



Advancing High Performance Health

Improving Care Transitions for People with Venous Thromboembolism (VTE)

Six AMGA member organizations are embracing proven methods of *implementation science*^{1,2} to develop and implement interventions for people with venous thromboembolism (VTE). This preliminary summary provides some highlights of those activities.

Why Focus on Transitions of Care for People with VTE?

Treatment for VTE takes place in phases including initial management, primary treatment (3–6 months), and then a decision about secondary prevention (indefinite duration).³

Education about anticoagulants and support of medication adherence are crucial during primary treatment.⁴ The decision about secondary prevention hinges upon details of the initial thrombotic event (whether provoked or unprovoked).⁴ This transfer of knowledge requires effective communication at each phase of care and often spans multiple providers and settings, including hospitals and emergency departments (ED).⁵

Effective care transitions can be challenging for providers, but they are vital for patients with VTE.

Relational Coordination

Relational coordination^{7,8} is an implementation science technique that focuses on the communication among individuals and workgroups that's required to accomplish complex tasks like transitions of care. It assesses the quality of this communication and the relationships upon which effective communication is founded, such as shared goals, knowledge of the work done by other teams, and mutual respect. A validated survey gauges whether communication is frequent, timely, accurate, and focused on problem-solving rather than blaming.

Relational coordination is being used by organizations in this study to assess and improve relationships within work groups and across organizational boundaries, specifically to improve performance on transitions of care.

Implementation Science

Implementation science bridges the gap between what we know and what we do in delivering healthcare. It identifies core elements—the “active ingredients”—for achieving widespread uptake of evidence-based interventions in routine practice. It extends the concept of evidence-based interventions from the “what” to the “how,” offering organizations guidance on how to efficiently and reliably deliver evidence-based care.⁶

Relational Coordination

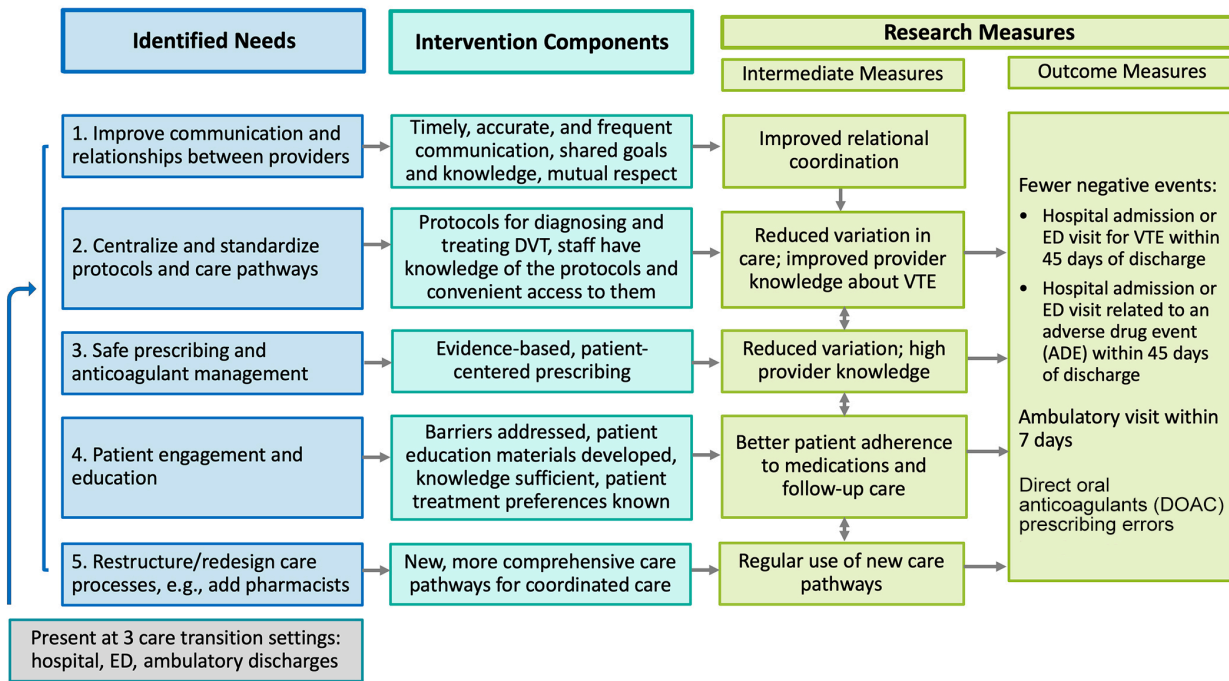


VTE Care Transitions Improvement Framework

Participating organizations followed these steps to study VTE Care Transitions:

