

Sonography in Internal Medicine, Baseline Assessment (MGH SIMBA Study)

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Background

We stand on the brink of a revolution in clinical care.

Internal medicine (IM) departments are increasingly embracing point-of-care ultrasound (POCUS). Data show that POCUS can improve patient outcomes and satisfaction, reduce complications, and facilitate faster and more accurate diagnoses (1-6). POCUS revolutionized emergency medicine after it was adopted by that specialty, and many experts predict that it will soon transform internal medicine (IM), as well. Some IM residency programs, such as those at Brigham and Women's, UCSF, OHSU, and Emory, have begun to train IM physicians in POCUS. However, our own institution currently has minimal IM POCUS training. Prior to this study, it was unclear whether MGH IM residents and faculty desired or valued POCUS training.

References:

1. ACEP. Policy Statement. Emergency Ultrasound Guidelines. June 2016. See "Appendix 1" for a list of studies.
2. Bhagra A, Tierney DM, et al. Point-of-Care Ultrasonography for Primary Care Physicians and General Internists. *Mayo Clin Proc.* 2016.
3. Randolph AG, Cook DJ, et al. Ultrasound guidance for placement of central venous catheters: a meta-analysis of the literature. *Critical Care Med.* 1996(12):2053-8.
4. Mercaldi CJ, Lanes SF et al. Ultrasound guidance decreases complications and improves the cost of care among patients undergoing thoracentesis and paracentesis. *Chest.* 2013 Feb 1;143(2):532-8
5. Howard ZD, Noble VE, Marill KA, et al. Bedside ultrasound maximizes patient satisfaction. *J Emerg Med.* 2014 Jan;46(1):46-53.
6. Peris A, Tutino L, Zagli G, et al. The use of point-of-care bedside lung ultrasound significantly reduces the number of radiographs and computed tomography scans in critically ill patients. *Anesth Analg.* 2010 Sep;111(3):687-92.



Objectives

Separate online, anonymous needs-assessment surveys were designed and emailed to two groups: the MGH IM residents and the MGH IM inpatient clinical faculty (hospitalists and Core Educators). The MGH IRB deemed the study exempt.

Methods

To assess the: (1) interest in, (2) opinions about, and (3) experience in POCUS amongst MGH IM residents and inpatient faculty.



Results

HIGH RESPONSE RATE:

45% of residents (83/184)

and **55% of faculty** (33/61 hospitalists, 10/16 Core Educators)
completed the survey.

HIGH DEGREE OF INTEREST:

Residents: **99%** (n=79) think that POCUS training should be
a formal part of their IM residency training

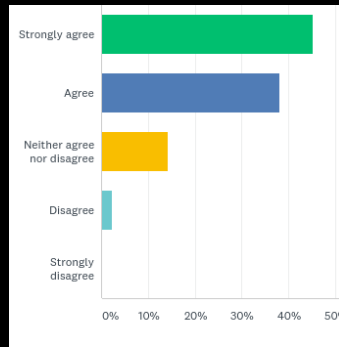
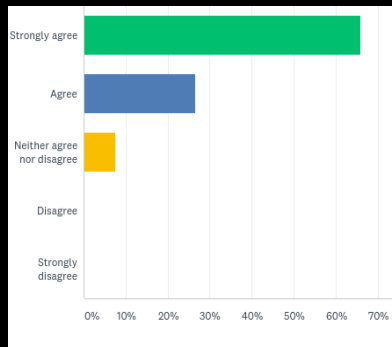
96% (n=77) of residents want to sign up for a POCUS elective
(not currently offered)

Faculty: **90%** (n=37) want more diagnostic POCUS testing



Potential to Improve Outcomes

RESIDENT RESPONSES: (n=83) FACULTY RESPONSES: (n=46)

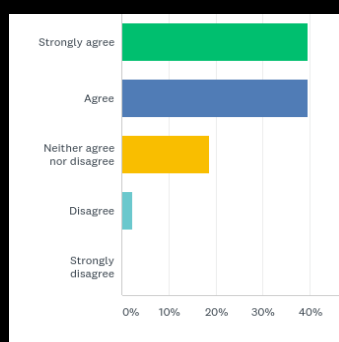
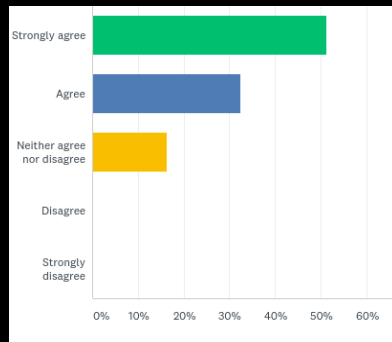


Q: "I think POCUS would improve patient care."

