

The EMUGS 2019 Ultrasound Training and Credentialing Survey

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Who are EMUGS?

- EMUGS is a not for profit group which advocates for the use of POCUS in the Emergency Department
- Network throughout Australia and New Zealand....includes FACEMS, Trainees, Students Sonographers, rural Hospitalists etc.
- We also have an EMUGS Developing Countries Scholarship Programme
- *We seek to motivate, inspire, educate and support new and experienced POCUS users*

Background

- ED USS being used since 1970s
- Improved technology = ↑affordability
= ↑portability
→ Increased access to machines
- A+E clinics, pre-hospital, medics, getting in on the action
- Novel uses for POCUS are continually emerging

Lots of Drs are using ultrasound...



But I've been
on a course!

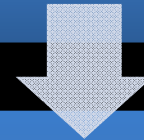
.....but are they appropriately credentialed?

Training is the action of teaching a person a particular skill or type of behaviour.

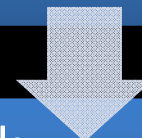
*“.....Credentialing is the process of obtaining, verifying, and **assessing the qualifications** of a practitioner to provide care or services in, or for, a health care organisation. Credentials are documented evidence of licensure, education, training, experience or other qualifications...”*

How credentialing works

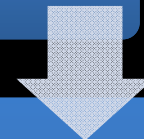
Physics, knobology, pre-course work



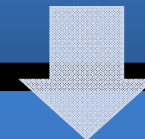
Complete a practical course



Go back to workplace and complete logbook –
scans checked by supervisor



Formative and Summative **Assessments**

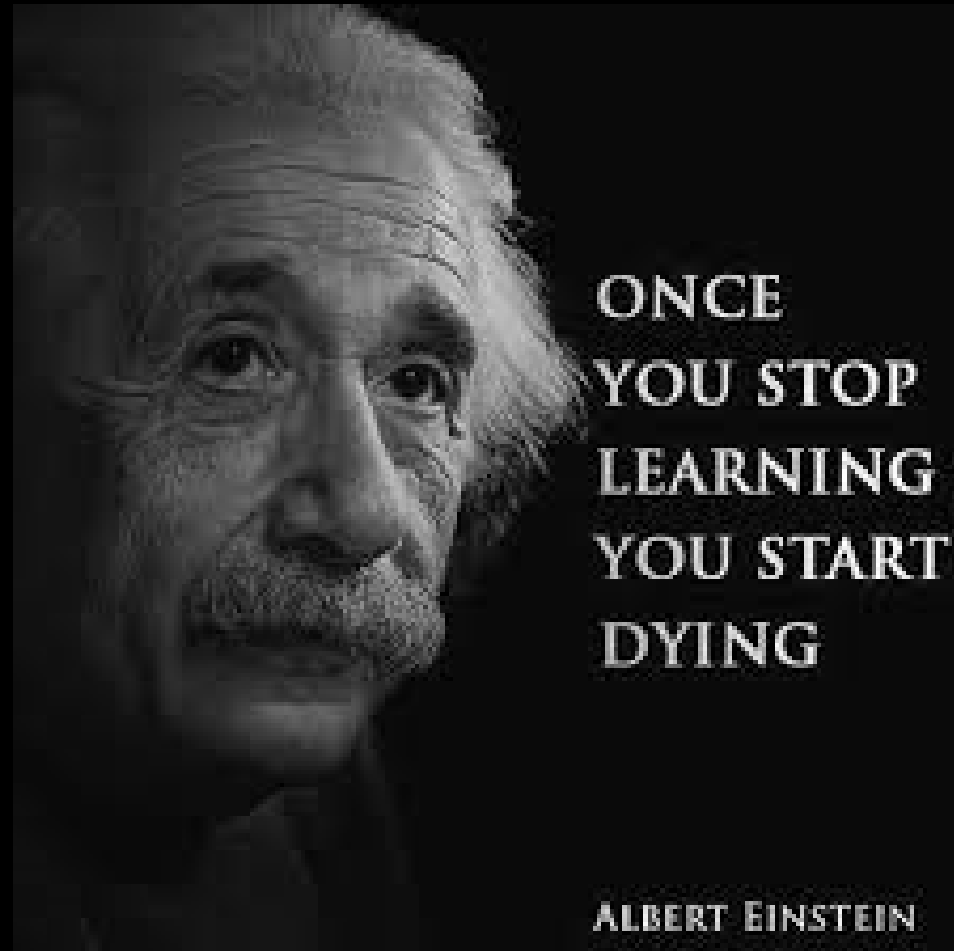


Credentialed locally

Experience versus credentialing

- **Uncredentialed ≠ Incompetent**
- **Qualification ≠ Expert**
- **Experience ≠ Ability**
- **Experience ≠ Expertise**

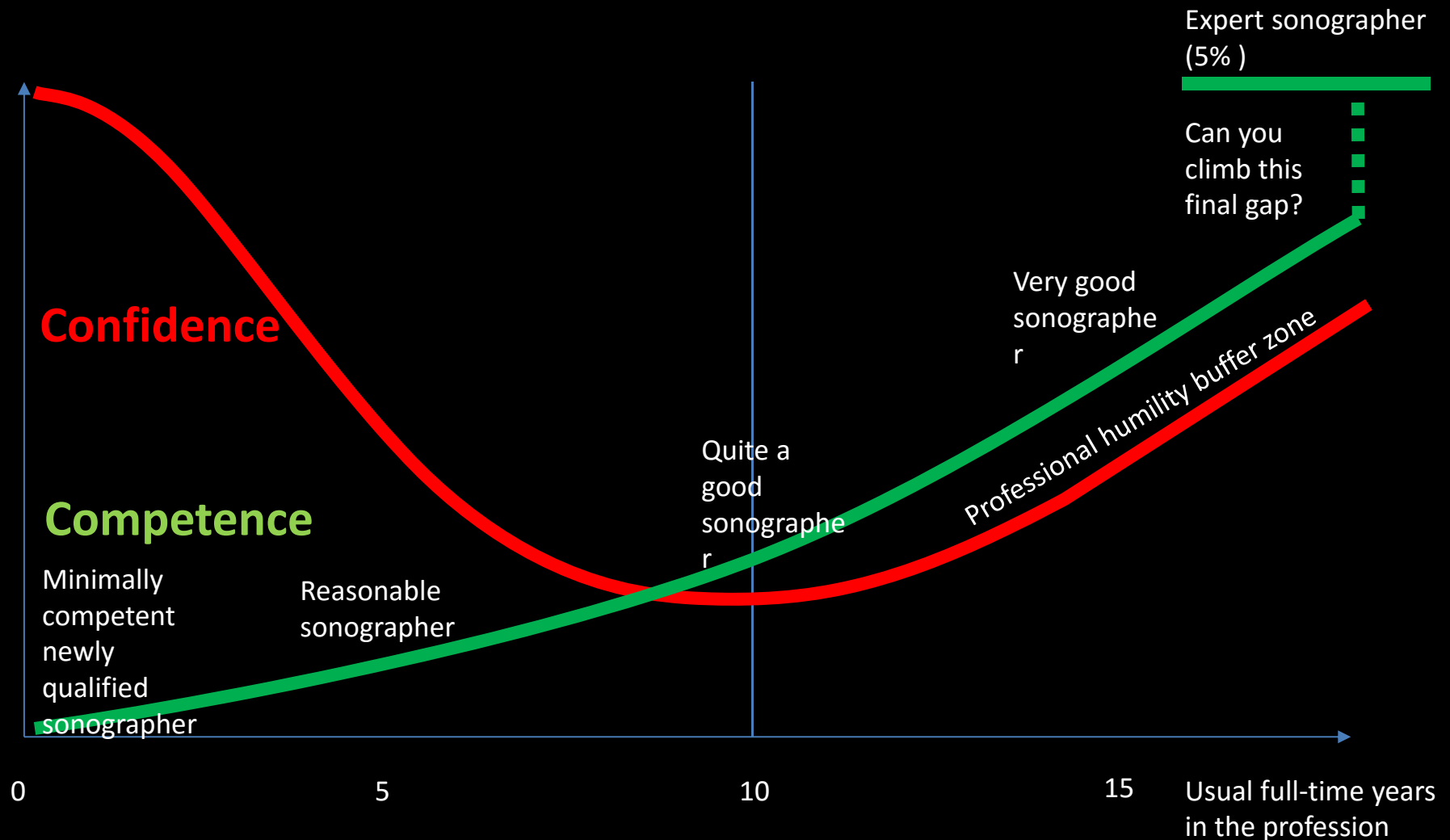
However.. Credentialing should ensure that some basic standards are being met



ONCE
YOU STOP
LEARNING
YOU START
DYING

ALBERT EINSTEIN

Competence versus confidence



Quality Assurance



Why train / credential in USS?

- We assess trainees in other modalities e.g. history taking, examination, so why not USS?
- Debate point – we don't just stop training doctors after they finish med school.. *How long did it take to get really good at your job?*

Why train / accredit

- USS is the most operator dependent imaging modality...easy to stuff up! *Artefacts, incomplete examination*
- You need to be doing it regularly and have someone looking at your images to keep upskilled
- Lots of us have been on a course, but its easy to slip back into bad habits
- *Should we should keep up some form of US CPD ?*

Now, onto the survey...

