

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

Training Ultrasound Image Acquisition: Traditional Didactic Methods vs Butterfly's Scanlab Application

Permalink

<https://escholarship.org/uc/item/8d55q66g>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 27(3.1)

ISSN

1936-900X

Authors

Hsu, Edmund
Nashu, Madison
Hsueh, Andy
[et al.](#)

Publication Date

2026-06-14

DOI

10.5811/westjem.66240

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

15 Seeing the System: A Needs Assessment for an Equity-Centered Patient-Flow Dashboard

Namrata Garg, MD, Mariana Arino, Jaskaran (Karan) Bains, MD, MBA, Elizabeth Li, Hemal Kanzaria, MD, MSc, Christopher R. Peabody, MD, MPH

Background: Emergency Department (ED) boarding is a system-wide operational challenge associated with worse clinical outcomes. Understanding patient flow through the hospital is essential to address factors that contribute to downstream boarding. Digital dashboards can enable early recognition of these factors and reveal gaps in equitable care. This study aimed to assess the need for a dashboard in a busy public hospital.

Methods: We conducted 30-minute interviews with department managers, administrative staff, physicians, and nurses across the acute care continuum. Audio files were transcribed and analyzed using qualitative thematic analysis.

Results: Interviews with 21 participants noted that fragmented data limits the ability to understand hospital-wide patient flow that contributes to complex focal issues. Participants emphasized that a centralized, easily interpretable dashboard could provide trusted data, creating a common reference point for factors that contribute to ED boarding. By making complex system dynamics visible in a clear format, participants felt dashboards could align stakeholders around shared goals and support more coordinated problem-solving. Importantly, respondents highlighted that shared visualization also enables an equity lens, allowing teams to jointly recognize disparities and ensure interventions avoid worsening them. Ultimately, participants viewed purposeful, action-oriented dashboard design as a critical tool for addressing the root cause of complex challenges such as ED boarding.

Conclusion: This needs assessment demonstrates that visualization of hospital-wide data is essential for understanding and addressing a focal problem such as ED boarding, which arises from a myriad of interrelated factors. A centralized, easy-to-use dashboard can foster collaboration, align teams, and support equity-informed decision-making to tackle this critical issue. These findings will guide the development of a purposefully designed dashboard to enable coordinated, system-level solutions to ED boarding.

16 Training Ultrasound Image Acquisition: Traditional Didactic Methods vs Butterfly's Scanlab Application

Edmund Hsu, MD, Madison Nashu, MD, Andy Hsueh, MD, Omid Haghighi, An Truong, Ronald Goubert, MD, Roy Almog, MD, Megan Guy, MD, Soheil Saadat, MD, MPH, PhD, John Fox, MD

Background: Scanlab, an AI-powered ultrasound

(US) teaching tool, has been proposed to be an effective alternative to traditional didactic ultrasound instruction, but currently there is little evidence to showcase this. While Point of Care Ultrasound (POCUS) is typically taught through in-person lectures and practice, virtual methods show promise in expanding access to places lacking the required infrastructure. Butterfly's Scanlab offers live US instruction without instructors or additional materials. We aim to evaluate Scanlab's efficacy as an alternative to traditional didactic methods in teaching POCUS techniques.

Methods: Undergraduate students from UCI School of Medicine's Emergency Medicine Research Associates Program were trained on acquiring selected cardiac US views: parasternal long axis view (PLAX), parasternal short axis view (PSAX), apical 4 chamber view (A4C), and subxiphoid/subcostal view (SUBX). 30 participants (>18 years old) were randomized into two groups: one trained using Butterfly's Scanlab application and the other with a traditional US curriculum. After training, participants created an US video clip for each cardiac view with a standardized patient. Videos are graded by US-trained physicians and fellows using ACEP's Emergency US Standard Reporting Guidelines and modified established rubrics. Participants also completed a confidence survey prior to and after training. Participants were tested again four weeks later in a retention assessment. After another four weeks, the groups switched training modalities and repeated instruction, assessment, and retention reassessment. In total, participants completed 2 trainings and 4 assessments over 12 weeks.

Results: Preliminary data analysis suggests similar scores between the Scanlab and Traditional training groups. Average scores after initial instruction are 0.938 and 1.03 respectively. After 4 weeks, average scores are 1.1 and 0.967 respectively. Further data analysis and discussion is pending video clip grading by US-trained physicians for inter-rater reliability.

Conclusion: We hypothesize that Scanlab is an effective alternative to traditional methods for teaching US image acquisition. Research challenges included a limited number of US probes and participant/physician availability. Future results may assess its efficacy for medical students, advanced practice providers, and professional workshops to contrast our findings at all levels.

17 Areas for Growth in an Emergency Medicine Procedural Simulation Curriculum: A Needs Assessment

Jack Basse, MD, Ashley Vuong, MD

Background: Procedural simulation is a valuable tool in Emergency Medicine education, but the cost of simulation centers and models limits use and prevents standardization across residencies. The objective of our study was to identify