A: (% strongly agree/agree)

92% residents

82% faculty

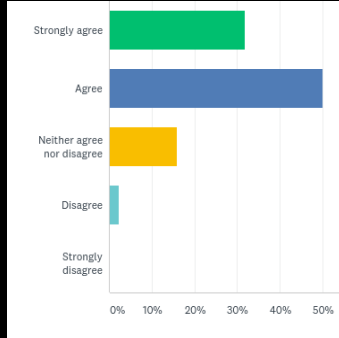
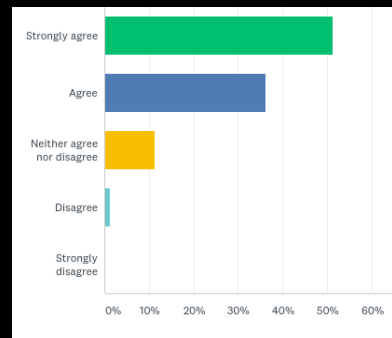


Q: "I think POCUS would improve patient safety."

A: (% strongly agree/agree)

84% residents

82% faculty



Q: "I think POCUS would make patient care more efficient."

A: (% strongly agree/agree)

88% residents

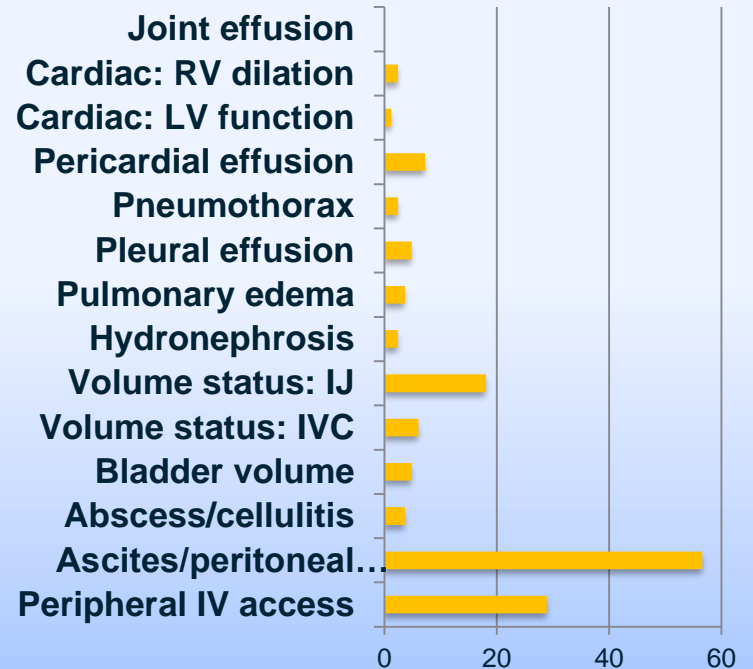
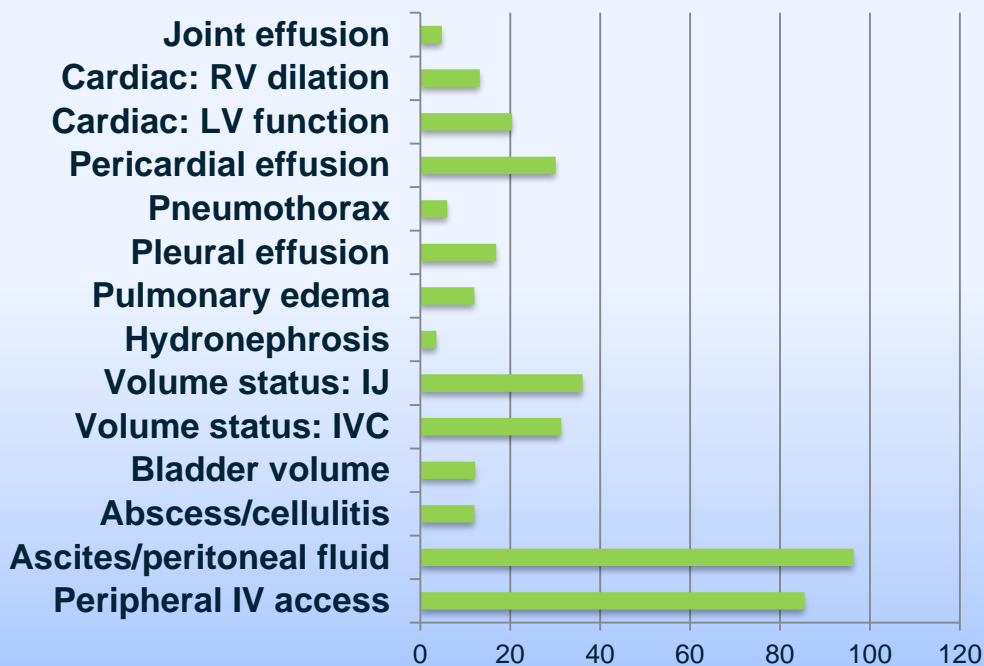
80% faculty