Disclosure

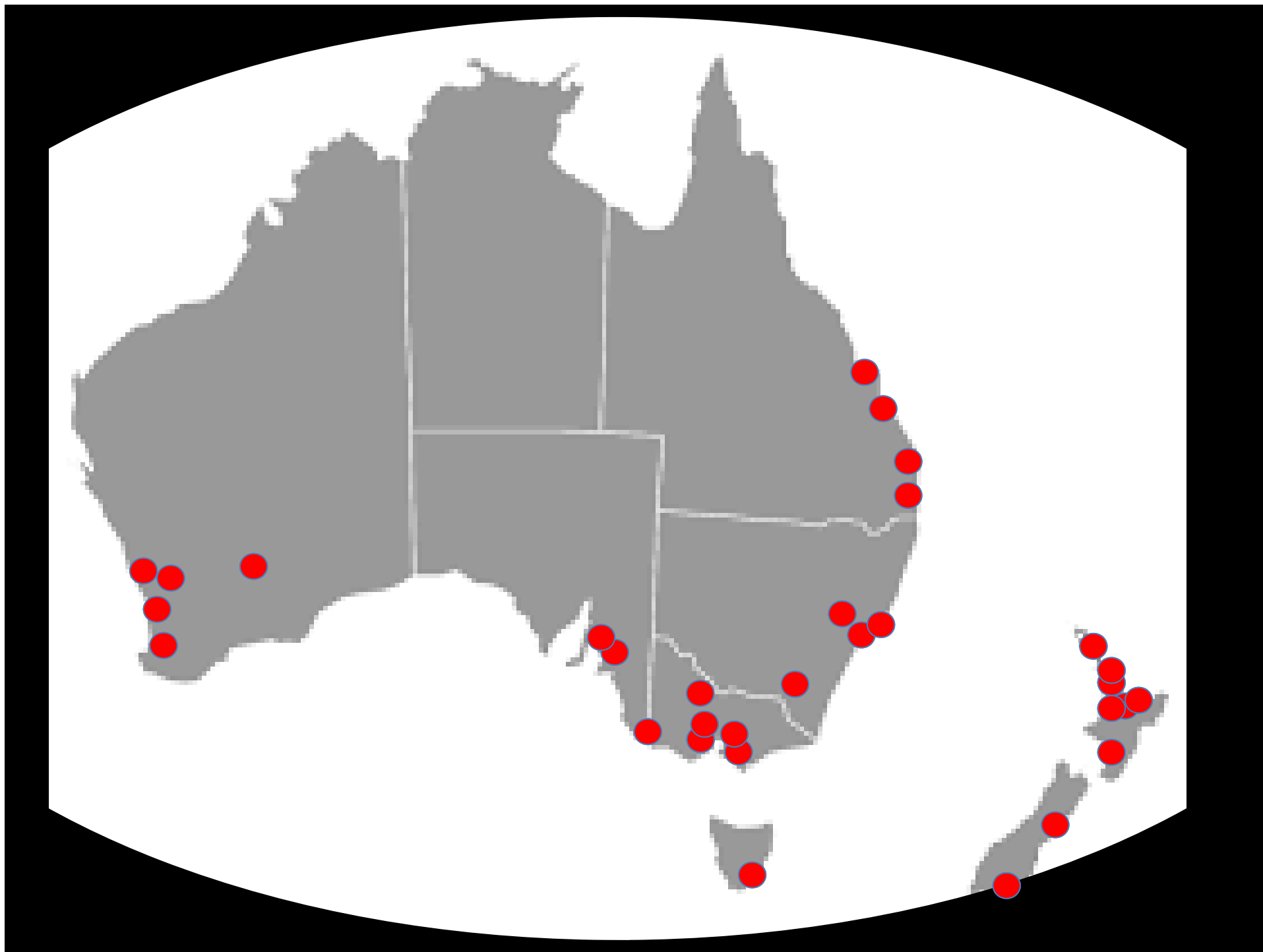
- Confession time – this survey didn't come out of 100% altruistic motives!
- Job negotiation time

What do scientists do? We gather information

Survey method

- Survey was distributed to the wider EMUGS community .. *Which brings with it inherent bias*
- We had 67 replies – 59 after removing duplicates
- From across a broad slice of AU / NZ
- Also some in UK ,USA





Departments average attendance

New Zealand

- Average 69,000/ year
- Ranges between 20 – 120,000

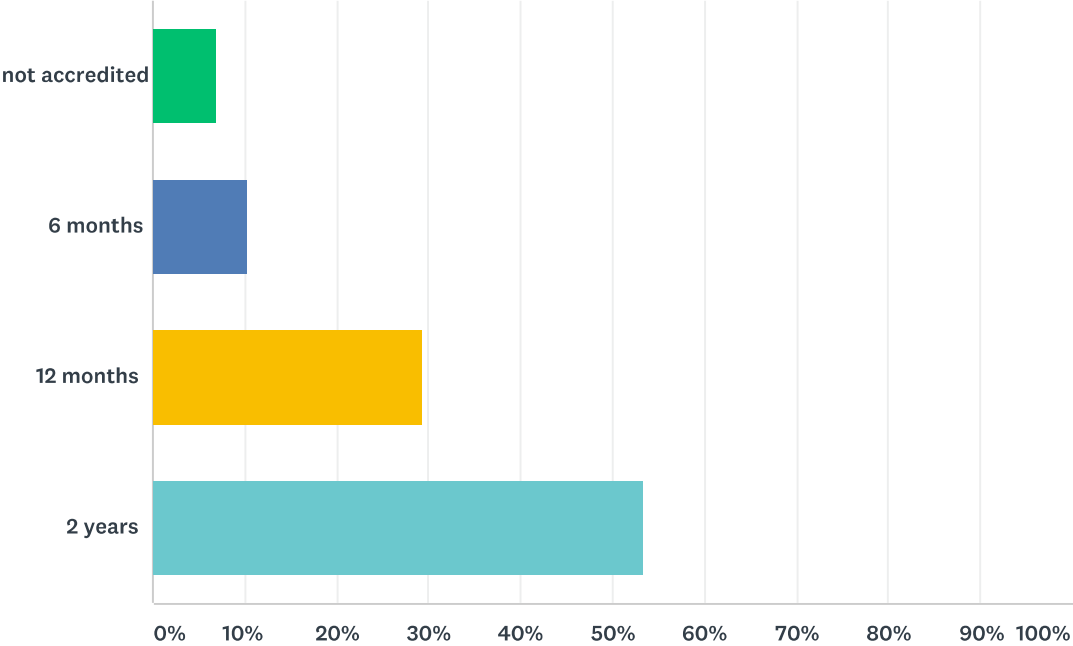
Australia

- Average 66,500/year
- Range from 12 – 100,000

ACEM length of training was used to divide departments into small/ medium/ large

Q5 How long is your department accredited by ACEM for Advanced training?

Answered: 58 Skipped: 1



ANSWER CHOICES	RESPONSES	
not accredited	6.90%	4
6 months	10.34%	6
12 months	29.31%	17
2 years	53.45%	31
TOTAL		58

Size of department

Large: accredited for 2 years training

31 departments fit this criteria

- Range 55-120,000 /year
- Average 75,000 attendances per year

Medium: accredited for 1 year training

17 departments fit this criteria

- Range 30-80,000 /year
- Average 49,000 attendances per year

Small: accredited for 0-6 months training

10 departments fitted this criteria

- Ranged 10- 40,000/ year
- Average 25,300 attendances per year



Number of trainee doctors per department

	Small	Medium	Large
Range	0-20	2-37	20-80
Average	6.8	15	29

	New Zealand	Australia
Range	4-42	0-80
Average	22	27

Number of US machines

New Zealand

- Range 1-4
- Average 2 per dept

Australia

- Range 1-12
- Average 2.4 per dept

Small departments

- Range 0-2
- 1 machine on average

Big departments

- Range 1-12
- 3 machines on average

Medium departments average 1.6 machines per department

*.....One proper machine and one tiny vascular machine. Our other just died....
.....1 machine.. Trying to get a 2nd ...not holding my breath though!*

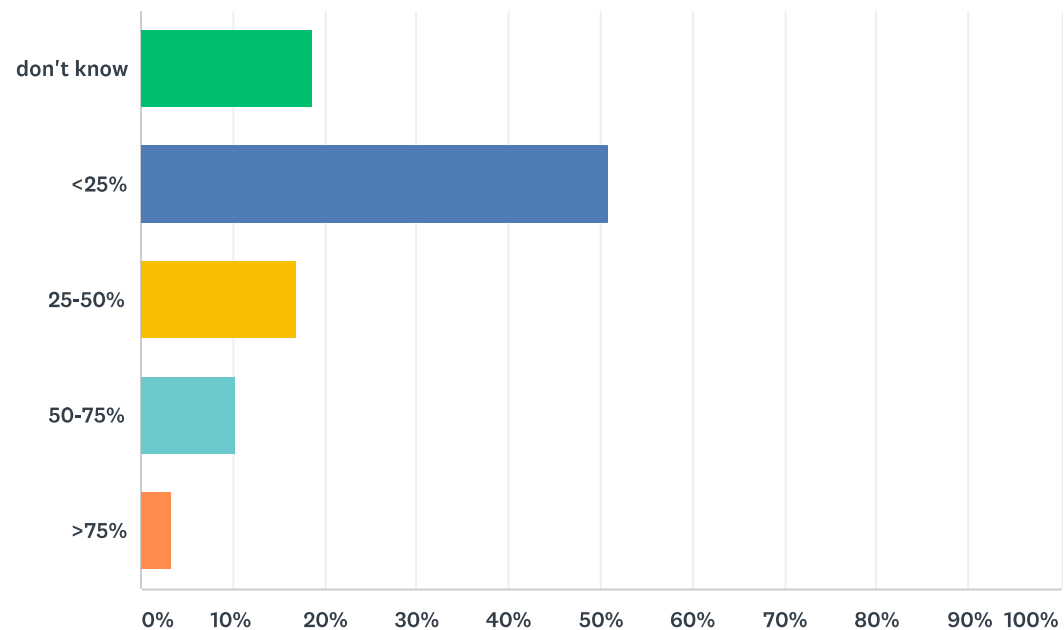
Ratio of machines/ trainees

- Small departments – 1 machine/ 6 trainees
- Medium departments 1.6 machines/ 15 trainees (*1 machine: 9.4 trainees*)
- Large departments – 3 machines/ 29 trainees (*1 machine: 9.7 trainees*)
- *Larger departments = more machines.. But need to share with more people*

All departments

Q9 What percentage of your SMOs have met the ACEM criteria for credentialing in eFAST / AAA scanning?

