

# A Survey Study of North American Emergency Ultrasound Fellowship Program's Administrative Systems



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## Background

Since 1997 when Drs Michael Lambert and Joseph Wood began the first emergency ultrasound fellowship there have been increasing numbers of emergency ultrasound fellowships. In 2011, nearly 80 programs existed and this number has only increased since that time according to [www.eusfellowships.com](http://www.eusfellowships.com).

Ultrasound has also become an essential part of emergency medicine practice (2007 Model of Clinical Practice of Emergency Medicine) and is now part of the 2012 milestones based Accreditation Council for Graduate Medical Education (ACGME) residency assessment.

As increasing departments train residents and fellows in ultrasound, there is lack of clarity on the administrative processes involved in documentation, quality assurance, credentialing, billing, and the satisfaction with each of those mechanisms.

## Demographics

73% Response Rate (n = 54) of Total 75 Programs Invited to Participate	
<b>Combined Annual Census</b>	
40,000 – 80,000	18 (33%)
80,001 – 120,000	18 (33%)
120,001 – 250,000	18 (33%)
<b>Annual Number of Ultrasounds</b>	
Unanswered	3 (6%)
1,700 – 3,000	14 (26%)
3,001 – 6,000	18 (33%)
6,001 – 20,000	19 (35%)
<b>Number of Ultrasound Faculty</b>	
1 – 2	16 (30%)
3 – 5	28 (52%)
6 – 16	10 (19%)
<b>Number of Ultrasound Machines</b>	
1	1 (2%)
2	1 (2%)
3	8 (15%)
4	15 (28%)
5	29 (54%)
<b>Commercial Management Systems</b>	
None	35 (65%)
Qpath	11 (20%)
SonoSite Workflow Solutions	2 (4%)
Philips Qlab	1 (2%)
Other	5 (9%)

## Objectives

For this reason we sought to determine the existing mechanisms being employed for quality assurance, documentation, image storage, credentialing, and reimbursement of emergency point-of-care ultrasounds in North American emergency ultrasound fellowship programs.