Using POCUS, Despite Feeling **Incompetent**

Q: Please select the application(s) for which you **personally perform ultrasound** to make decisions or advance patient care:

Q: please select the application(s) for which you believe you have **achieved competency** (i.e., no further training needed):

RESIDENT RESPONSES: (n=83)

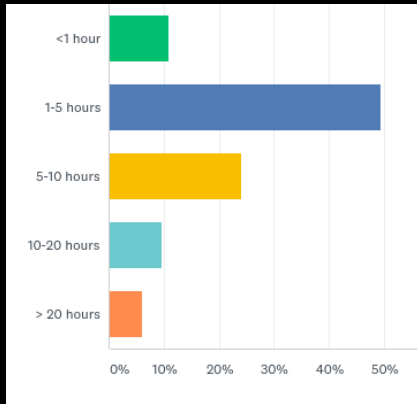


E.g. 30% of residents use US to look at bladder volume, but only 7% feel competent doing so!



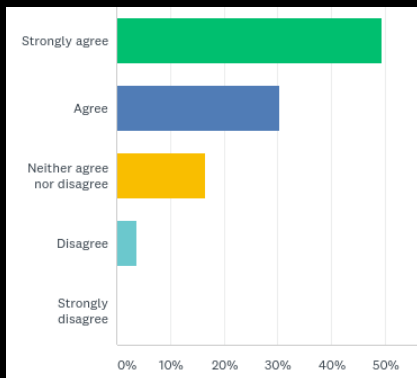
Lack of Current Training

Resident Responses: (n=83)



Q: “What is your level of **prior experience** with POCUS?”

A: **84% residents:** under 10 hours



Q: “I feel that my **residency training is lacking** because I need more POCUS training.”

A: **80% residents** strongly agree/agree

Perceived Barriers to POCUS Use

	“Not enough machines”	“Insufficient training”
<i>Residents</i> (n=83)	97%	86%
<i>Faculty</i> (n=46)	88%	91%

Conclusions

Within our institution, IM residents and faculty **strongly desire** more **POCUS training** and think it will **improve** patient care, patient safety, and hospital efficiency.

We discovered a discordance between reported POCUS use and feeling of competency, suggesting that a significant number of residents and faculty are currently using POCUS **when they feel incompetent to do so**. This discordance may have implications for **patient safety**.

Both faculty and residents showed strong interest in additional training opportunities.

Finally, both groups perceive lack of training and lack of machines as the two major barriers to POCUS use.

Taken together, the results of our study provide a compelling case for furnishing both IM residents and faculty **with additional POCUS training, for the sake of improved patient care**.

