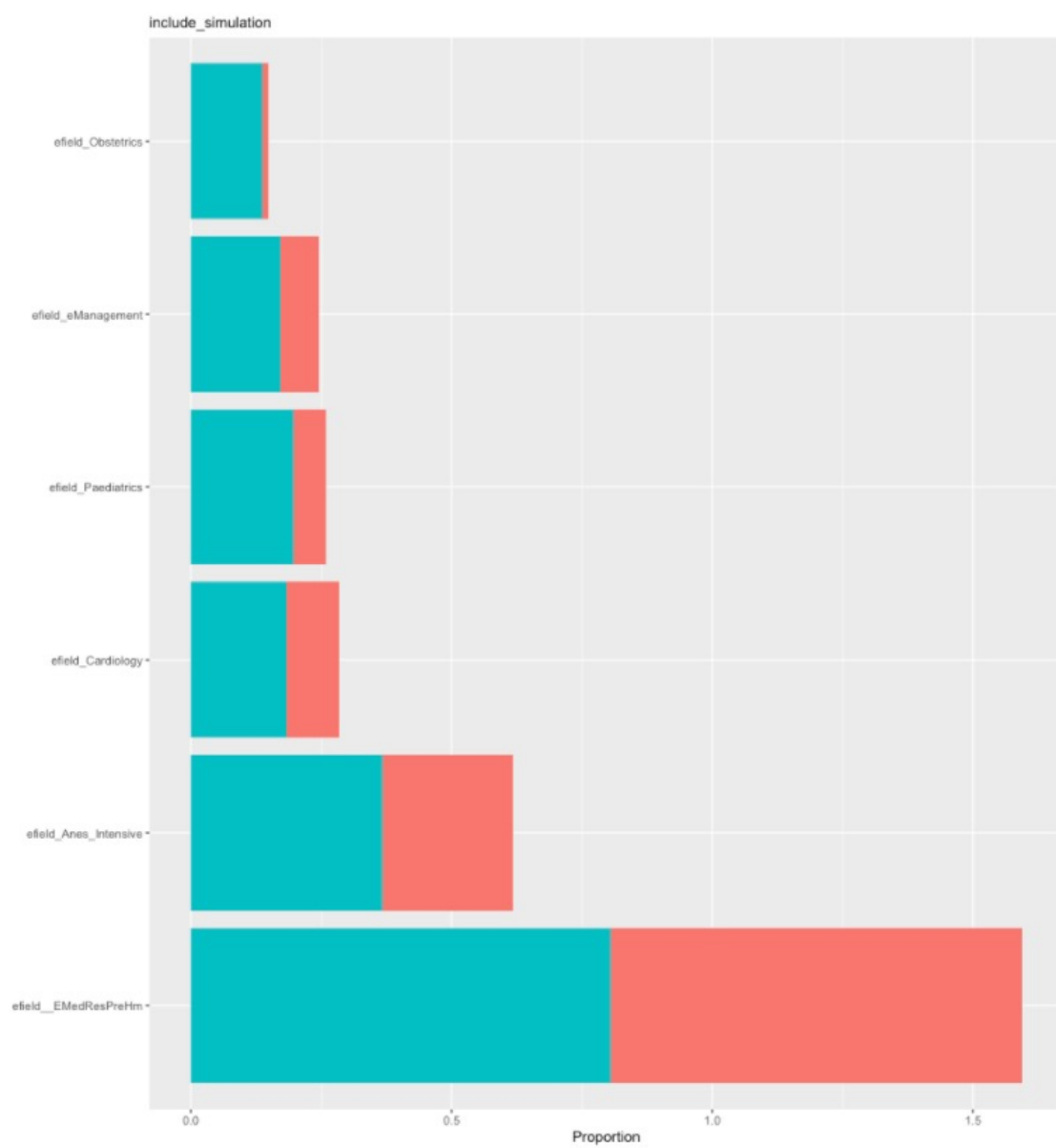




No
Yes

	No	Yes	p	test
n	80	397		
Public_University = 1 (%)	23 (28.7)	132 (33.2)	0.514	
Private_University = 1 (%)	13 (16.2)	17 (4.3)	<0.001	
Private_Hospital = 1 (%)	1 (1.2)	5 (1.3)	1.000	
Public_Hospital = 1 (%)	25 (31.2)	127 (32.0)	1.000	
Emergency_Service = 1 (%)	5 (6.2)	26 (6.5)	1.000	
Scientific_Society = 1 (%)	9 (11.2)	37 (9.3)	0.744	
Private_simulation_center = 1 (%)	0 (0.0)	18 (4.5)	0.105	
Public_simulation_center = 1 (%)	7 (8.8)	67 (16.9)	0.096	
Others = 1 (%)	9 (11.2)	19 (4.8)	0.047	

