AI: Closing the Gap in Point-of-Care Ultrasound Adoption in Urgent Care

Tatiana Havryliuk, MD

Point-of-care ultrasound (POCUS) has become a cornerstone of emergency medicine, yet its uptake in urgent care has been slow. Despite the emergence of affordable handheld ultrasound devices, many urgent care clinics have yet to integrate POCUS into routine practice. The common barriers to adoption include limited provider competence, the cost of devices, archiving solutions, and training, as well as a lack of administrative resources to support a high-quality POCUS program. The growing capabilities of artificial intelligence (AI) could be the catalyst that accelerates adoption.

Current POCUS Landscape in Urgent Care

POCUS use in urgent care is still in its early stages. Adoption tends to occur in clinics led by emergency medicine-trained physicians, those offering higher acuity care, or orthopedic procedures that required ultrasound guidance. The field lacks formal guidelines for urgent care akin to those developed by the American College of Emergency Physicians.[1] While case reports have demonstrated the utility of POCUS in urgent care, comprehensive studies on meaningful outcomes are still lacking.[2-4]

In many clinics where POCUS is available, it is used informally for limited applications, such as evaluating abscesses or joint effusions, without structured documentation or billing. This underutilization limits both its diagnostic value and financial sustainability. A structured approach supported by AI could address these gaps. Handheld ultrasound devices now range from approximately $2,000 to $5,000, with cloud-based storage solutions adding another $200 to $500 annually per user. When implemented with proper documentation, POCUS exams are eligible for reimbursement under existing CPT codes, providing an opportunity to offset these costs and create a sustainable, revenue-positive workflow. According to the 2025 national Medicare fee schedule, global physician fees range from $56 for a soft tissue scan to $180 for a FAST (Focused Assessment with Sonography in Trauma) exam.[5] If a practice performs just 2 reimbursable POCUS exams per day at an average reimbursement of $65 for exams performed by advanced practice providers, that can generate approximately $47,000 in annual billable revenue. This makes POCUS not only clinically impactful but also an attractive and financially strategic investment.

Tatiana Havryliuk, MD, is an emergency physician and founder of Hello Sono.

How AI Can Support Broader POCUS Use

AI integration may remove some of the barriers that have slowed POCUS implementation in urgent care.

- **Image acquisition:** AI tools inside the scanning software could guide providers to obtain diagnostic-quality images with minimal experience. They offer real-time feedback on probe positioning and image quality. In one study, a variety of medical professionals, including nurses and medical assistants, achieved a 98% diagnostic image rate after a brief training.[6]
- **Exam interpretation:** Software enhanced with AI can highlight abnormalities such as pulmonary edema or deep vein thrombosis, enabling novice users to perform basic image interpretation without relying on immediate input from a POCUS trained expert.[7]
- **Reporting**: Automated labeling and reporting features ensure consistent and adequate documentation, save time, and improve billing compliance.[7]
- **Quality assurance:** AI can help verify that scans meet diagnostic standards and assess interpretation accuracy.
- **Standardization**: AI reduces variability in image acquisition and interpretation, helping ensure consis-

tent results across providers regardless of skill level.[7,8] Research has shown that even non-clinicians can perform POCUS successfully with minimal guidance, supporting the feasibility of expanding POCUS use among urgent care providers with AI assistance.[8]

- **Novice users:** AI improves confidence by offering real-time support and reducing the cognitive load involved in scanning and interpreting. This support encourages repetition and faster skills acquisition, allowing providers to integrate POCUS more naturally into clinical workflows.
- **Experienced users:** For those already skilled in ultrasound, AI frees up time by automating repetitive tasks like measurements, labeling, and reporting.

These combined effects could significantly lower the learning curve and operational friction that have historically hindered widespread adoption in urgent care.

Caveats and Considerations

While promising, AI is not without limitations.

- **Reliability concerns:** AI tools reflect the data on which they were trained. Algorithmic decisions are often not clear, and underlying biases may affect diagnostic accuracy.[7] It's essential that providers maintain oversight and apply critical thinking to AI outputs.
- **Training needs:** AI should augment—not replace—hands-on learning. Effective POCUS use still requires formal training, including didactic instruction, hands-on scanning, and expert review.
- **Technique-dependent:** AI can't compensate for improper scanning technique. If the probe is misapplied or compression is inadequate, even advanced software may produce incorrect interpretations.
- **Risk of overdependence:** Relying too heavily on AI might degrade clinicians' fundamental ultrasound skills, similar to how over-reliance on ECG machine reads can undermine ECG interpretation proficiency.
- **Cost**: AI functionality typically requires a subscription, often ranging from $400 to $500 per user per year for handheld devices. While this cost is usually included as part of the image storage subscription, it represents an additional expense beyond the basic cost of the device itself.

Looking Ahead

By enhancing usability, streamlining image interpretation, and building user confidence, AI could increase the adoption of POCUS in urgent care to enhance patient care and address critical gaps in imaging access.

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However, the benefits of AI can only be realized if implemented strategically and with supervision. Oversight, education, and clinical context remain indispensable. As we move forward, the urgent care community must ensure that training programs, reimbursement structures, and clinical protocols evolve alongside the technology. Artificial intelligence is rapidly redefining healthcare, and its integration with POCUS could be highly impactful. ■

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