

Reducing Unnecessary Emergency Department Transfers Through Clinical Education, Same-Day Ultrasound Access, and Implementation of an Outpatient DVT Pathway in Urgent Care

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Background

- The annual incidence of venous thromboembolism including deep vein thrombosis (DVT) and pulmonary embolism (PE), is approximately 1 per 1,000 adults, with about two-thirds of cases presenting as DVT²
- Historically, suspected DVT prompted emergency department referral; however, with the advent of direct oral anticoagulants (DOACs) and validated risk stratification tools, most patients can be safely managed in the outpatient setting, with hospitalization reserved for high-risk presentations.¹
- Validated risk stratification tools, such as the Wells criteria, combined with clinical assessment, guide identification of low-risk versus high-risk patients, while venous duplex ultrasound serves as the primary modality for diagnostic confirmation.³

This pilot aimed to reduce unnecessary emergency department utilization for suspected lower-extremity DVT by implementing a structured outpatient diagnostic pathway and improving access to same-day venous duplex ultrasound within an urgent care system.

Methods

Design: Pilot Study

Setting: Multi-site urgent care network within a large health system

Intervention:

- Expedited Ultrasound Pilot in 4 select clinics
- A multidisciplinary consensus group developed a standardized EHR-integrated ambulatory DVT pathway across the health system to support implementation of the intervention.

Sample: Low-risk adult patients with suspected lower-extremity DVT without cardiopulmonary symptoms.

Outcome Measures: Number of patients evaluated for suspected lower-extremity DVT in urgent care before and after implementation.

Analysis: Pre- and post-implementation comparisons were performed to assess changes in utilization of urgent care-based evaluation for suspected lower-extremity DVT following implementation of expedited ultrasound access and a standardized EHR-integrated clinical pathway.