Answered: 59 Skipped: 0



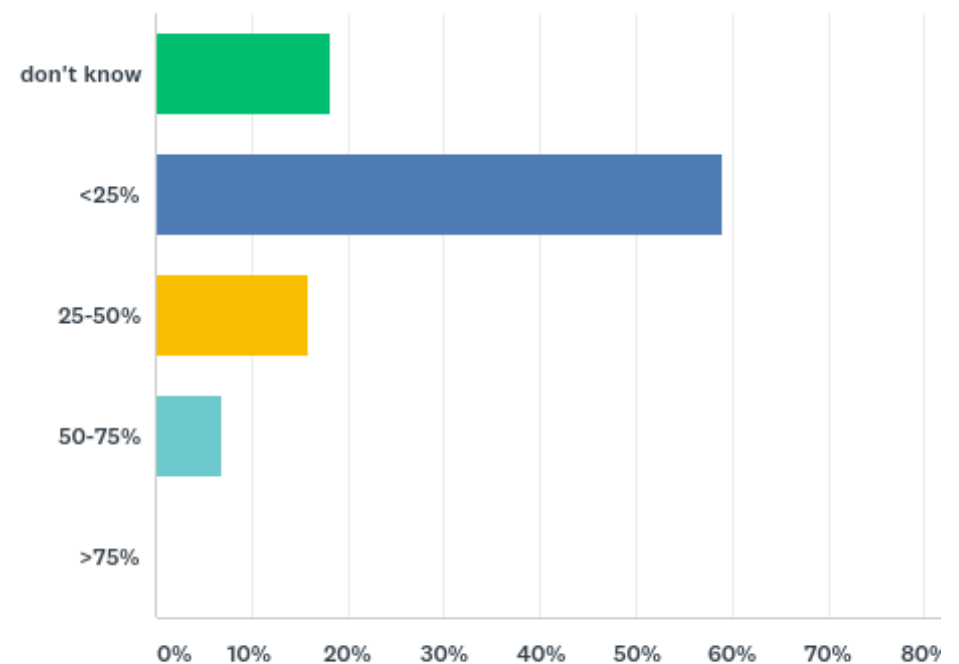
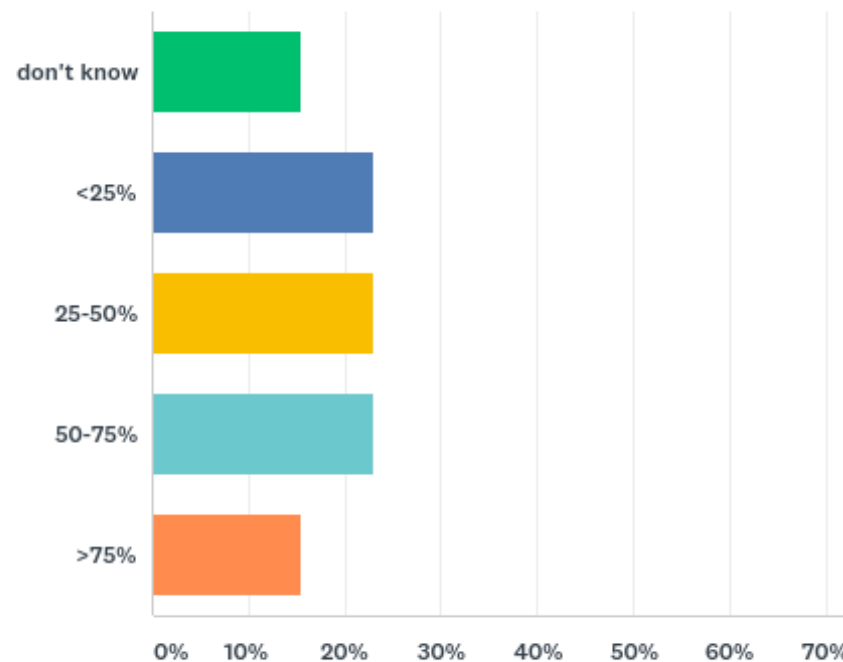
ANSWER CHOICES	RESPONSES	
don't know	18.64%	11
<25%	50.85%	30
25-50%	16.95%	10
50-75%	10.17%	6
>75%	3.39%	2
TOTAL		59

What percentage of your SMOs have met the ACEM criteria for credentialing in eFAST/ AAA scanning?

NZ

vs.

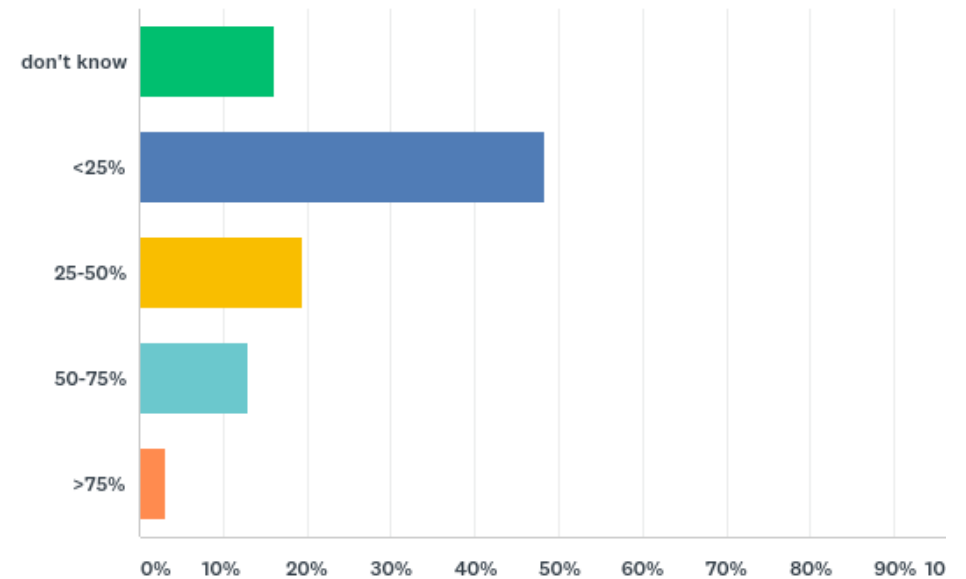
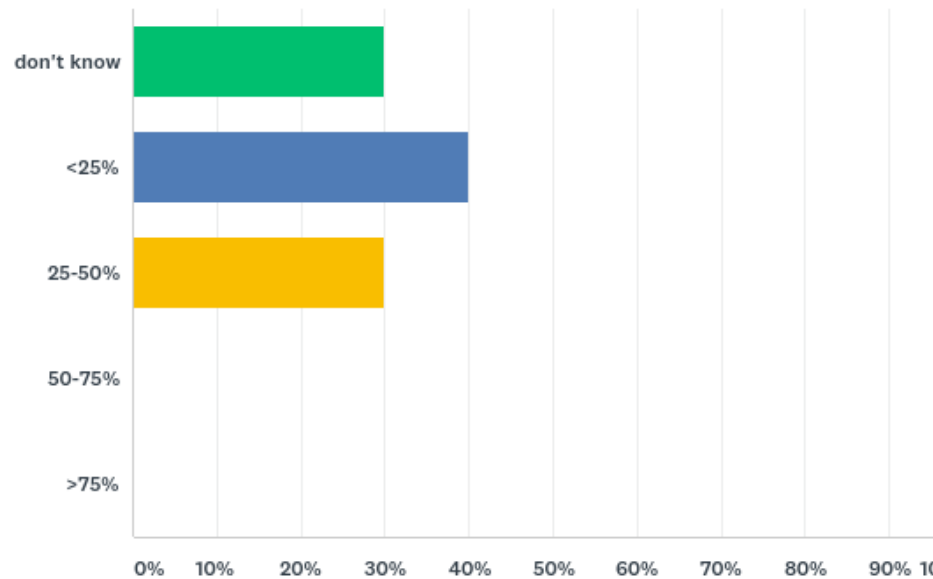
Australia