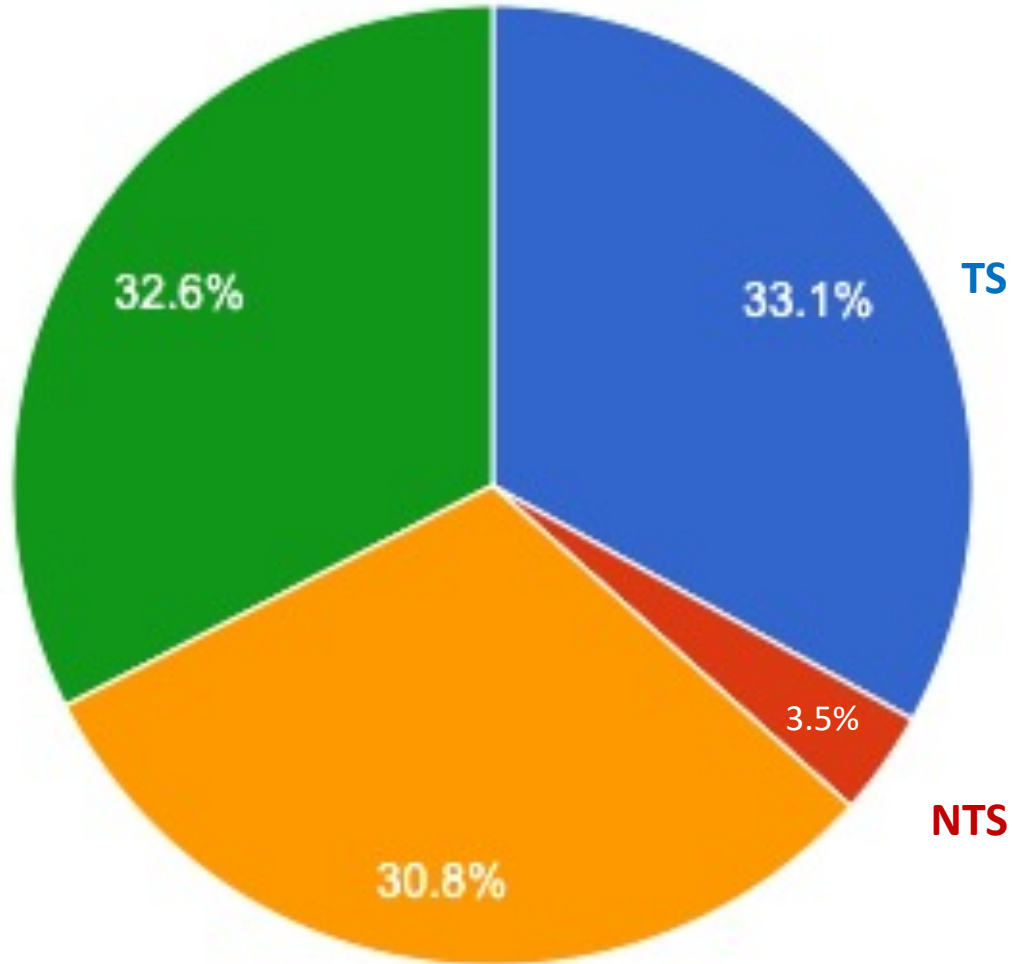




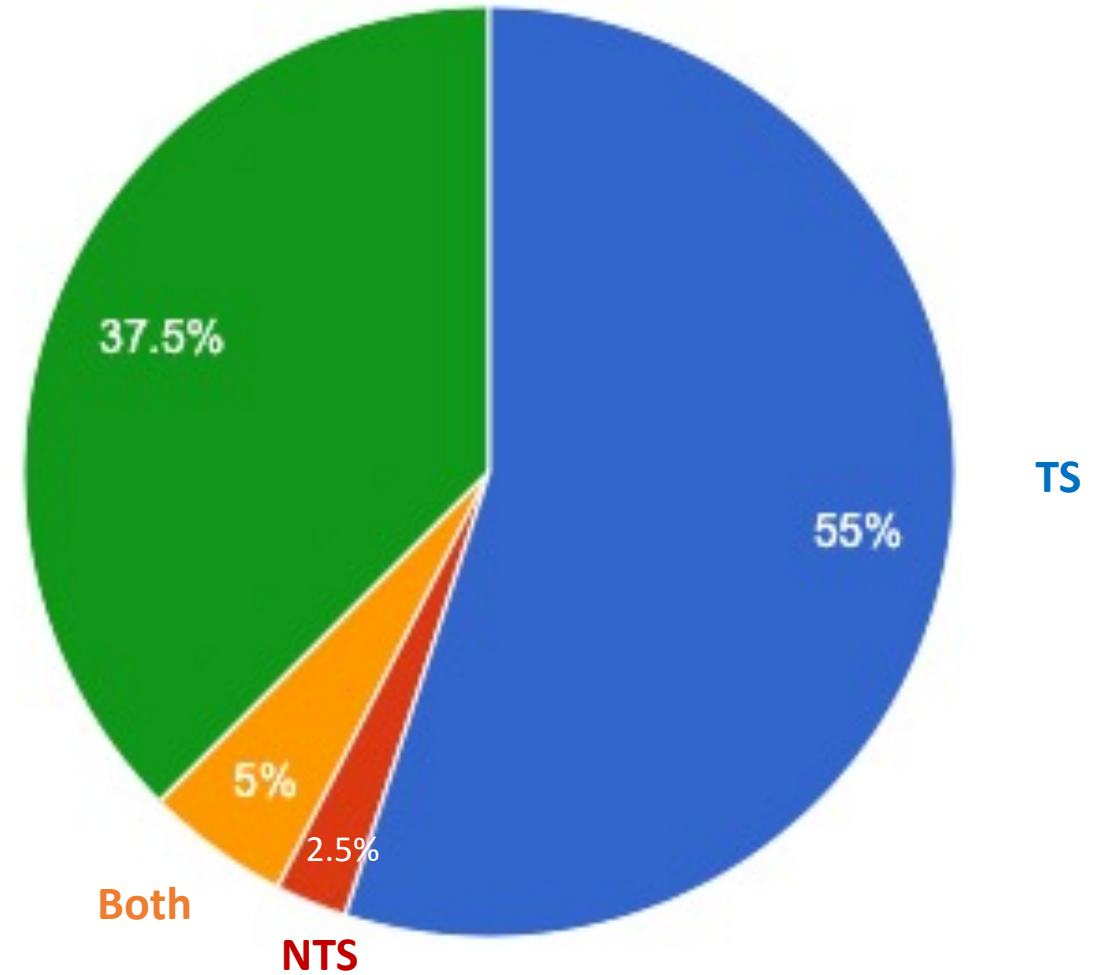
	No	Yes	p	test
n	80	397		
efield_Anes_Intensive = Yes (%)	20 (25.0)	146 (36.8)	0.059	
efield_Cardiology = Yes (%)	8 (10.0)	73 (18.4)	0.097	
efield__EMedResPreHm = Yes (%)	63 (78.8)	320 (80.6)	0.821	
efield_Paediatrics = Yes (%)	5 (6.2)	78 (19.6)	0.006	
efield_Obstetrics = Yes (%)	1 (1.2)	54 (13.6)	0.003	
efield_eManagement = Yes (%)	6 (7.5)	68 (17.1)	0.045	

Simulation?