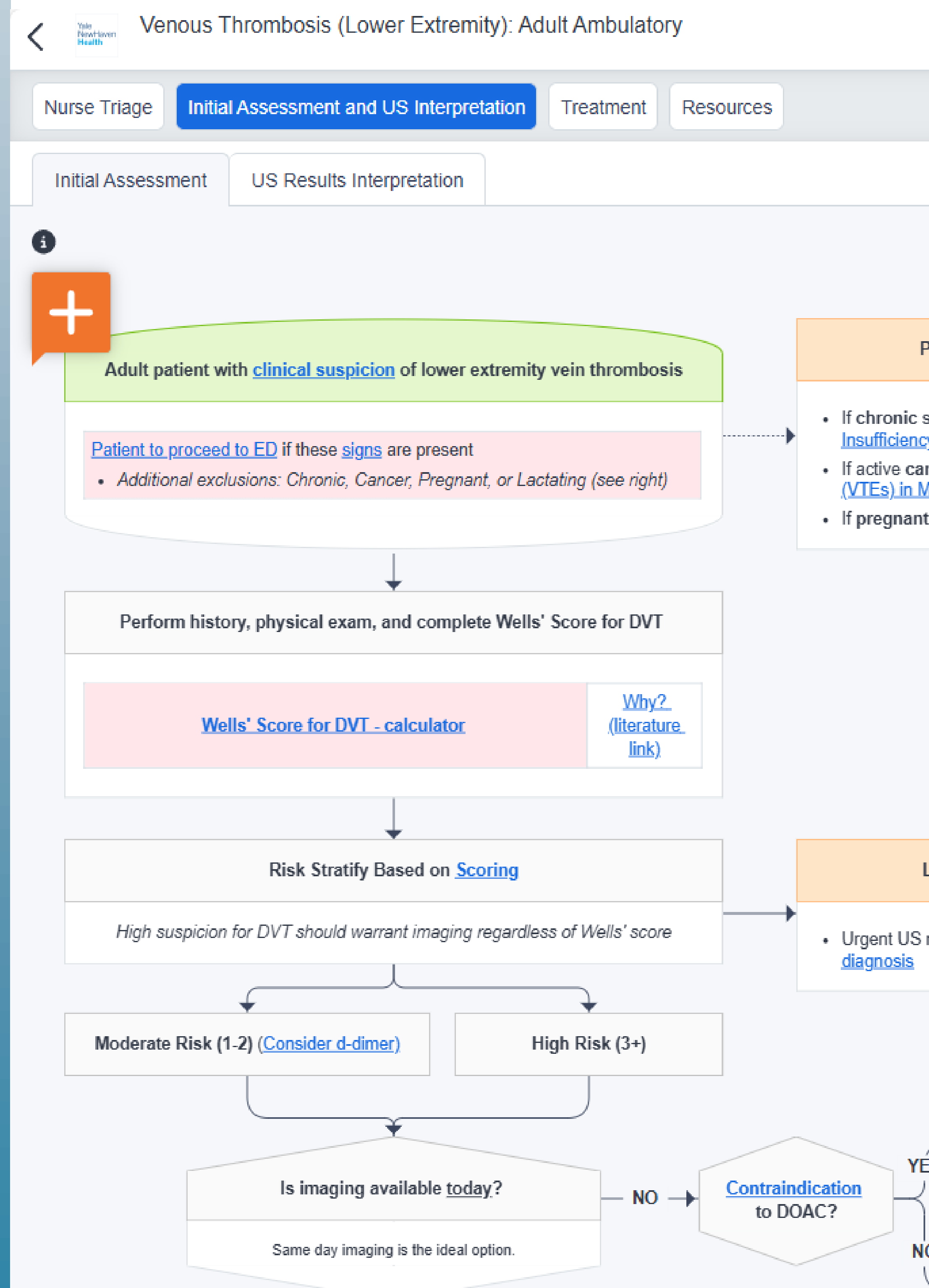
Implementation Milestones

November 2025: Expedited venous duplex ultrasound pilot initiated at select 4 urgent care locations, enabling same-day diagnostic evaluation of suspected lower-extremity DVT.

March 2026: Implementation (go-live) of the ambulatory EHR-integrated DVT Care Signature Pathway to support outpatient management.

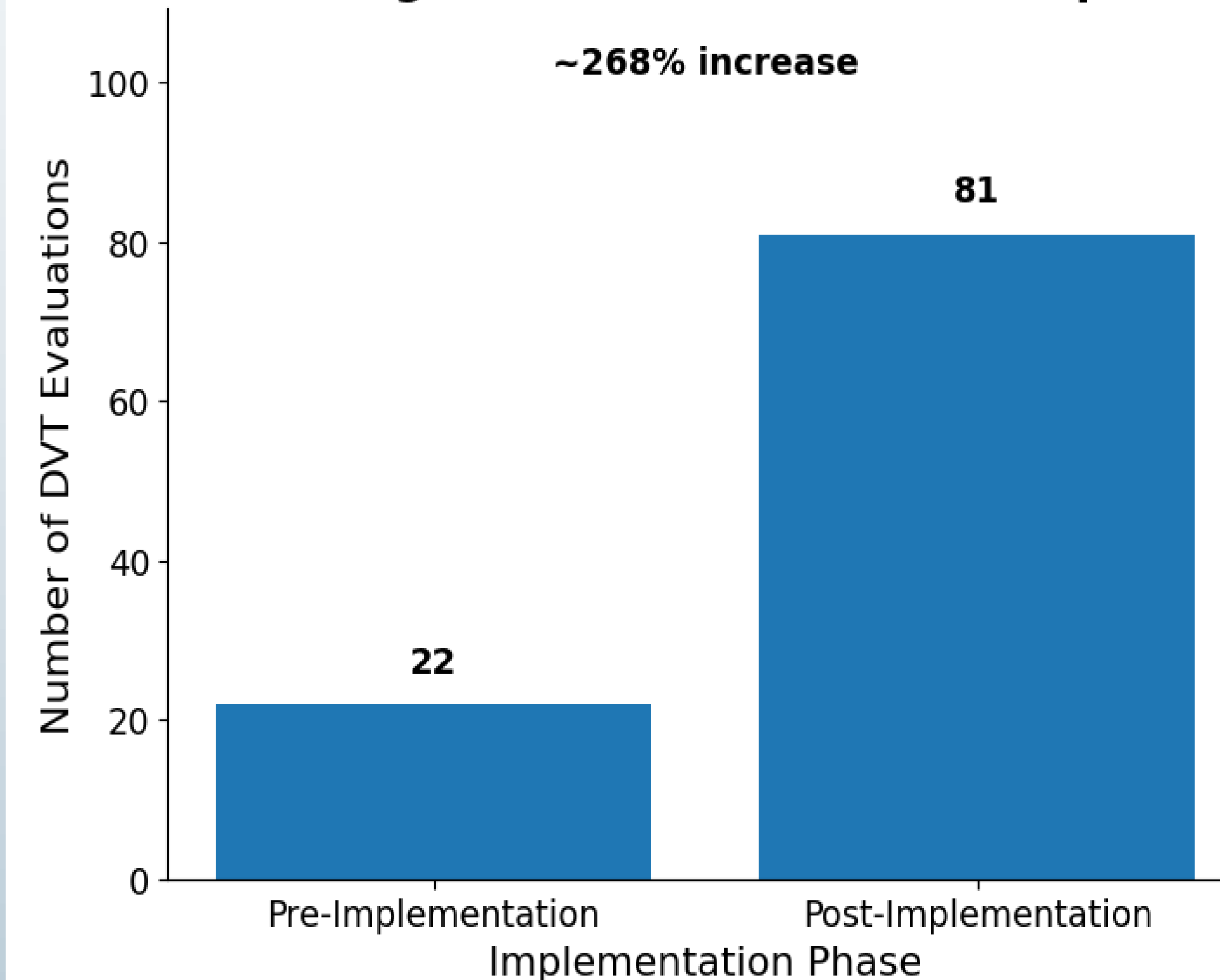
April 2026: Educational presentation to urgent care clinicians.