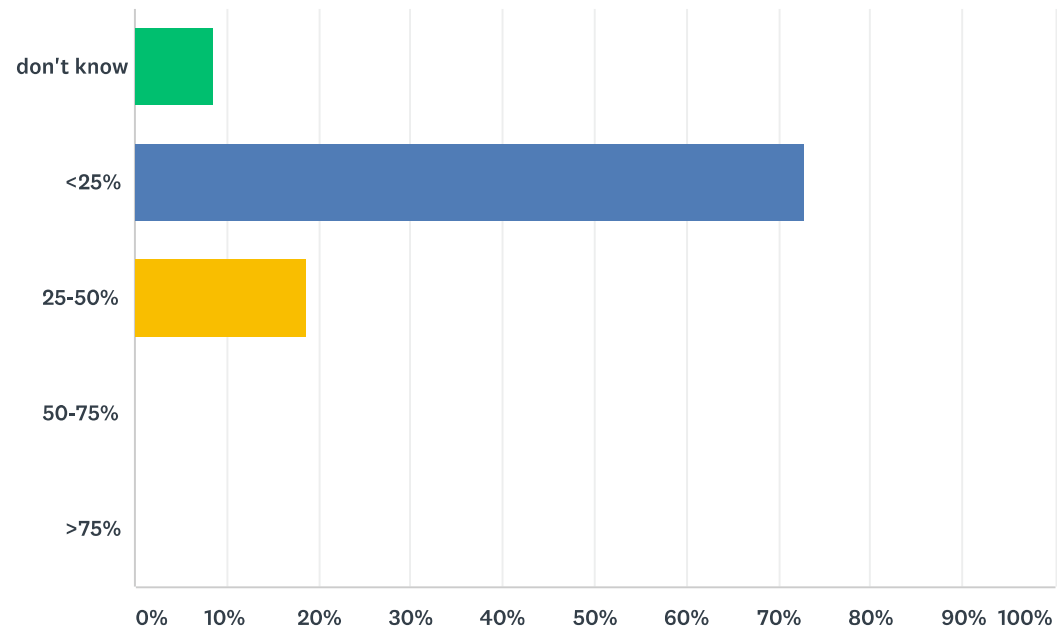
% credentialed SMOS for eFAST /AAA

Small

Large



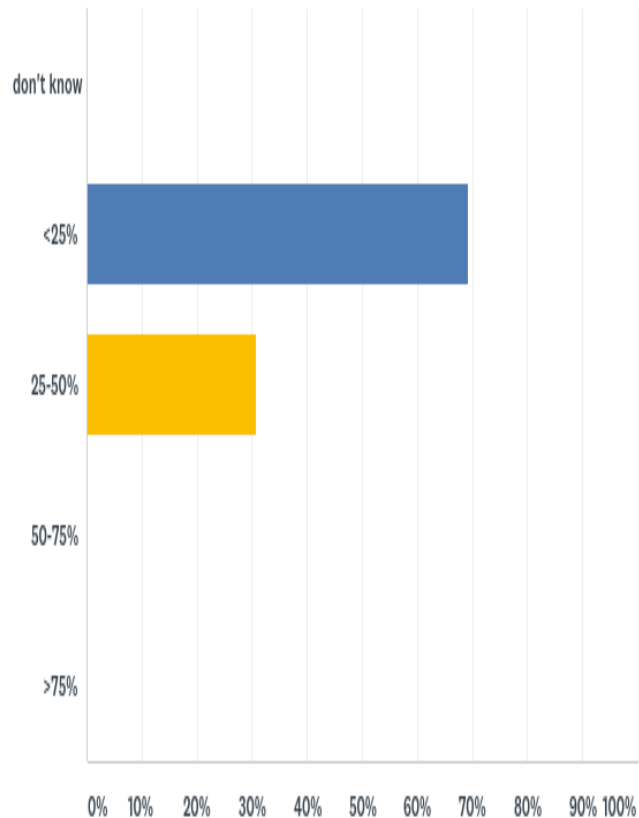
What Percentage of SMOs have Formal USS Qualifications?



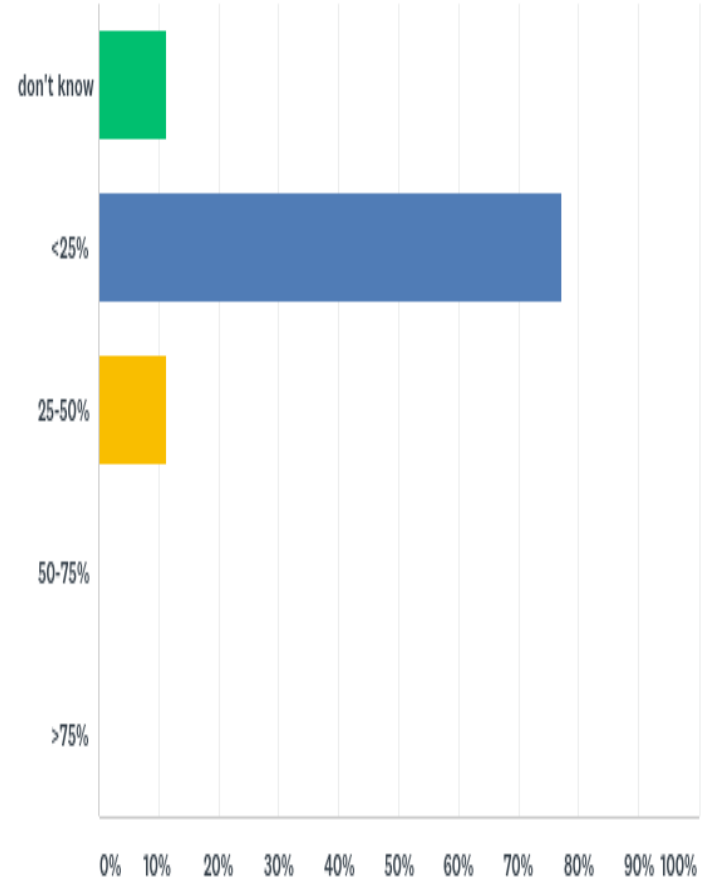
ANSWER CHOICES	RESPONSES
don't know	8.47%5
<25%	72.88%43
25-50%	18.64%11
50-75%	0.00%0
>75%	0.00%0
TOTAL	59

What percentage of SMOS have formal US qualifications?

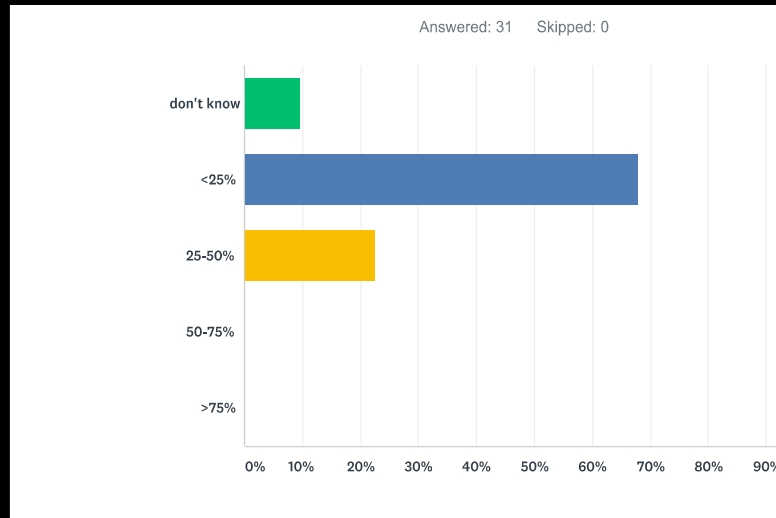
New Zealand



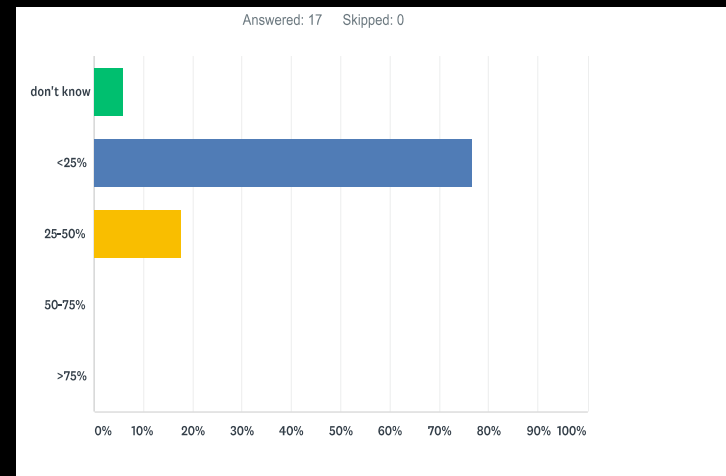
vs.. Australia



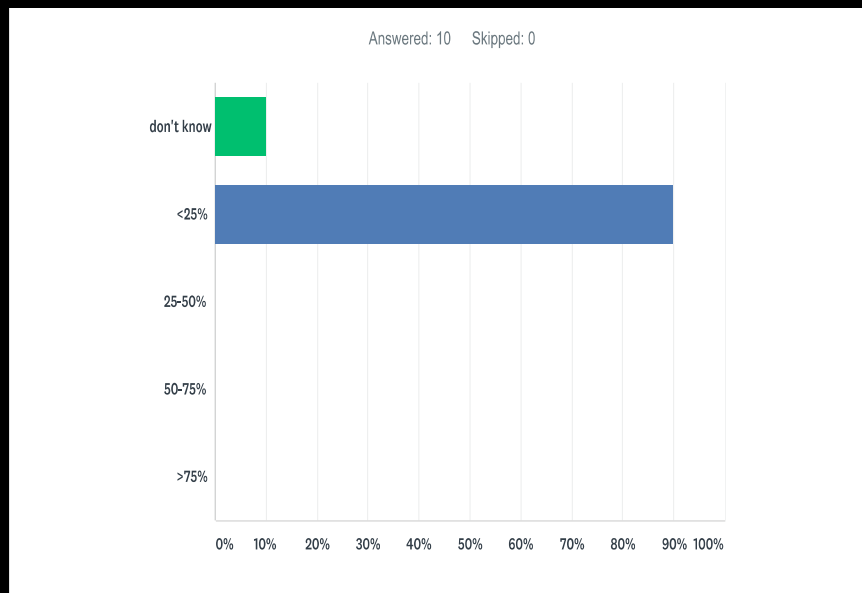
Formal qualifications.. By size of department



Large



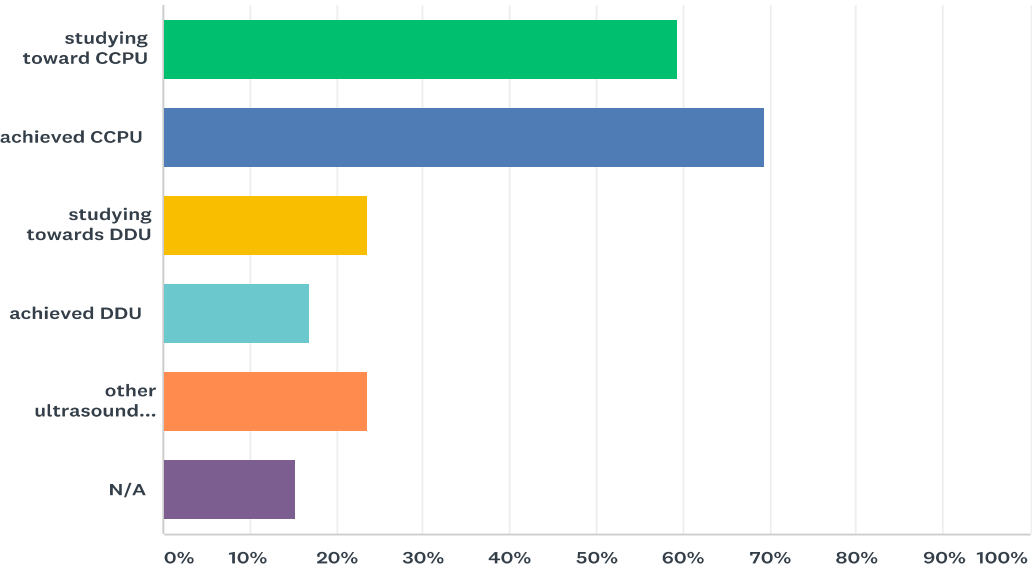
Medium



Small

Q11 What range of ultrasound qualifications do your SMOs have? (tick all that apply)