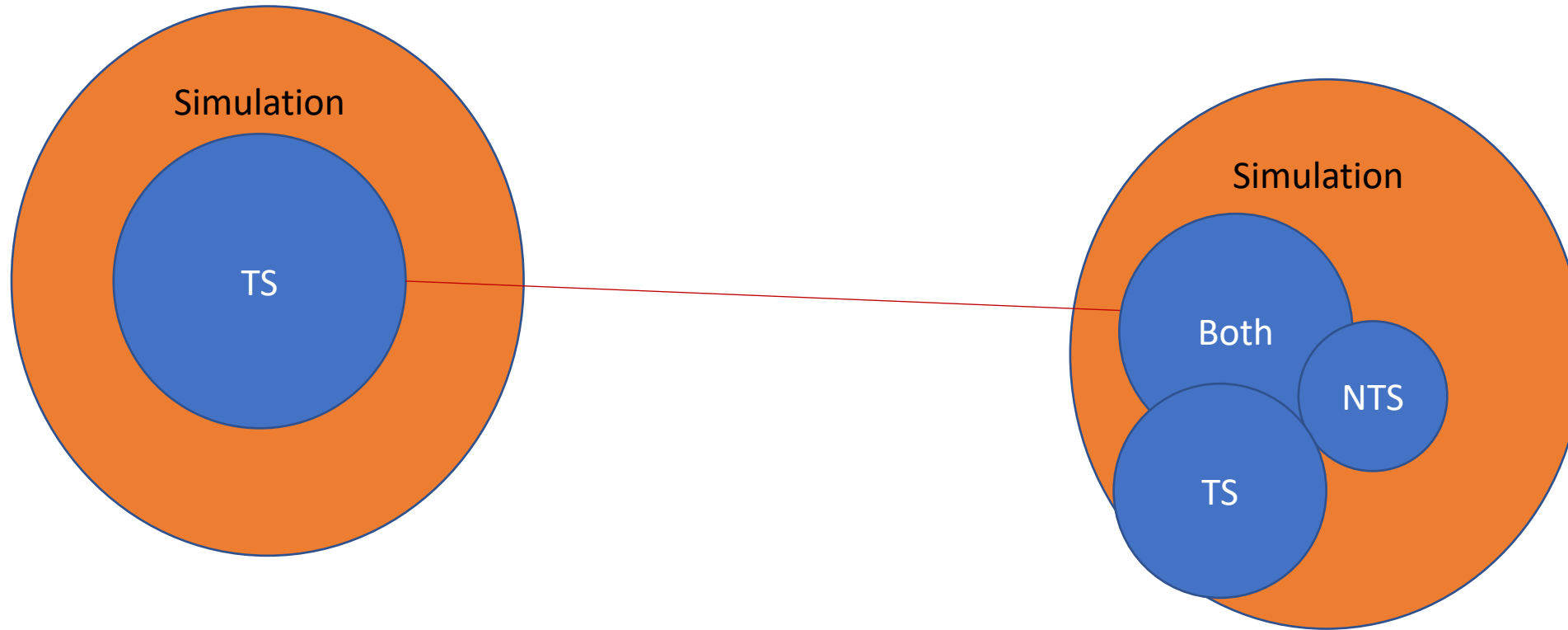
yes

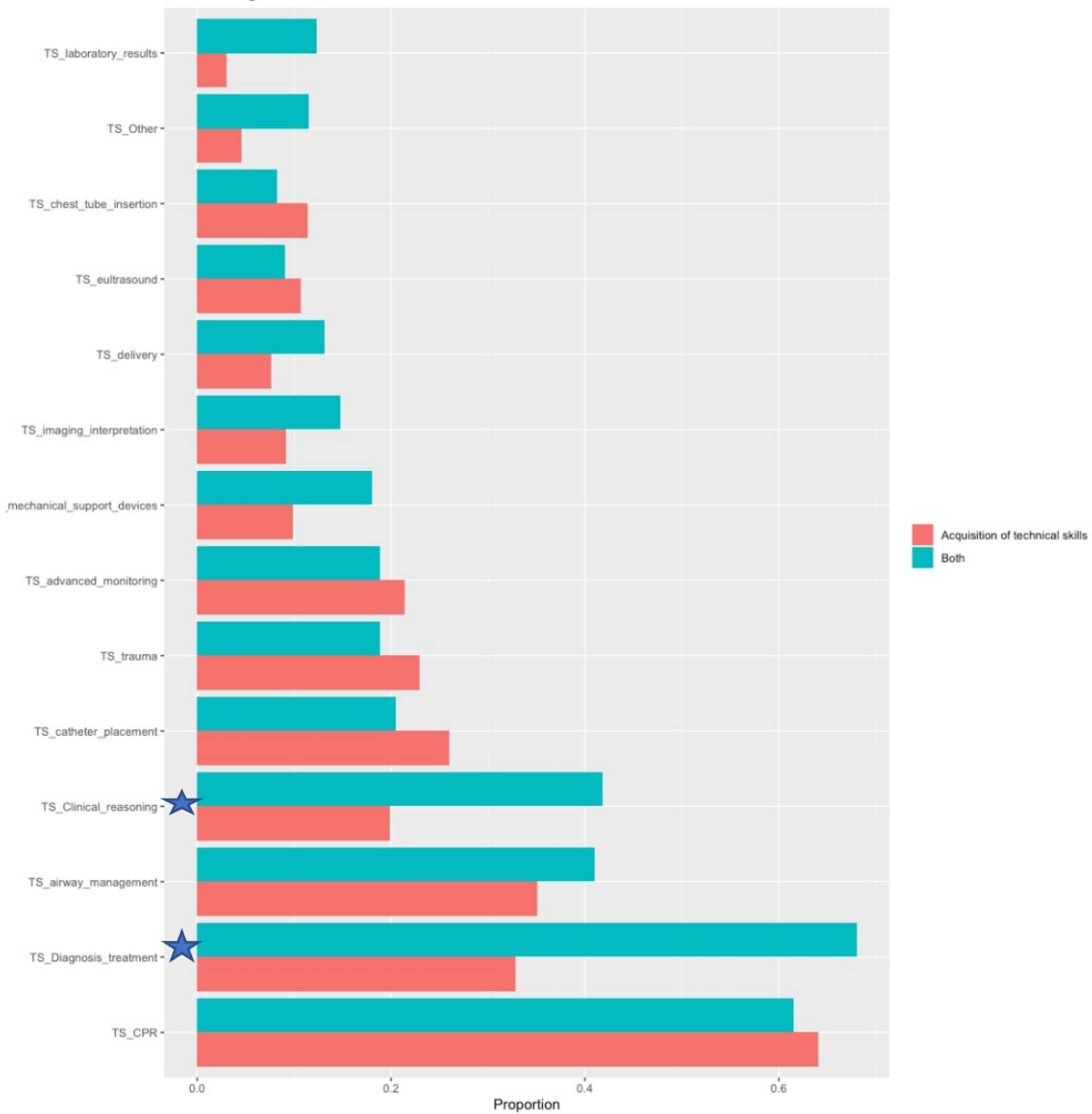


No

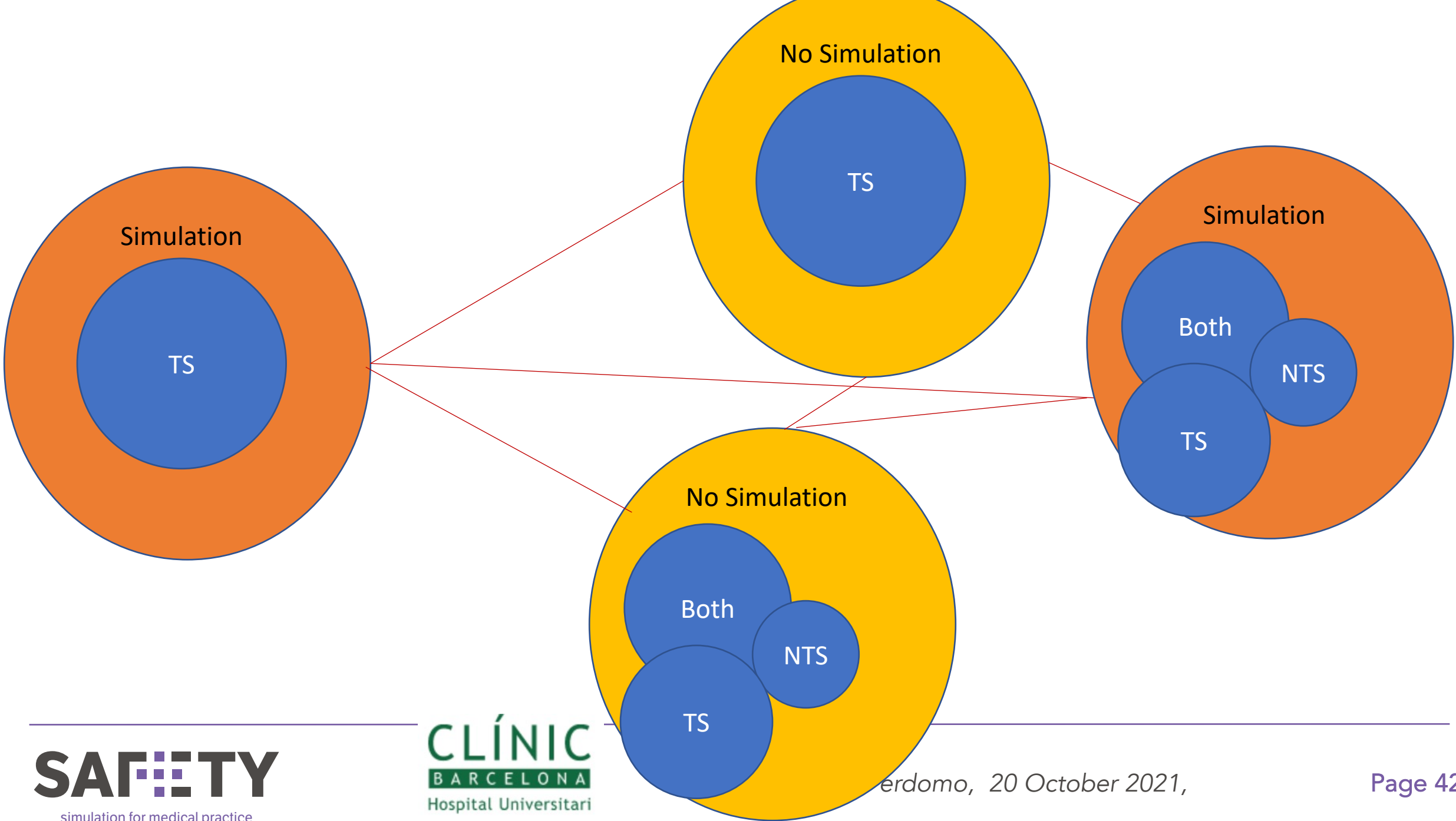


Both

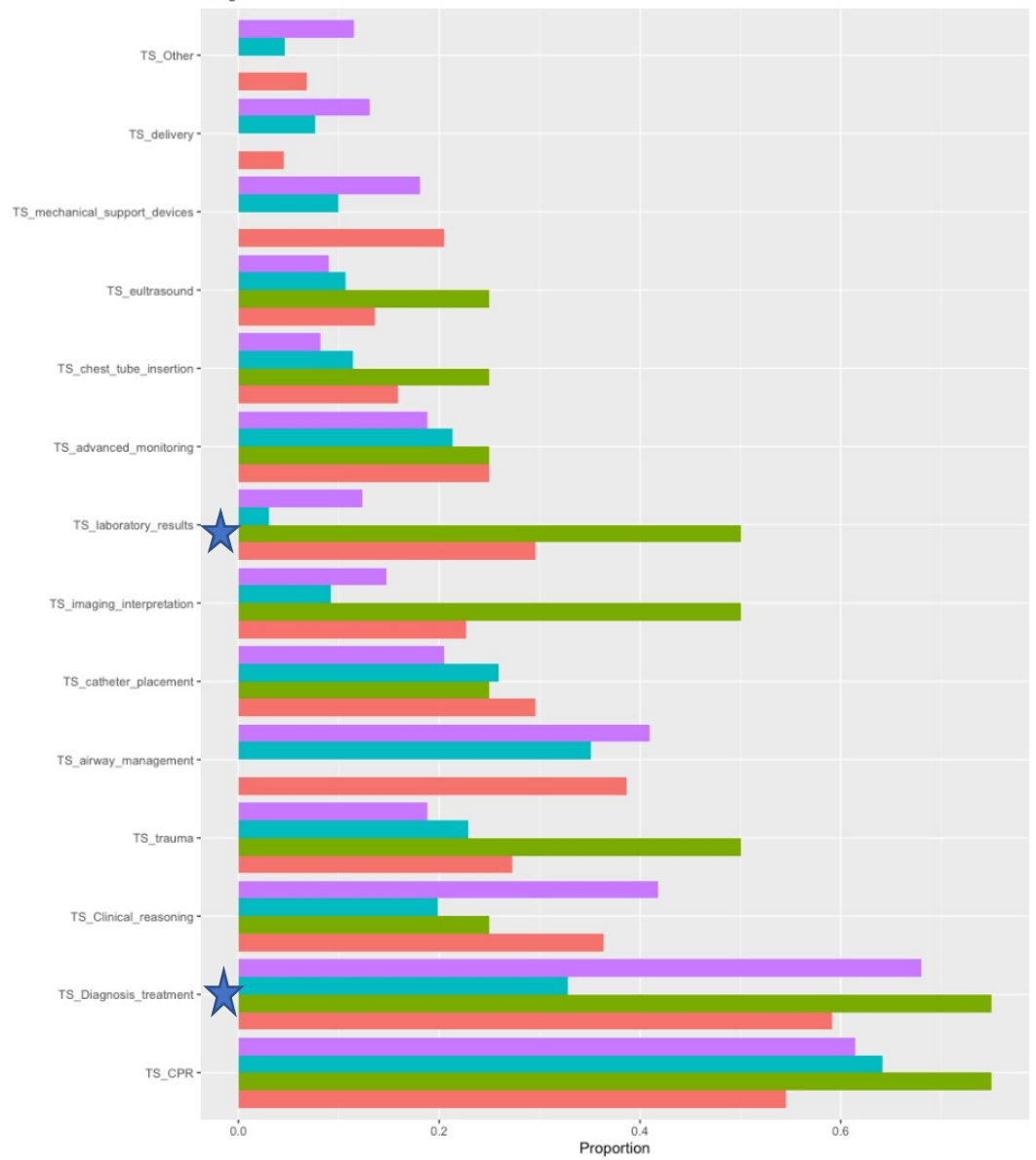




	Acquisition.of.technical.skills	Both	p	test
n	131	122		
TS_Diagnosis_treatment = 1 (%)	43 (32.8)	83 (68.0)	<0.001	
TS_CPR = 1 (%)	84 (64.1)	75 (61.5)	0.760	
TS_trauma = 1 (%)	30 (22.9)	23 (18.9)	0.525	
TS_airway_management = 1 (%)	46 (35.1)	50 (41.0)	0.406	
TS_catheter_placement = 1 (%)	34 (26.0)	25 (20.5)	0.380	
TS_chest_tube_insertion = 1 (%)	15 (11.5)	10 (8.2)	0.512	
TS_eultrasound = 1 (%)	14 (10.7)	11 (9.0)	0.815	
TS_delivery = 1 (%)	10 (7.6)	16 (13.1)	0.220	
TS_mechanical_support_devices = 1 (%)	13 (9.9)	22 (18.0)	0.092	
TS_imaging_interpretation = 1 (%)	12 (9.2)	18 (14.8)	0.238	
TS_laboratory_results = 1 (%)	4 (3.1)	15 (12.3)	0.011	
TS_advanced_monitoring = 1 (%)	28 (21.4)	23 (18.9)	0.732	
TS_Clinical_reasoning = 1 (%)	26 (19.8)	51 (41.8)	<0.001	
TS_Other = 1 (%)	6 (4.6)	14 (11.5)	0.072	