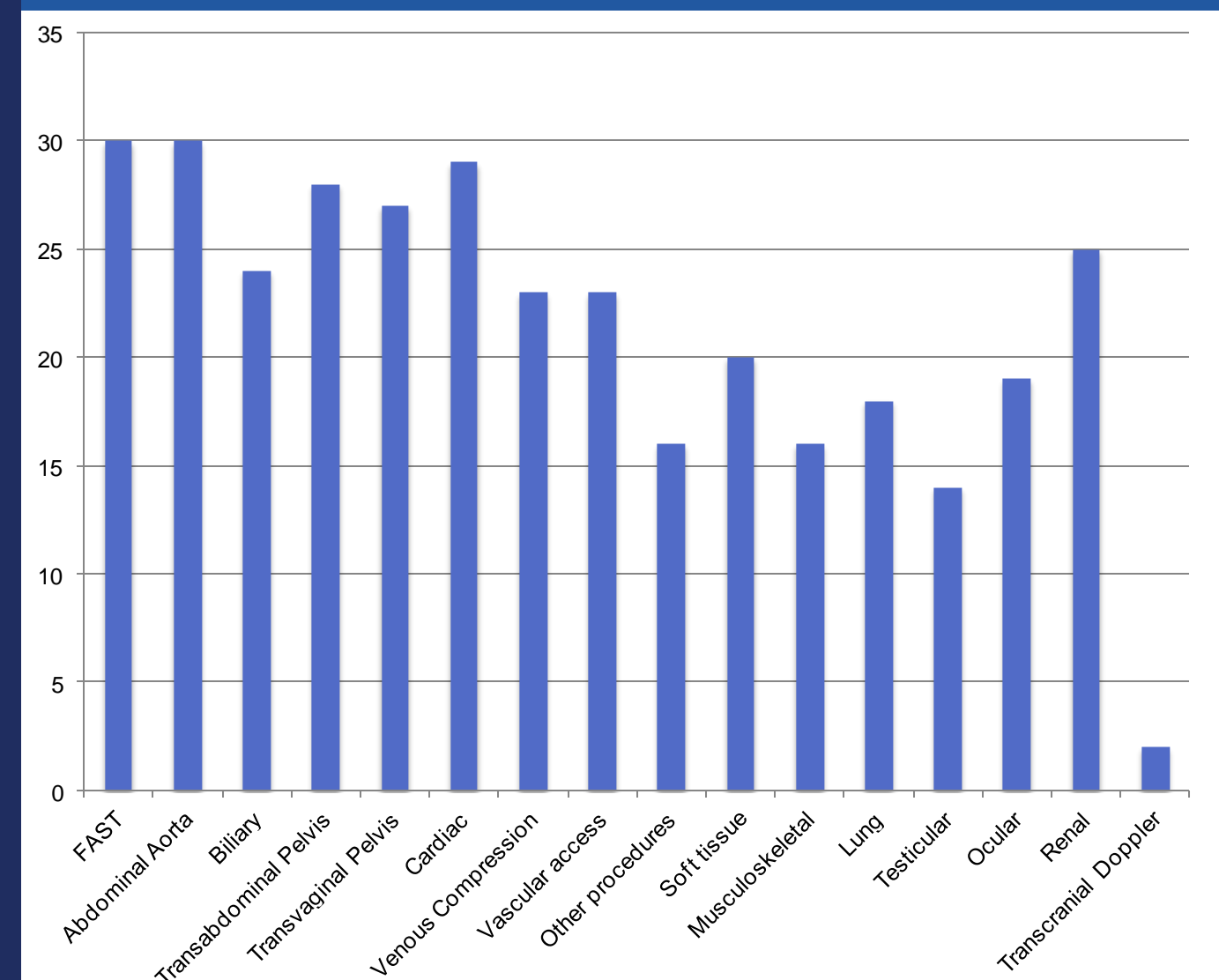
## Methods

We prospectively surveyed North American emergency medicine (EM) ultrasound fellowship program directors, as identified on [www.eusfellowships.com](http://www.eusfellowships.com) on March 11, 2011 with accurate contact information, via a previously piloted web-based survey instrument containing 40 items spanning five topics including: (1) credentialing and training, (2) documentation and storage, (3) quality assurance and image review, (4) billing processes and practice, and (5) overall satisfaction. The survey was developed initially by and later finalized by the investigation team including a master statistician, after incorporating feedback from pilot testing to emergency ultrasound directors without fellowship programs, research experts, and survey experts. All surveys were distributed using the American College of Emergency Physician (ACEP) SNAP survey software (Snap Surveys Ltd., Portsmouth, NH) as this project was funded by an ACEP ultrasound section grant. Descriptive statistical analyses are primarily used to display the data. Fisher's exact test was performed to evaluate the association between the assessments of ultrasound administrative system and the surveyed categories. Continuous variables were grouped into 3 or 4 categories based on the distribution. We chose 0.05 or below as a significance level. Data were analyzed using SAS version 9.3 for Windows (SAS Institute, Inc.) This study was exempted from formal review by the George Washington University School of Medicine Institutional Review Board.