Answered: 59 Skipped: 0

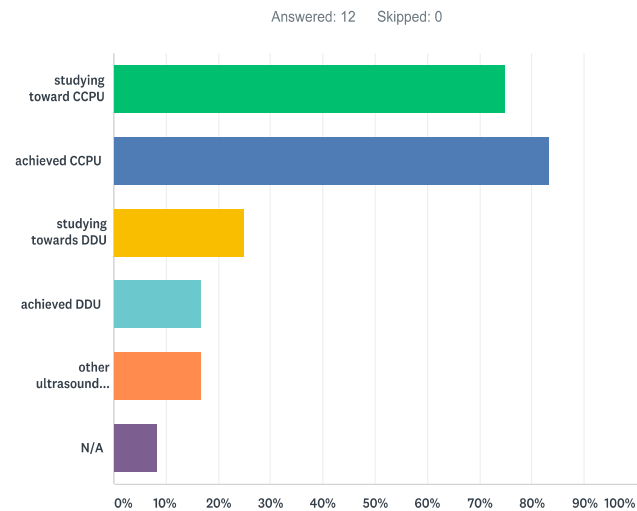


ANSWER CHOICES	RESPONSES	
studying toward CCPU	59.32%	35
achieved CCPU	69.49%	41
studying towards DDU	23.73%	14
achieved DDU	16.95%	10
other ultrasound qualification (e.g RDMS)	23.73%	14
N/A	15.25%	9
Total Respondents: 59		



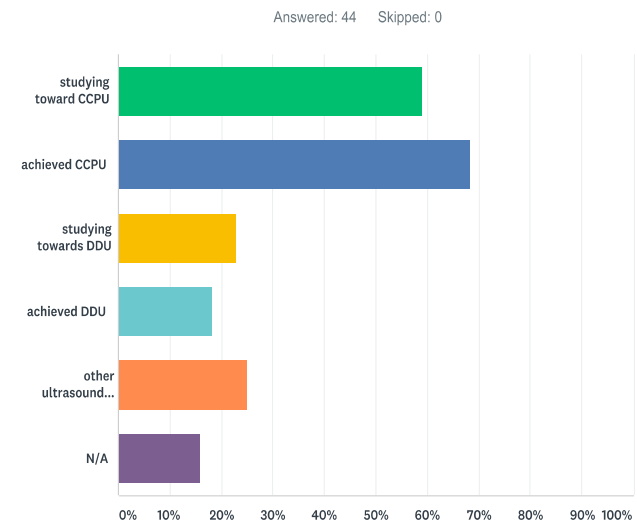
Ranges of US Qualifications

NZ



ANSWER CHOICES	RESPONSES	
studying toward CCPU	75.00%	9
achieved CCPU	83.33%	10
studying towards DDU	25.00%	3
achieved DDU	16.67%	2
other ultrasound qualification (e.g RDMS)	16.67%	2
N/A	8.33%	1
Total Respondents: 12		

Aus.



ANSWER CHOICES	RESPONSES	
studying toward CCPU	59.09%	26
achieved CCPU	68.18%	30
studying towards DDU	22.73%	10
achieved DDU	18.18%	8
other ultrasound qualification (e.g RDMS)	25.00%	11
N/A	15.91%	7
Total Respondents: 44		

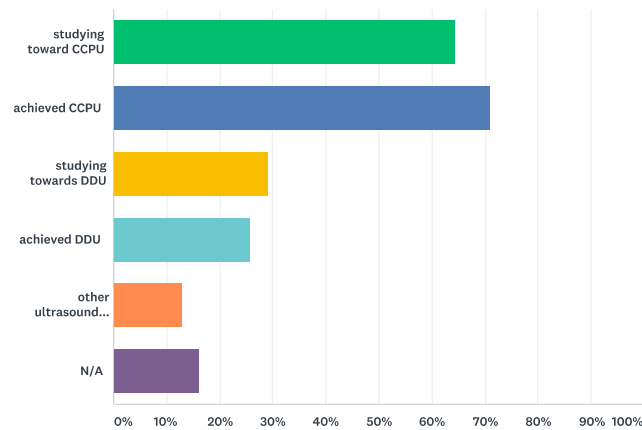
*We didn't record absolute numbers so we don't know how many have each qualification..
E.g. does your department have 1 or 10 qualified SMOs?*

Does size matter?

Big departments

Q11 What range of ultrasound qualifications do your SMOs have? (tick all that apply)

Answered: 31 Skipped: 0

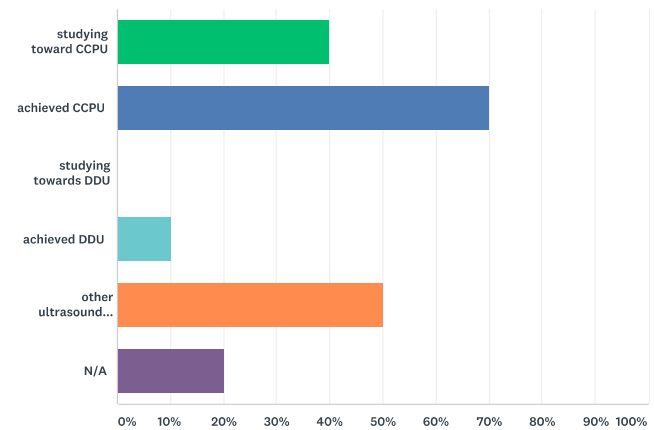


ANSWER CHOICES	RESPONSES	
studying toward CCPU	64.52%	20
achieved CCPU	70.97%	22
studying towards DDU	29.03%	9
achieved DDU	25.81%	8
other ultrasound qualification (e.g RDMS)	12.90%	4
N/A	16.13%	5
Total Respondents: 31		

Small departments

Q11 What range of ultrasound qualifications do your SMOs have? (tick all that apply)

Answered: 10 Skipped: 0

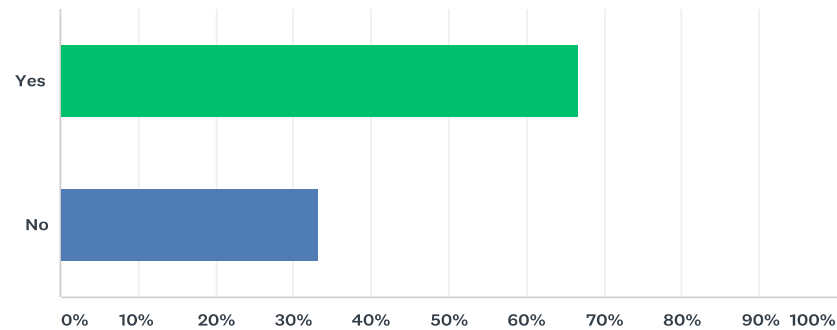


ANSWER CHOICES	RESPONSES	
studying toward CCPU	40.00%	4
achieved CCPU	70.00%	7
studying towards DDU	0.00%	0
achieved DDU	10.00%	1
other ultrasound qualification (e.g RDMS)	50.00%	5
N/A	20.00%	2
Total Respondents: 10		

Clinical Lead for Ultrasound

Q12 Does your department have a Clinical Lead for Ultrasound, Director of Emergency Ultrasound or equivalent?

Answered: 57 Skipped: 2



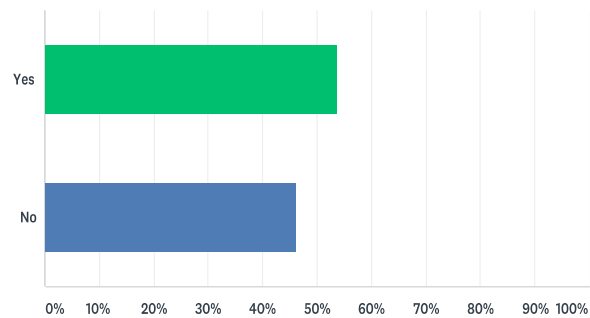
ANSWER CHOICES	RESPONSES	
Yes	66.67%	38
No	33.33%	19
TOTAL		57

NZ vs. Aus.

NZ

Q12 Does your department have a Clinical Lead for Ultrasound, Director of Emergency Ultrasound or equivalent?

Answered: 13 Skipped: 0

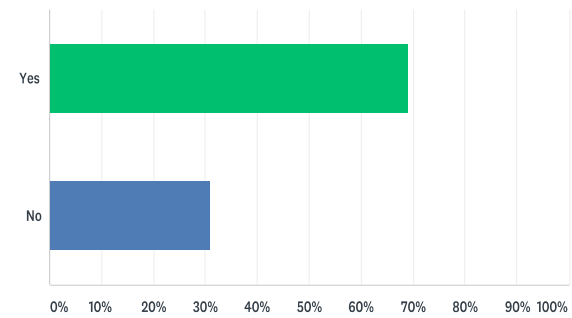


ANSWER CHOICES	RESPONSES
Yes	53.85%7
No	46.15%6
TOTAL	13

Aus.

Q12 Does your department have a Clinical Lead for Ultrasound, Director of Emergency Ultrasound or equivalent?