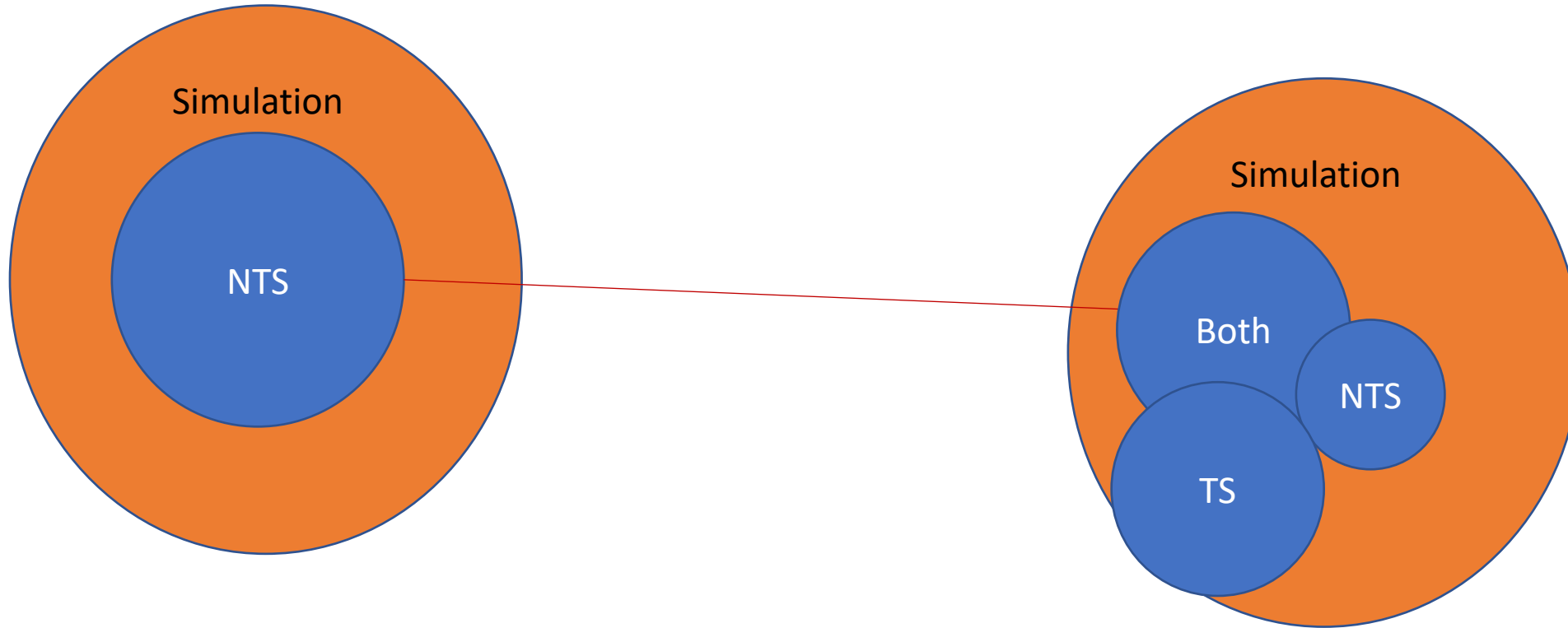


simlgo

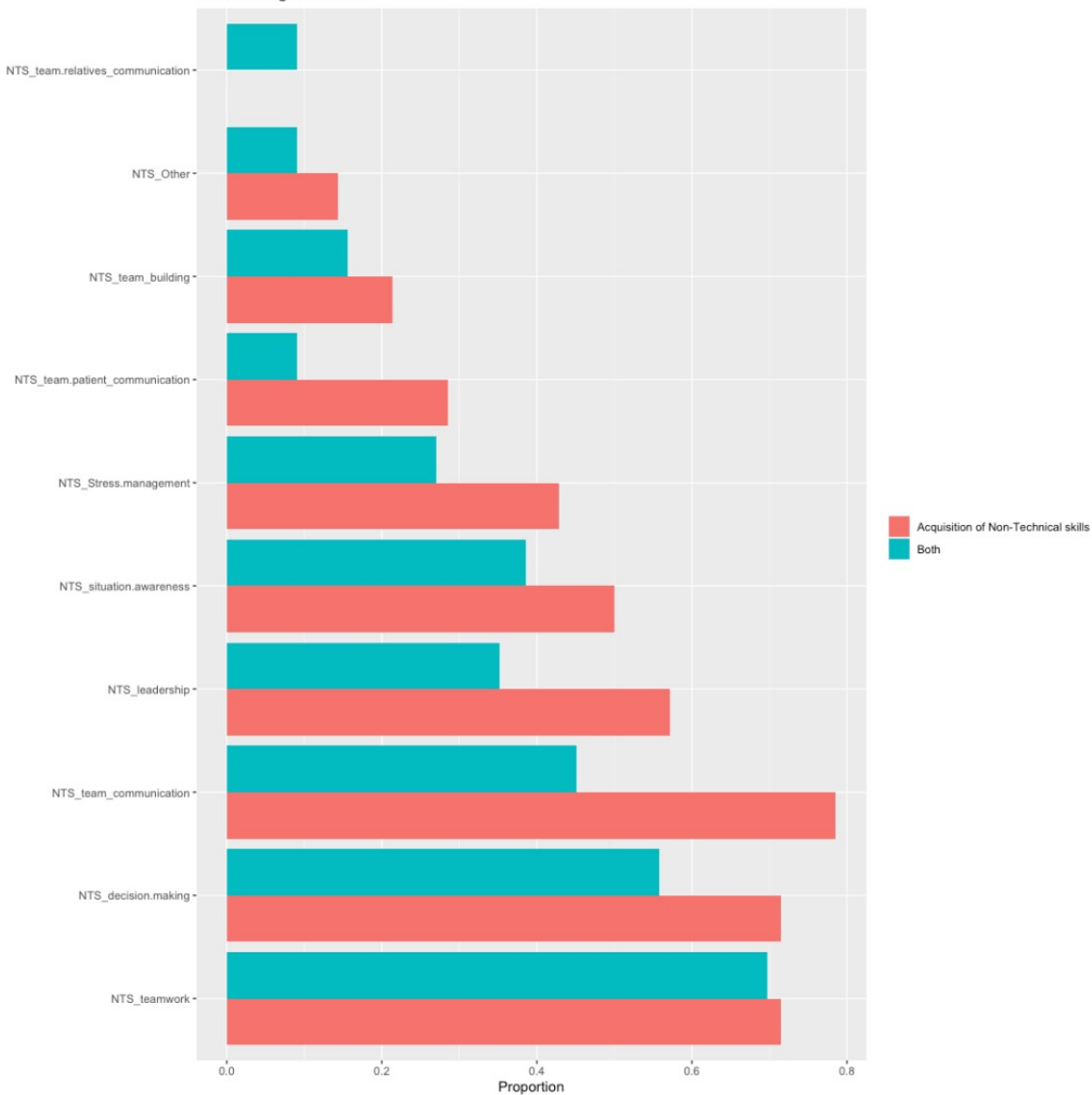


without_sim_TS
without_sim_both
with_sim_TS
with_sim_both

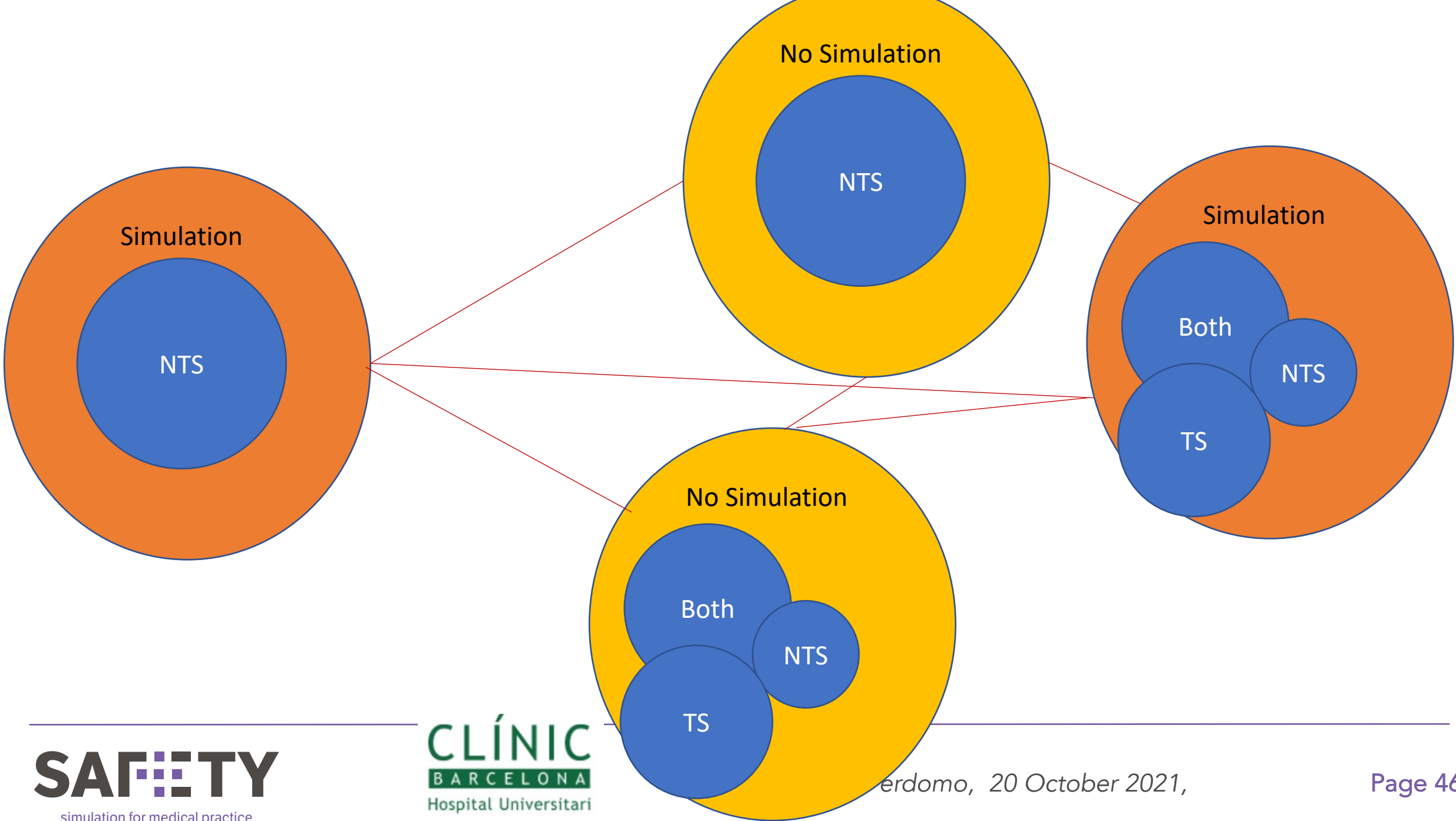
	without_sim_TS	without_sim_both	with_sim_TS	with_sim_both	p	test
n	44	4	131	122		
TS_Diagnosis_treatment = 1 (%)	26 (59.1)	3 (75.0)	43 (32.8)	83 (68.0)	<0.001	
TS_CPR = 1 (%)	24 (54.5)	3 (75.0)	84 (64.1)	75 (61.5)	0.664	
TS_trauma = 1 (%)	12 (27.3)	2 (50.0)	30 (22.9)	23 (18.9)	0.352	
TS_airway_management = 1 (%)	17 (38.6)	0 (0.0)	46 (35.1)	50 (41.0)	0.338	
TS_catheter_placement = 1 (%)	13 (29.5)	1 (25.0)	34 (26.0)	25 (20.5)	0.611	
TS_chest_tube_insertion = 1 (%)	7 (15.9)	1 (25.0)	15 (11.5)	10 (8.2)	0.408	
TS_eultrasound = 1 (%)	6 (13.6)	1 (25.0)	14 (10.7)	11 (9.0)	0.654	
TS_delivery = 1 (%)	2 (4.5)	0 (0.0)	10 (7.6)	16 (13.1)	0.248	
TS_mechanical_support_devices = 1 (%)	9 (20.5)	0 (0.0)	13 (9.9)	22 (18.0)	0.149	
TS_imaging_interpretation = 1 (%)	10 (22.7)	2 (50.0)	12 (9.2)	18 (14.8)	0.021	
TS_laboratory_results = 1 (%)	13 (29.5)	2 (50.0)	4 (3.1)	15 (12.3)	<0.001	
TS_advanced_monitoring = 1 (%)	11 (25.0)	1 (25.0)	28 (21.4)	23 (18.9)	0.846	
TS_Clinical_reasoning = 1 (%)	16 (36.4)	1 (25.0)	26 (19.8)	51 (41.8)	0.002	
TS_Other = 1 (%)	3 (6.8)	0 (0.0)	6 (4.6)	14 (11.5)	0.199	

