Learning Community Curriculum: Outcomes of Point of Care Ultrasound Curriculum

Ashley L. Barley, Reannon C. Suzuki, Ricky Amii, MD, Vanessa S. Wong, MD, Kyra A. Len, MD
John A. Burns School of Medicine - Honolulu, HI

Background

- Learning Communities (LC) was implemented in Fall 2020 at JABSOM, and consists of small groups of faculty and students who work together throughout all 4 years of medical school. Its main aim is to foster a supportive learning environment and provide an opportunity for students to practice their clinical skills through various hands-on activities.
- Ultrasound in clinical application has expanded over the past decades[1-3], and is a training guideline in a number of residency specialties. Recognizing this, JABSOM incorporated point-of-care ultrasound (POCUS) into the clinical skill framework of LC.
- Currently, the POCUS curriculum includes organ-specific ultrasounds that correlate with its respective course (i.e. cardiac ultrasound during the student's MD2 cardiac unit) and ultimately culminates in "Sono-Games" as an interactive, game-like POCUS challenge, where students apply their POCUS skills they learned through both LC and their clerkship years.

Objectives

Assess the usefulness and effectiveness of the LC POCUS curriculum, and further, whether it enhanced the students' confidence in their understanding and usage of POCUS

Methods

- Distribution of anonymous surveys to medical students after each preclinical unit
- Data was collected from the academic years of 2021-2022 and 2022-2023
- Surveys consisted of 5 point likert scale questions to measure the impact of the eFAST and sonogames workshops in helping them to understand POCUS.

.

Integration of a **POCUS curriculum** in medical school may **enhance learning** and **improve student confidence**

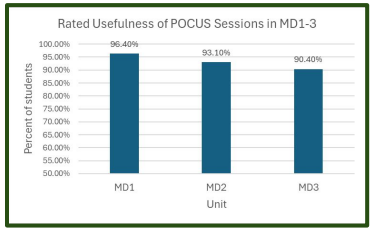

Figure 1: Over 90% of students found the POCUS sessions useful in MD1, MD2 and MD3.

Photo 1. Demonstration of abdominal ultrasound by a learning community mentor in MD4 unit.

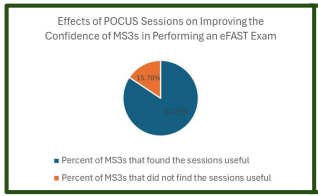

Figure 2: Majority of MS3s felt that participating in POCUS training sessions during learning communities improved their confidence when performing eFAST exams

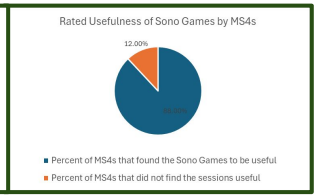

Figure 3: More than 85% of MS4s found the Sono Games to be a useful review of POCUS skills

Results

- 96.4% of students in MD1 felt that the LC session was a useful introduction to POCUS (n=112)
- 93.1% MD2 students felt the cardiac US session was useful (n=135),
- 90.4% MD3 students felt the renal US session was useful (n=115)
- 84.3% of MS3s felt the session improved their confidence in performing an eFAST exam (n=64)
- 88.0% of MS4s reported Sono Games was a useful review of POCUS (n=50).

Discussion

- The addition of a POCUS curriculum in JABSOM's LC has yielded positive outcomes, as illustrated in the results section. In addition,, 84.3% of MS3s reported increased confidence in performing an eFAST exam, showing the broader applicability of POCUS training. Positive feedback on the Sono Games highlight the continued impact of the LC POCUS skills through engaging game-based activities.
- In the future, we could evaluate whether JABSOM students are proficient in POCUS by testing whether they can find all the proper views in eFAST, echo, and other imaging modalities in addition to identifying anatomical structures accurately and potentially compare JABSOM proficiency to that of other medical school programs.
- In conclusion, integrating the POCUS curriculum within Learning Communities at JABSOM has proven valuable for medical education, with consistent positive feedback across academic years supporting its success.

References

1. DeCara, J.M., Lang, R.M., Koch, R., Bala, R., Penzotti, J., & Spencer, K.T. (2003). The use of small personal ultrasound devices by internists without formal training in echocardiography. *European journal of echocardiography : the journal of the Working Group on Echocardiography of the European Society of Cardiology, 4* 2, 141-7 .
2. Sasmaz, M.I., Gungor, F., Given, R., Akyol, K.C., Kozaci, N., Kesapli, M. Effect of Focused Bedside Ultrasonography in Hypotensive Patients on the Clinical Decision of Emergency Physicians, *Emergency Medicine International*, vol. 2017, Article ID 6248687, 8 pages, 2017. https://doi.org/10.1155/2017/6248687
3. Brass P, Hellmich M, Kolodziej L, Schick G, Smith AF. Ultrasound guidance versus anatomical landmarks for internal jugular vein catheterization. Cochrane Database of Systematic Reviews 2015, Issue 1. Art. No.: CD006962. DOI: 10.1002/14651858.CD006962.pub2. Accessed 11 February 2022.