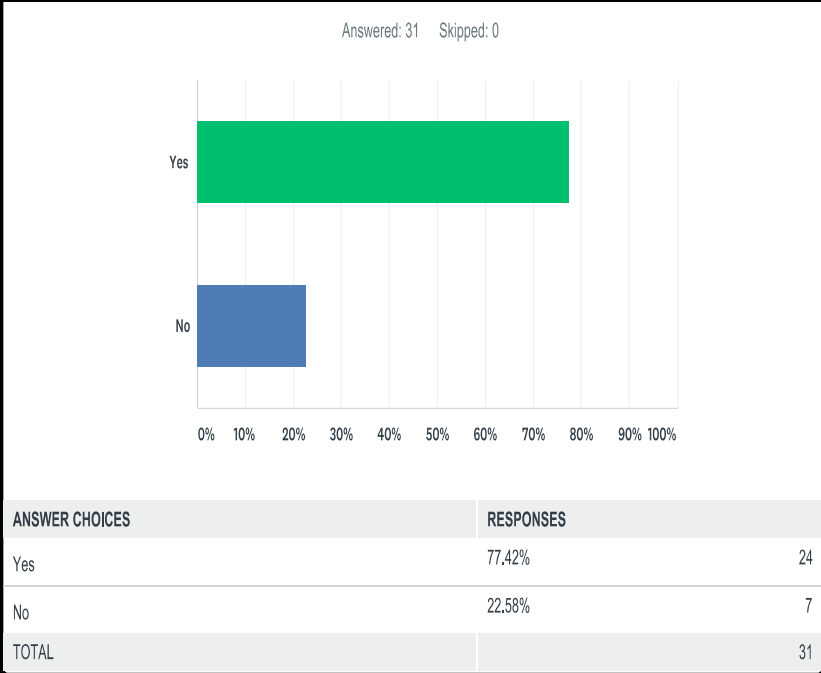
Answered: 42 Skipped: 2



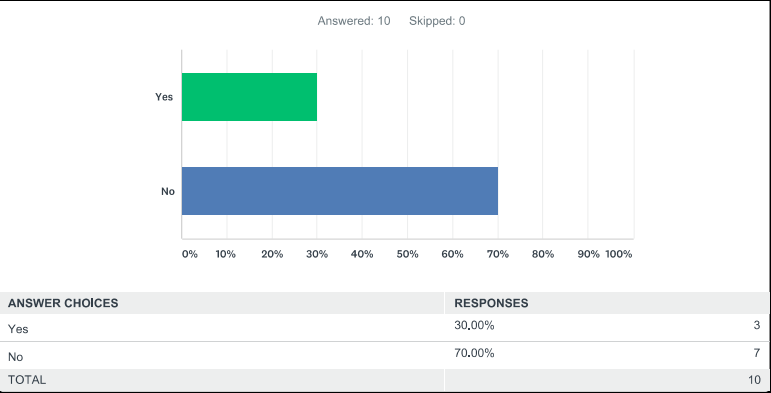
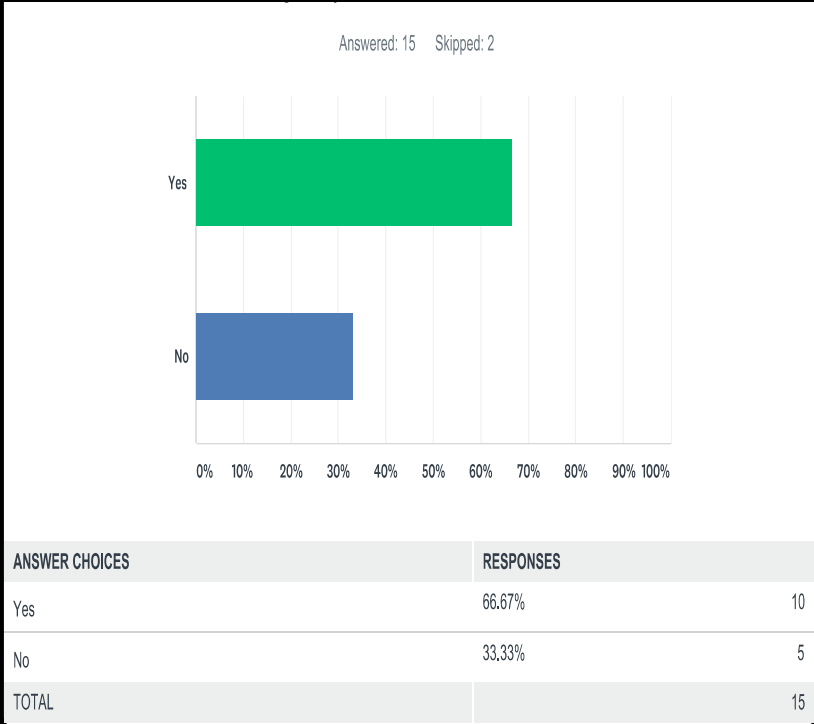
ANSWER CHOICES	RESPONSES
Yes	69.05%29
No	30.95%13
TOTAL	42

Big vs. small

Big



Medium



Small

What is the official title of the US clinical lead or equivalent?

- No title / emerging role “..An SMO holds the portfolio..”
- US Clinical Lead / US lead / Emergency Ultrasound Coordinator
- Director of Emergency Ultrasound
- DEMA / Director Ultrasound Training / Director US Special Skills Rotation / Supervisor
- *Your grace!!*
- No official title, just part of clinical support time. Organisation including ED leadership appears to be *actively non-supportive of official position; title*.no health service policy around POCUS, *and concern from cardiologists.....* No support for PACS/QA

If you have a dedicated lead, how many hours non-clinical time do they get per week?

- 15-18 hours a week were the most
- Least were 0 / done in their own time
- Small departments. – most don't have US lead – but if they do time was 0-2 hrs. per week
- Medium departments: 0- 5 hrs. per week, average 3
- Large departments.: 0-18 hrs. a week, average 4.4



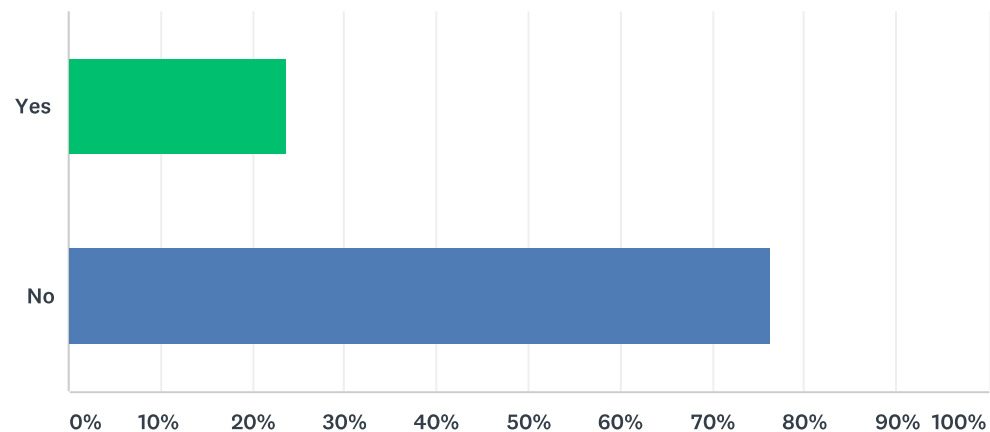
US Director responsibilities

Training junior doctors was the most common role, followed by machine purchasing decisions

US fellows

Q16 Do you have Ultrasound Fellows in your department?

Answered: 59 Skipped: 0

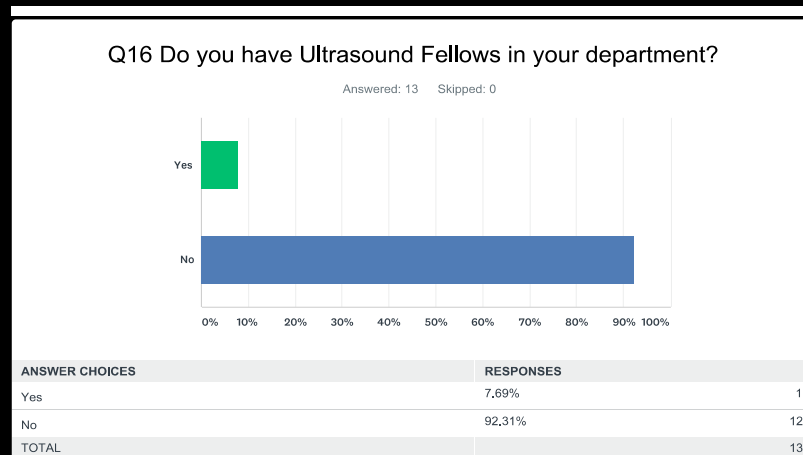


ANSWER CHOICES	RESPONSES	
Yes	23.73%	14
No	76.27%	45
TOTAL		59

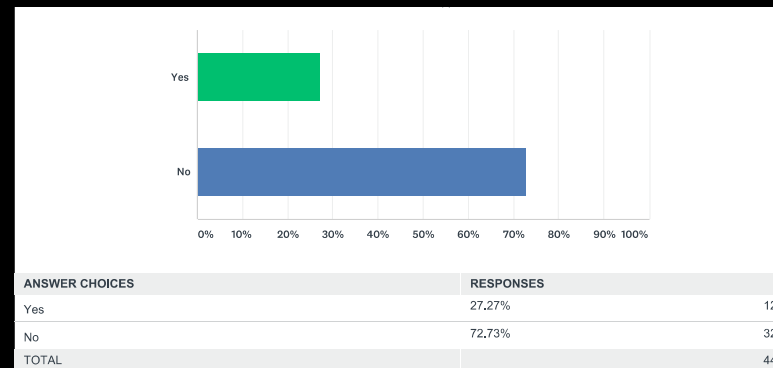
It is worth noting that some departments have US Registrar and US Fellow posts, and / or Special Skills posts