Venous Thrombosis (Lower Extremity): Adult Ambulatory Pathway



Results

Increase in Urgent Care Evaluation of Suspected DVT



Clinical Impact Example

Presentation

65-year-old male with a few days of left calf pain, swelling, and mild redness with history of prior DVT in the same leg. Denied recent immobility, travel, chest pain, or shortness of breath. Not currently on anticoagulation (previously on apixaban). Vital signs within normal limits.

Exam Findings

- Left calf tenderness with mild warmth
- Calf circumference: left 41.5 cm vs right 40.5 cm
- No signs of pulmonary compromise
- Neurovascularly intact

Evaluation

- Clinical concern for recurrent DVT based on history and exam findings
- Expedited same-day left lower extremity venous duplex ultrasound obtained through urgent care pathway

Outcome

- Ultrasound confirmed acute left lower extremity DVT
- Initiated on apixaban (DOAC) in the outpatient setting
- Urgent referral to vascular surgery arranged
- Coordinated care with primary care provider
- **Emergency department transfer avoided**

Barriers

- Although D-dimer testing is an effective tool for DVT risk stratification, it is not feasible for routine use within the urgent care workflow.
- Expedited ultrasound availability was limited to weekdays (8:00 AM–3:30 PM), resulting in continued emergency department referrals for patients presenting after hours or on weekends
- Implementation of the Care Signature Pathway was delayed due to the need for multidisciplinary consensus across the health system
- Educational offering is occurring in April 2026.

Conclusion

This pilot study demonstrates that implementation of expedited same-day venous duplex ultrasound, in conjunction with a standardized ambulatory DVT Care Signature Pathway, is associated with increased urgent care-based evaluation of suspected lower-extremity DVT. These findings suggest improved access to outpatient diagnostic resources, support a potential shift toward ambulatory management, and facilitate timely initiation of guideline-directed anticoagulation, when appropriate. Further evaluation of provider adoption, EHR-integrated clinical pathway usage and expanded data collection is needed to assess impact on emergency department utilization and long-term sustainability.

References

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2. Lutsey, P. L., & Zakai, N. A. (2023). Epidemiology and prevention of venous thromboembolism. *Nature reviews. Cardiology*, 20(4), 248–262. <https://doi.org/10.1038/s41569-022-00787-6>
3. Pyzocha N, et al. Diagnosing DVT in Nonpregnant Adults. *American Family Physician*. 2019.