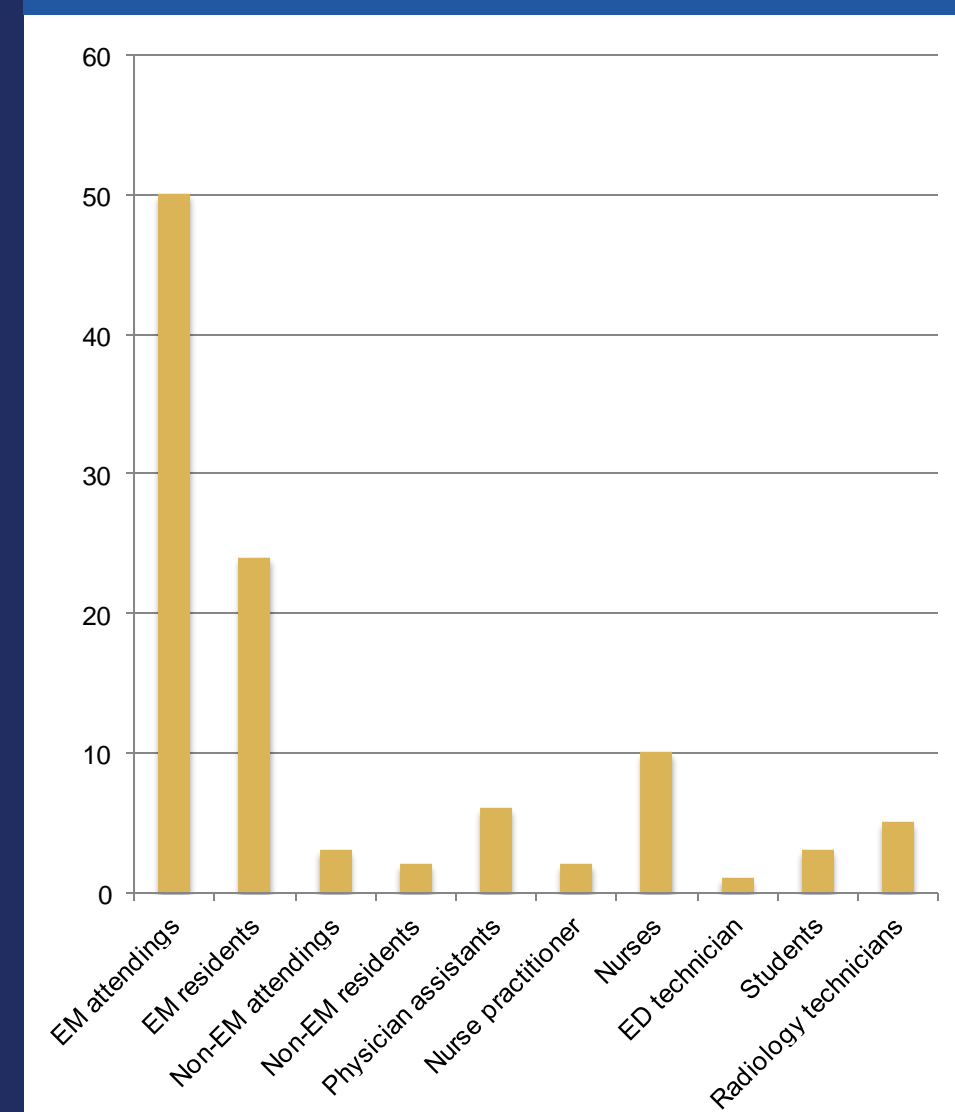
## Attendance at QA Review Sessions

US Directors	Other US Faculty	Ultrasound Fellows	Rotating Trainees (Residents, Students, etc)
34 Programs 1 Attendees	1 Program 0 Attendees	2 Programs 0 Attendees	1 Program 0 Attendees
12 Programs 2 Attendees	20 Programs 1 Attendees	24 Programs 1 Attendees	12 Programs 1 Attendees
2 Programs 3 Attendees	6 Programs 2 Attendees	12 Programs 2 Attendees	15 Programs 2 Attendees
	7 Programs 3 Attendees	5 Programs 3 Attendees	7 Programs 3 Attendees
		1 Program 4 Attendees	7 Programs 4 Attendees
		1 Program 5 Attendees	1 Program 8 Attendees

## Exam Specific Credentialing



## Credentialed Providers



## Documentation

Procedure Documentation	
Ultrasound Machine	24 (44%)
Departmental Log Book	15 (28%)
ED Record	32 (59%)
PACS	11 (20%)
Image Management Software	12 (22%)
Separate Billing Form	8 (15%)
Doctors US Credentialing Log	5 (9%)
How Ultrasound Exams Archived	
Hard Drive	24 (44%)
Paper Thermal Print Images	1 (2%)
Scanned Thermal Print Images	1 (2%)
CD / DVD	6 (11%)
PACS	15 (28%)
Direct to EMR	3 (6%)
Proprietary Server / Cloud	19 (35%)
Home-Grown Digital Archive	1 (2%)
Other	
Discrepancies are documented	40%
Use distinct billing document	25%

## Satisfaction



## Billing

Percentage Scans Billed	
Zero	10 (20%)
1 – 25%	14 (29%)
26 – 50%	11 (22%)
51 – 75%	8 (16%)
76 – 99%	4 (8%)
100%	2 (4%)
Annual Billing for ED Ultrasound	
\$0	10 (38%)
\$20,000 - \$250,000	7 (27%)
\$250,001 - \$2,400,000	9 (35%)
Other	
QA Approval Required for Billing	27%
Charges for Technical Component	43%
Use Third Party Biller	4%

## CONCLUSION

This Study obtained detailed cross-sectional data on the current state of American US fellowship programs. Please scan the barcode or visit [www.gwmed.edu/research](http://www.gwmed.edu/research) for a copy of this poster and for contact info.



\* Denotes statistically significant relationship