US fellows

NZ



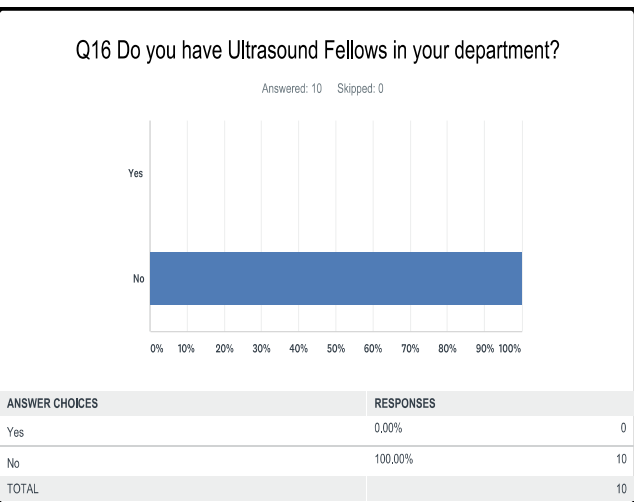
Aus



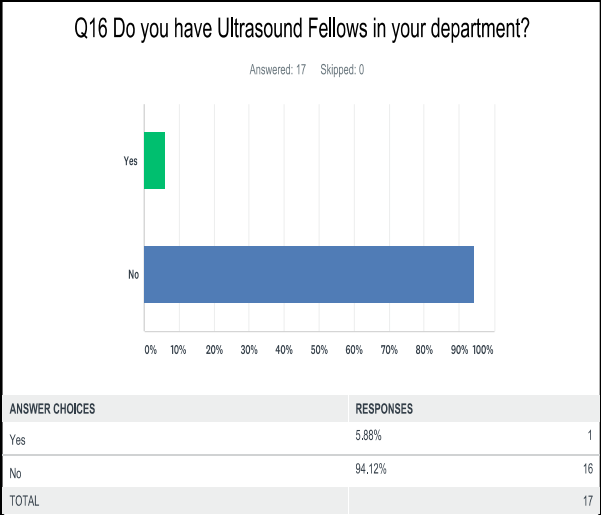
I think that there are 2-3 places in NZ with Fellows

US fellows

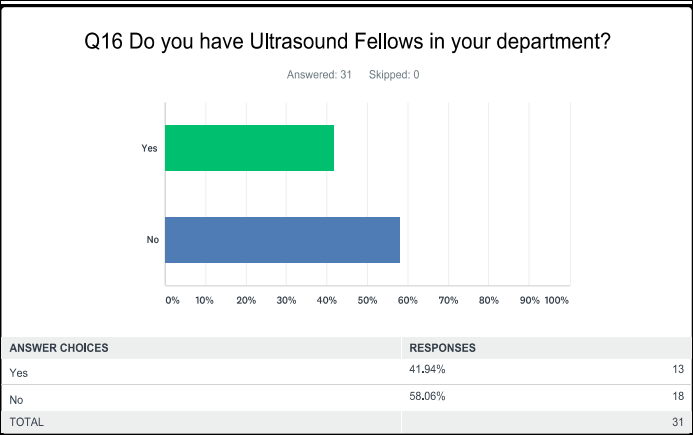
small



medium

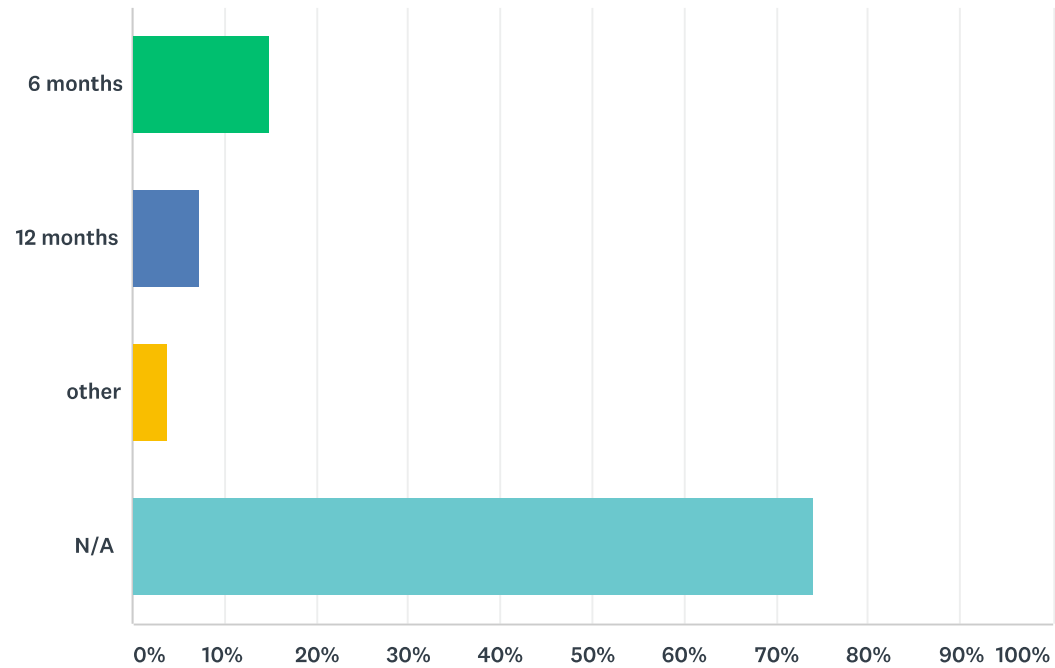


large



Q17 How long is the Ultrasound Fellow post?

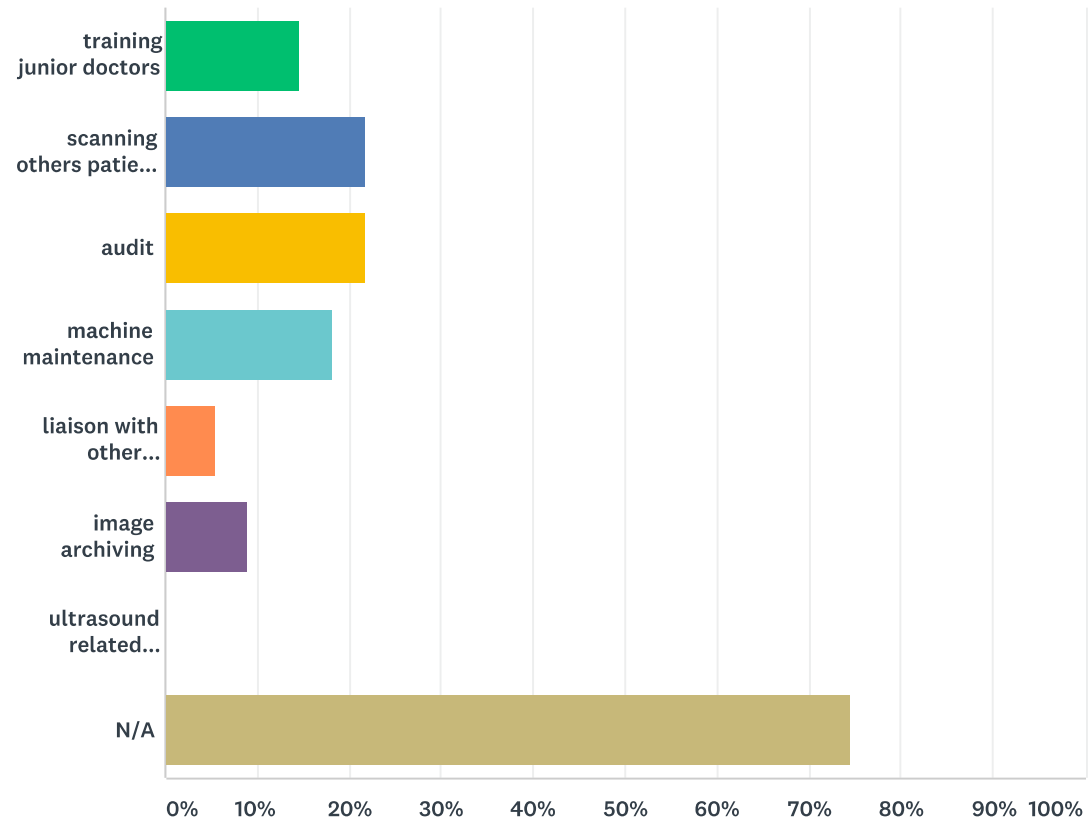
Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
6 months	14.81%	8
12 months	7.41%	4
other	3.70%	2
N/A	74.07%	40
TOTAL		54

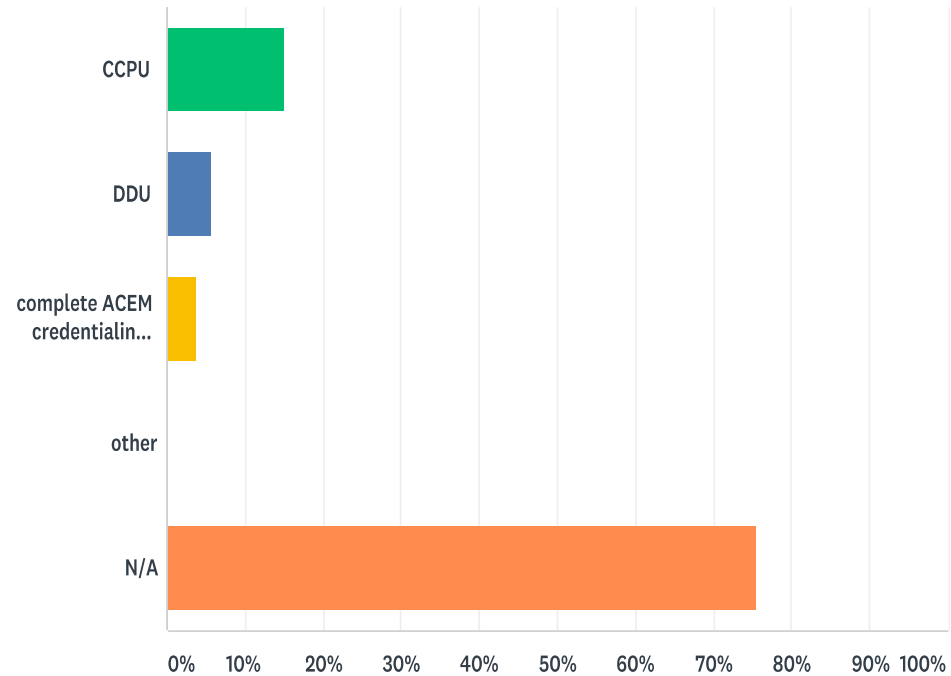
Q18 What responsibilities does the Ultrasound Fellow have? (tick all that apply)

