Supplemental Digital Appendix 1 for Bahner et al. The State of Ultrasound Education in U.S. Medical Schools: Results of a National Survey. Acad Med. Used with permission.





Dear Medical Education Dean:

We are writing to ask you to take ten minutes to complete this brief survey about the <u>status of ultrasound</u> <u>education in your medical school</u>. We will also be surveying the individual you recognize as your institution's primary champion for ultrasound education. The purpose of this study is to describe the state of ultrasound education in U.S. medical schools, how it is taught, what skills and knowledge are conveyed, and who teaches the ultrasound curriculum. The information gathered in this study will contribute to understanding current needs, practices, and trends in ultrasound education.

We are tracking surveys as they come in so that we do not have to trouble you further once you respond. However, individual responses will be kept strictly confidential and will only be known to the data analyst. Results will only be reported in aggregate form, protecting the identity of individual respondents and their institution.

We greatly appreciate your contribution to this project. Please complete the Ultrasound Education Survey in one of two ways:

1) Complete and return this paper survey. For your convenience, simply return the survey using the enclosed postage prepaid, preaddressed envelope.

OR

2) You may have already completed the electronic version of this survey through SurveyMonkey. If so, thank you! If not, check your email or email spam filter for an invitation message and complete the survey electronically.

Please return your completed survey by November 18, 2011

If you have further questions about the nature or results of this study, please feel free to contact us at 614-292-2997.

With gratitude,

David Bahner, MD, RDMS Associate Professor, College of Medicine The Ohio State University Yiju Teresa Liu, MD, RDMS Assistant Professor, School of Medicine & Health Sciences George Washington University

This study has been determined exempt from IRB review by the Office of Responsible Research Practices at OSU and GWU. Your participation is voluntary and confidential. You may choose which questions you answer and can discontinue your participation at any time. There is no penalty or loss of benefits for non-participation in this project. No individual institutions and no individuals will be identified. Responses will be tracked through the use of the unique identifier that you see on the return envelope. Once the response is catalogued by a research consultant, the envelope and the unique identifier will be discarded, rendering your responses anonymous. For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

This survey does not pose a risk any greater than participation in day-to-day experiences and activities. By completion and return of this survey, you are consenting to the use of your confidential responses in aggregate form for the purposes of publication and dissemination.

Status of Ultrasound Education in U.S. Medical Schools

1. Ple	ase indicate your	role at your medical school. Check the title that best fits you.
	Academic Progra	m Leader
	Associate or Ass	istant Dean for Medical Education
	Associate or Assi	istant Dean for Curriculum
	Vice Dean for Me	edical Education
	Dean of the Medi	cal School
	Other Dean Title	Related to Undergraduate Medical Education
	Faculty Champion	n of Ultrasound in Medical Education
Other	(Please specify):	
	ich of the following anized?	g best describes how your <u>preclinical</u> undergraduate medical curriculum is
	Medical Discipline	es Model (i.e. content organized around traditional departmental disciplines)
	Organ Systems 8 body systems)	Integrated Medical Sciences Model (i.e. content organized around organs or
	Problem or Case-E	Based Model (i.e. content organized around problems stemming from patient cases)
	Hybrid Model (i.e	e. combination of more than one from above)
Other	(Please specify):	
	ich of the following anized?	g best describes how your <u>clinical</u> undergraduate medical curriculum is
	Disciplinary Block	k Rotations (i.e. departmentally sponsored clerkships)
	Longitudinal Inte	grated Rotations
	Mixed Model Rota	ations
Other	(Please specify):	
4. Do	es your medical so	chool teach ultrasound in your undergraduate medical school curriculum?
Yes	\rightarrow	Please continue on page 3
No	<u></u> →	Please skip to page 4
Not \$	Sure →	Please continue on page 3

- 5. Directions: Please answer the 4 questions below for each Med Level of your curriculum.
 - a. Is ultrasound taught at each level? Please answer by circling YES or No in Column A.
 - b. Is ultrasound required, optional or both? Please answer by circling the number that fits your curriculum in Column B.
 - c. Is ultrasound a formal part of the curriculum, co-curricular or both? Please answer by circling the number that fits your curriculum in Column C.
 - d. What is the <u>primary</u> purpose for ultrasound being taught? Please answer by circling the number that fits your curriculum. Select only one for each Med Level. <u>Use the codes below</u>:
 - 1= Tool used to teach science or medicine topics
 - 2= Teach students how to obtain scans
 - 3= Teach students how to interpret scans
 - 4= Teach students to use ultrasound to guide procedures
 - 5= Other purpose (please specify)
 - 6= Not sure

Med Level	(Column A) <u>Is US taught?</u>	(Column B) Is US Required? Required = 1 Optional = 2 Both = 3			(Column C) Is US Formal Curriculum? Formal = 1 Co-curricular = 2 Both = 3				(Column D) <u>What is primary purpose of</u> <u>US Teaching?</u>				
M1 (Mod 1)	YES		•	3	4	2	3	1	2	3		5	6
M1 (Med 1)	NO	1	2	3	1	2	3	1	2	3	4	5	6
NAO (NA - 1 O)	YES	1		3	_	_	3	1	2	3	4	5	
M2 (Med 2)	NO		2		1	2							6
140 (14 10)	YES	1		3	_	_		1	2			_	
M3 (Med 3)	NO		2		1	2	3			3	4	5	6
	YES	_		3			3						
M4 (Med 4)	4) NO	1	2		1	2		1	2	3	4	5	6
Other purpos	se for teaching u	ltrasour	nd:									Ψ	
												ı	

6. Who, in your institution, would best be qualified to answer more detailed questions about ultrasound education in the undergraduate medical school curriculum? Please provide their information so that we may follow up with them.

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		()	() -	() -	() -	() -	() -	() -	() -	() -	() -	() -	() -

7. Ultrasound in Undergraduate Medical Education

Directions: For each the following statements please circle the option that most closely reflects your opinion. Use the following key:

SD=Strongly Disagree; D=Disagree; D/A= = Disagree/Agree Equally; A=Agree; SA=Strongly Agree

Ultrasound should be a part of the undergraduate medical education curriculum	SD SD	<u>D</u> D	DA= D/A=	<u>A</u> A	<u>SA</u> SA
Ultrasound facilitates a medical student's ability to diagnose medical problems	SD	D	D/A=	Α	SA
Ultrasound guided procedures can improve patient safety	SD	D	D/A=	Α	SA
Due to the amount of material in our undergraduate medical curriculum, ultrasound cannot be accommodated	SD	D	D/A=	Α	SA
Ultrasound is more appropriate for graduate medical education	SD	D	D/A=	Α	SA
The best place for ultrasound in the undergraduate curriculum is in an anatomy course	SD	D	D/A=	Α	SA
The best place for ultrasound in the undergraduate curriculum is in the clinical clerkships	SD	D	D/A=	Α	SA
Ultrasound education is a priority at my medical school	SD	D	D/A=	Α	SA

8. Barriers to integrating ultrasound in the Undergraduate Medical Education

Directions: Please <u>rank</u> the following challenges to integrating ultrasound into the medical school curriculum. Make "1" the <u>most</u> significant barrier and "5" the <u>least</u> significant barrier.

Please use each rank only once!	Most				Least
Lack of trained faculty	1	2	3	4	5
Lack of ultrasound equipment	1	2	3	4	5
Lack of student interest	1	2	3	4	5
Lack of financial support	1	2	3	4	5
Lack of space in the current curriculum	1	2	3	4	5

Thank you for your contribution to this project!