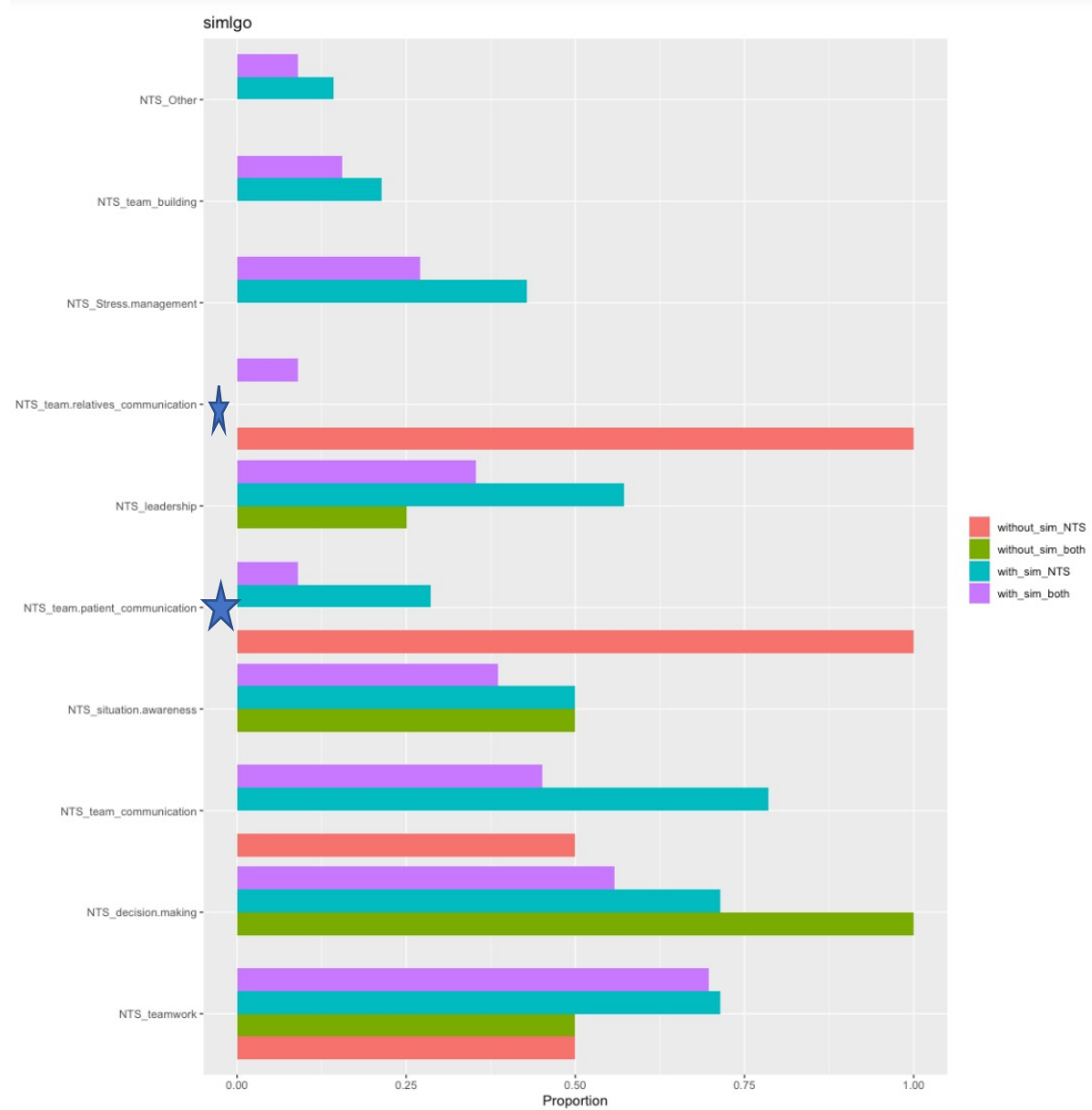


simulation goal in NTS



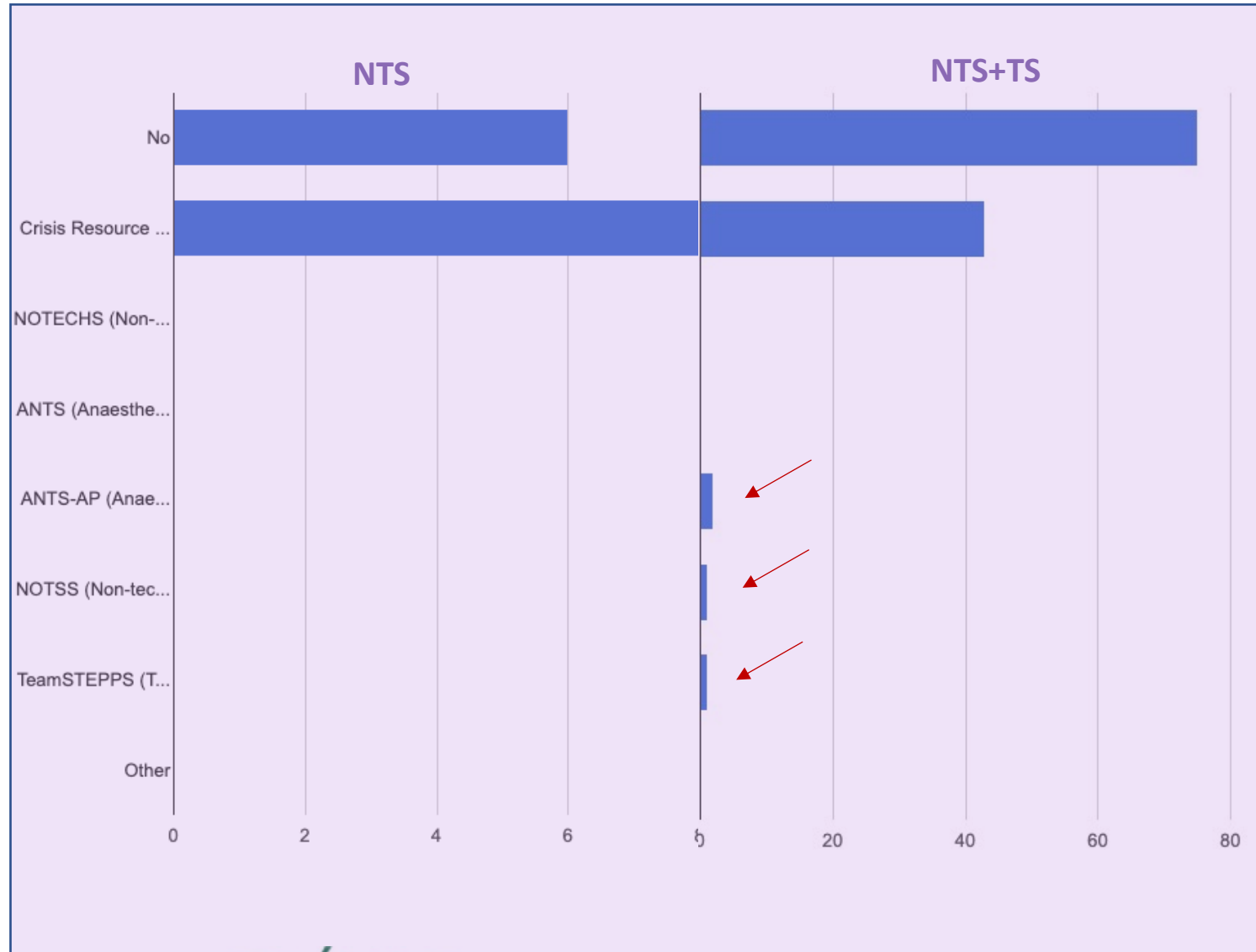
	Acquisition.of.Non.Technical.skills	Both	p	test
n	14	122		
NTS_leadership = 1 (%)	8 (57.1)	43 (35.2)	0.190	
NTS_teamwork = 1 (%)	10 (71.4)	85 (69.7)	1.000	
NTS_situation awareness = 1 (%)	7 (50.0)	47 (38.5)	0.587	
NTS_decision making = 1 (%)	10 (71.4)	68 (55.7)	0.401	
NTS_Stress management = 1 (%)	6 (42.9)	33 (27.0)	0.354	
NTS_team_communication = 1 (%)	11 (78.6)	55 (45.1)	0.036	
NTS_team-patient_communication = 1 (%)	4 (28.6)	11 (9.0)	0.078	
NTS_team-relatives_communication = 1 (%)	0 (0.0)	11 (9.0)	0.513	
NTS_team_building = 1 (%)	3 (21.4)	19 (15.6)	0.857	

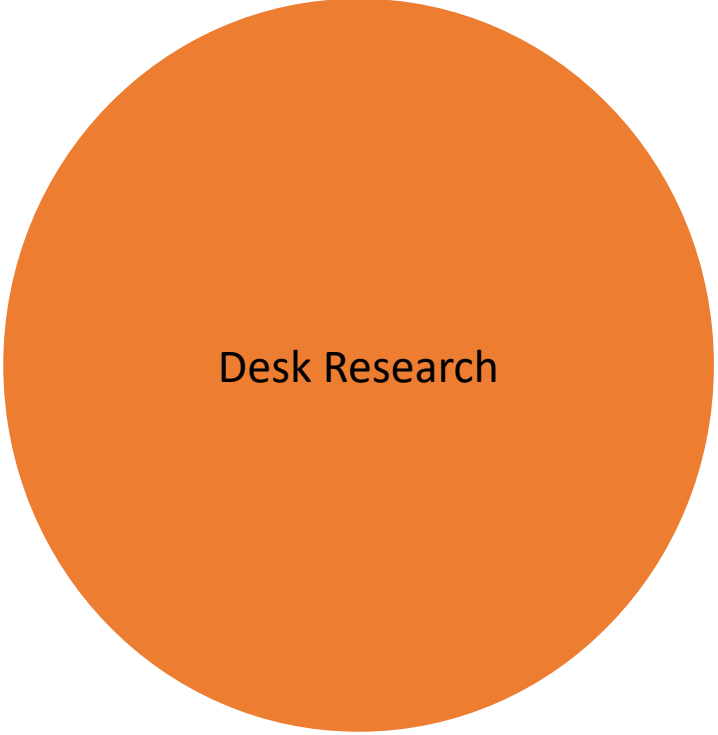




	without_sim_NTS	without_sim_both	with_sim_NTS	with_sim_both	p	test
n	2	4	14	122		
NTS_leadership = 1 (%)	0 (0.0)	1 (25.0)	8 (57.1)	43 (35.2)	0.258	
NTS_teamwork = 1 (%)	1 (50.0)	2 (50.0)	10 (71.4)	85 (69.7)	0.783	
NTS_situation awareness = 1 (%)	0 (0.0)	2 (50.0)	7 (50.0)	47 (38.5)	0.535	
NTS_decision making = 1 (%)	0 (0.0)	4 (100.0)	10 (71.4)	68 (55.7)	0.074	
NTS_Stress management = 1 (%)	0 (0.0)	0 (0.0)	6 (42.9)	33 (27.0)	0.267	
NTS_team_communication = 1 (%)	1 (50.0)	0 (0.0)	11 (78.6)	55 (45.1)	0.025	
NTS_team-patient_communication = 1 (%)	2 (100.0)	0 (0.0)	4 (28.6)	11 (9.0)	<0.001	
NTS_team-relatives_communication = 1 (%)	2 (100.0)	0 (0.0)	0 (0.0)	11 (9.0)	<0.001	
NTS_team_building = 1 (%)	0 (0.0)	0 (0.0)	3 (21.4)	19 (15.6)	0.688	