Answered: 55 Skipped: 4



Q19 Which qualifications do the Ultrasound Fellows aim to gain during their term ? (tick all that apply)

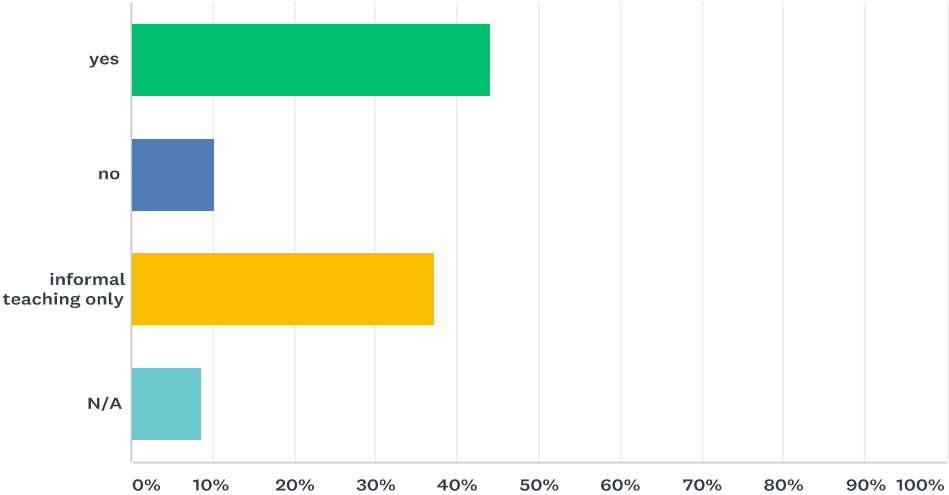
Answered: 53 Skipped: 6



ANSWER CHOICES	RESPONSES	
CCPU	15.09%	8
DDU	5.66%	3
complete ACEM credentialing for eFAST/AAA	3.77%	2
other	0.00%	0

Q20 Does your department have a formal training programme for trainee doctors?

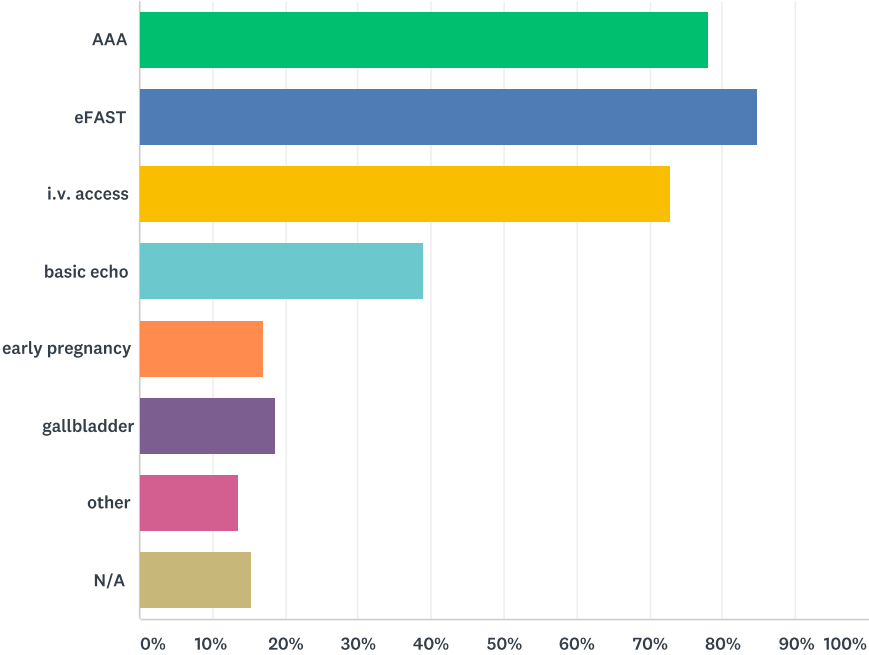
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
yes	44.07%	26
no	10.17%	6
informal teaching only	37.29%	22
N/A	8.47%	5
TOTAL		59

Q21 What scans are trainee doctors expected to gain proficiency in?

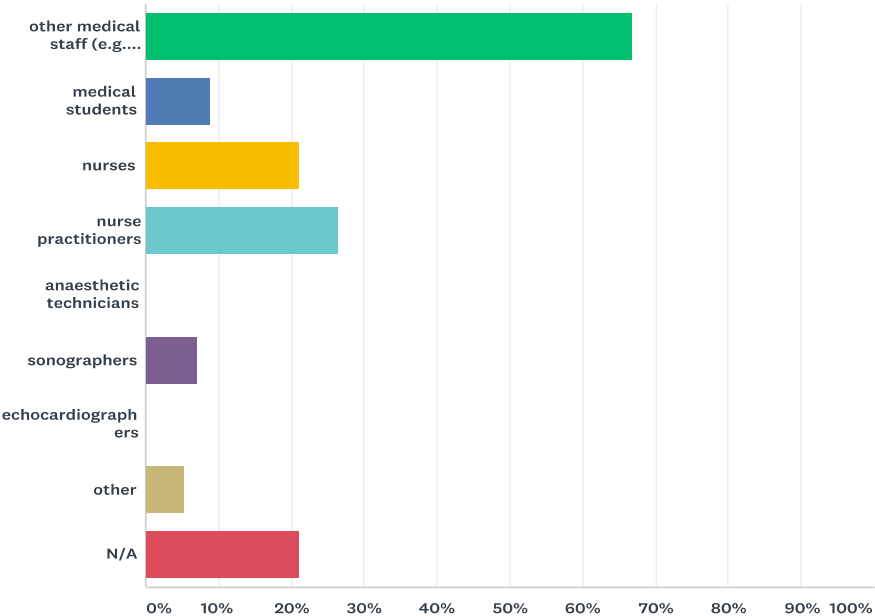
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
AAA	77.97%	46
eFAST	84.75%	50
i.v. access	72.88%	43
basic echo	38.98%	23
early pregnancy	16.95%	10
gallbladder	18.64%	11
other	13.56%	8
N/A	15.25%	9
Total Respondents: 59		

Q23 Who else uses your emergency department ultrasound machine(s)?
(tick all that apply)

Answered: 57 Skipped: 2



ANSWER CHOICES	RESPONSES	
other medical staff (e.g. anaesthetists, cardiologists, ICU staff)	66.67%	38
medical students	8.77%	5
nurses	21.05%	12
nurse practitioners	26.32%	15
anaesthetic technicians	0.00%	0
sonographers	7.02%	4
echocardiographers	0.00%	0
other	5.26%	3
N/A	21.05%	12
Total Respondents: 57		

How do we compare to the USA?

- 85 k attendances /year..
- 18 Attendings and NO junior doctors (community hospital)
- 3 ultrasound machines (1 /6 Drs)
- Obviously not credentialed for eFAST /AAA according to ACEM criteria
- But 25-50% had further US qualifications e.g. RDMS
- This department employs an Ultrasound Director .. But zero non clinical time
- US Director had similar roles as NZ/ Aus. role
- USA doctors expected to be proficient in the following: **AAA, eFAST, i.v. access, basic echo, early pregnancy, gallbladder, other...** but US is now in medical school and ED curriculums
- Other people using US machine are other medical staff and nurses

How do we compare with UK?

- Large city in UK
- 100k attendance /year
- 70 junior doctors/ 18 Consultants
- 2 machines only (1 machine/ 35 juniors!)
- Not accredited for eFAST/ AAA per ACEM criteria
- 25-50% SMOS with formal USS qualifications (unclear what though as part of FCEM syllabus)
- Their dept has US lead with similar responsibilities to NZ/ Australian counterparts.. 2 hours /week for this
- They have 1 year US Fellow posts
- Junior docs expected to gain proficiency in **AAA, eFAST, i.v. access, basic echo** (but also now in the FCEM syllabus)
- Machines only used by ED docs and medical students

A new era for POCUS

- An issue has been that not enough people with formal qualifications in USS to DO the training
- Also has been difficult / unclear who can accredit
- USS skills not *formally* in the ACEM curriculum.....
for now
- However.. More and more EPs / trainees are now undergoing higher USS training / qualifications

Perceived barriers to training / credentialing

- Funding
- Need more machines.. *Now other departments asking to borrow our machine*
- Willingness of other SMOS to be credentialed
- My personal experience – need the Quality Assurance frameworks to be in place before can start training : e.g. image archiving, standardised reporting, audit

How do we move forward?

- ACEM likely to mandate proficiency in certain scans- but this is not official yet
- This would likely need a phase-in period
- UK has a good model.. US Regional Leads - supporting smaller departments and can feedback directly to the Education and Training Standards Committee
- 2 tier service? Level 1 (basic) and level 2 (advanced) scanning

Any questions.....?

References

- www.surveymonkey.com
- <https://www.acepnow.com/article/learn-about-accreditation-at-acep18/>
- <https://acem.org.au/Content-Sources/Training/How-the-FACEM-Training-Program-works/Assessments-and-Requirements>
- <https://www.aci.health.nsw.gov.au/networks/eci/clinical/clinical-resources/clinical-tools/ultrasound-in-the-ed/pocus---where-do-i-begin>
- https://www.rcem.ac.uk/RCEM/Exams_Training/UK_Trainees/Ultrasound_Training/RCEM/Exams_Training/UK_Trainees/Ultrasound_Training.aspx