Simulation?







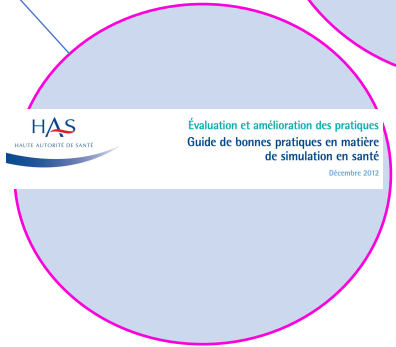
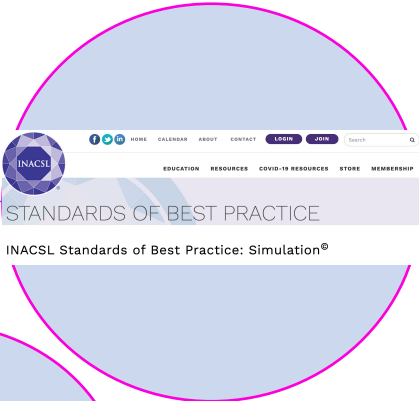
1. What we wanted to know?



Consensus

Guide to data
collection



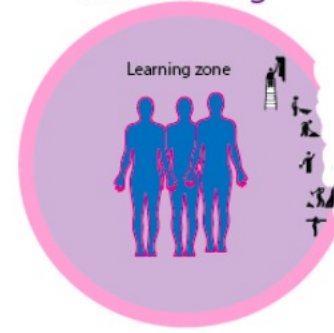




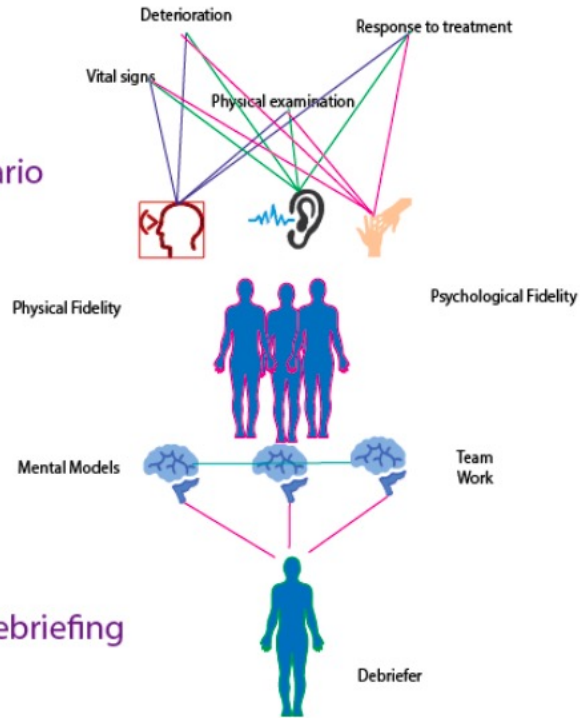
1. Planing



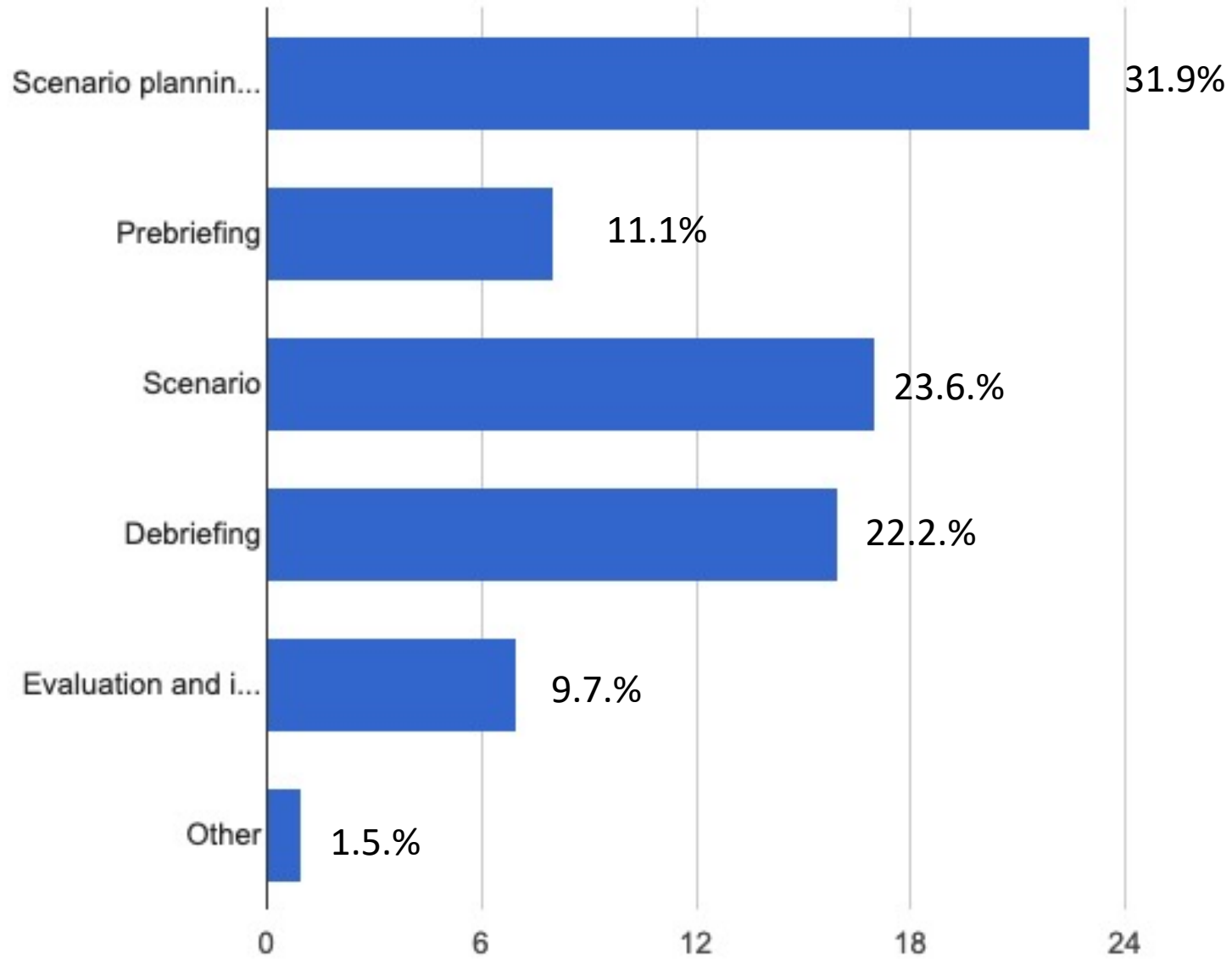
2. Prebriefing

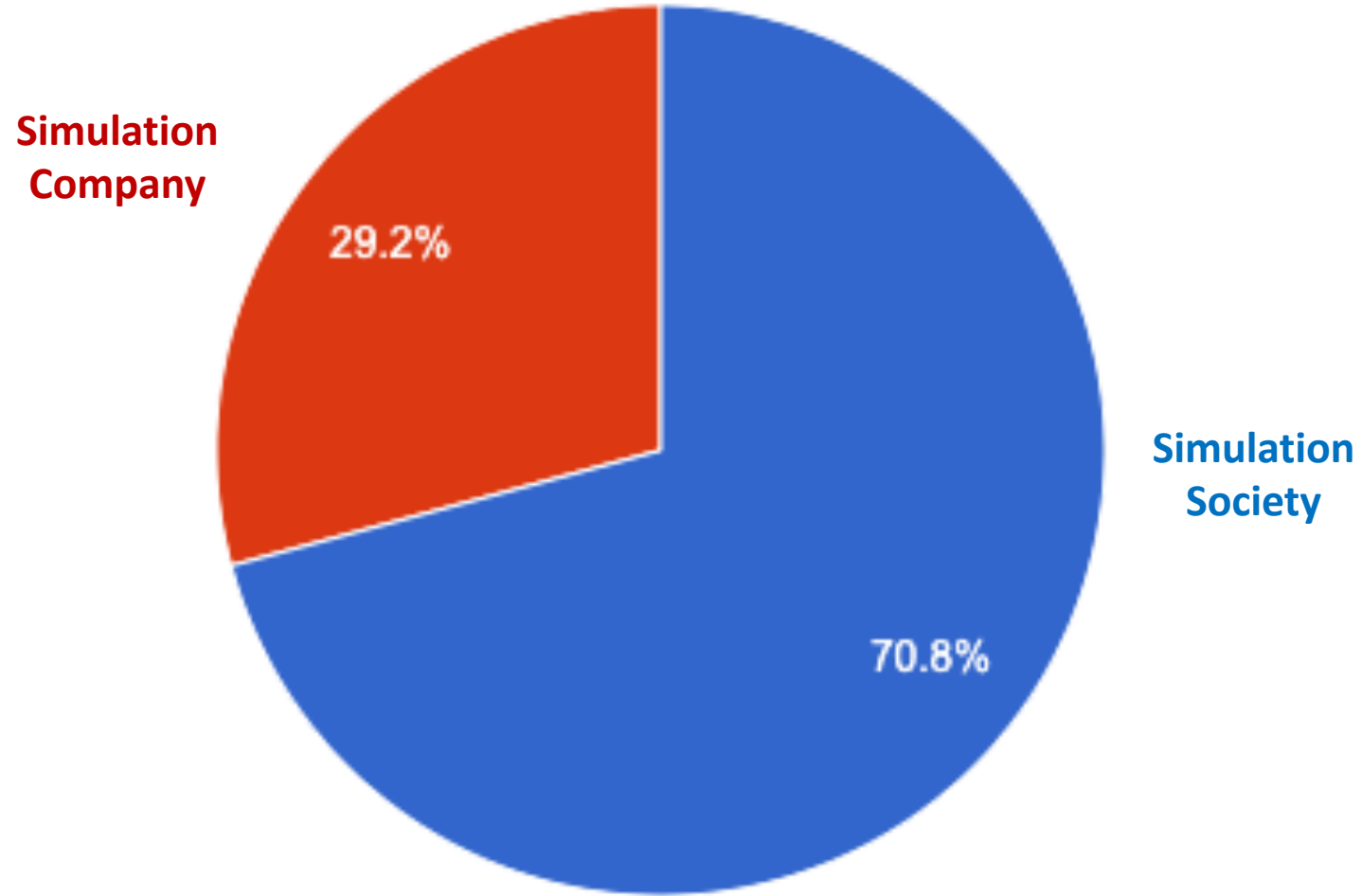


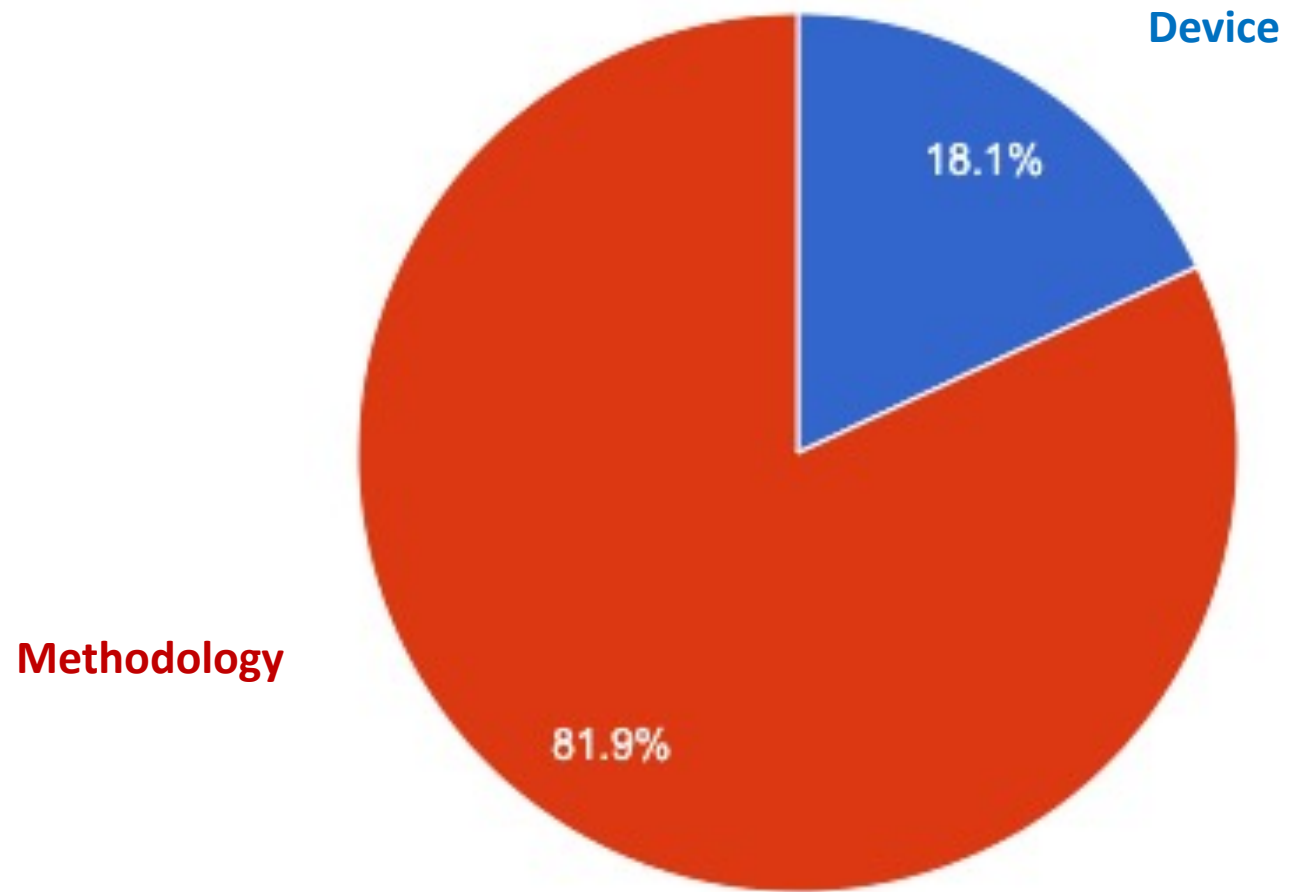
3. Scenario



4. Debriefing







Conclusions I

- The majority of the offer come from public universities and hospitals
- Public hospital offer is not homogenous across the five countries (Germany)
- Public university offer is not homogeneous across the five countries (Romania)
- Private simulation centre offer is not homogeneous across the five countries (Italy)
- Public simulation centre offer is not homogeneous across the five countries (Norway)

Conclusions II

- Undergraduate nurses and physicians have the lower percentage of courses targeting them
- Public universities show a statistically significant tendency to have more courses targeting undergraduate physicians and nurses
- Public hospitals show a statistically significant trend to have fewer courses targeting undergraduate physicians and paramedics
- Private universities show a statistically significant tendency to have more courses targeting nurses
- Public and private simulation centres show a statistically significant trend to have more courses targeting paramedics

Conclusions III

- Courses related to anaesthesiology-intensive care (I), cardiology (G), obstetrics (I), and emergency management (N) show a statistically significant difference in distribution across countries
- Public hospitals show a statistically significant tendency to have more courses related to anaesthesiology-intensive care, cardiology and paediatrics.
- Public simulation centre show a statistically significant tendency to have fewer courses related to emergency management.

Conclusions IV

- Half of the emergency educational offer include simulation
- It seem that the use of simulation allows to approach NTS alone and with TS more frequently than courses without simulation
- Courses are more likely to target skills related to “diagnosis and treatment” and “clinical reasoning” if they are linked to NTS.
- There is a significant tendency of courses than include simulation not to target “team-patient communication” and “team-relatives communication”

Next step

Written report

SAFETY

simulation for medical practice

Thank you!