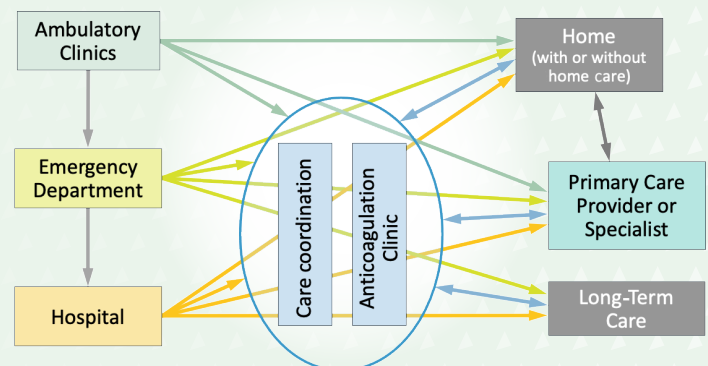
- ✓ Conduct a current-state assessment to identify the areas where improvements are needed.
- ✓ Identify evidence-based interventions to address the areas that need improvement.
- ✓ Define the intervention components and create an intervention strategy.
- ✓ Use continuous quality improvement to adapt and tailor interventions as needed to fit organizational context and measure outcomes.

The logic model below shows the needs that were identified, the intervention components, and the study outcomes.



Some organizations are focusing on care transitions around discharges from the hospital, and from the emergency department. Others are focusing on managing low-risk deep vein thrombosis (DVT) patients entirely in ambulatory settings.

Transitions of Care Settings for VTE



Below are examples of the interventions organizations are implementing.

Improve Relationships and Communications Among Providers

VTE treatment is a dynamic process requiring ongoing patient assessment and adjustments to therapeutic strategies as the patient progresses through various hospital and outpatient settings.

Care coordination is essential.⁵

- ✓ Using the Relational Coordination survey^{7,8} to assess relationships and effectiveness of communication within and among teams involved in VTE transitions of care.
- ✓ Including everyone who “touches” patients with VTE during important care transitions—hospitals, inpatient and outpatient clinical pharmacies, discharge coordinators, case managers, ED clinicians, rehab, home health, population health, anticoagulation clinics, and primary care.
- ✓ Surveys revealed high mutual respect and shared purpose within and among teams, providing a strong foundation for improving lower-scoring areas such as timely communication.



Centralize and Standardize Protocols/Care Pathways

Direct oral anticoagulants (DOACs) are changing how people with VTE receive care.⁹ Most patients with DVT and low-risk pulmonary embolism (PE) should receive outpatient treatment (usually in the ED, for patients with PE).^{3,10,11} As more providers prescribe DOACs, centralized protocols are necessary to ensure accurate prescribing and avoid adverse drug events.

- ✓ Creating a team of experts to review guidelines and update internal protocols.
- ✓ Standardizing care through order sets in the electronic health record (EHR) with prescribing guidelines that prompt providers to consider key factors in the prescribing decision, such as renal function.
- ✓ Creating notifications in EHRs to facilitate seamless transitions of care (e.g., notify primary care provider and anticoagulation clinic when patients are discharged with VTE, track ongoing VTE treatment post-discharge).
- ✓ Building automated messages from primary care providers to patients who cancel or do not show up for follow-up appointments.



Safe Prescribing and Management of Anticoagulants

Correct prescribing reduces the risk for poor outcomes during care transitions when adverse drug events are more likely to occur.⁵ Medication access and cost, coupled with limited insurance coverage may cause patients to discontinue medications prematurely, leaving them vulnerable to harm and causing inequitable outcomes.^{5,12,13}



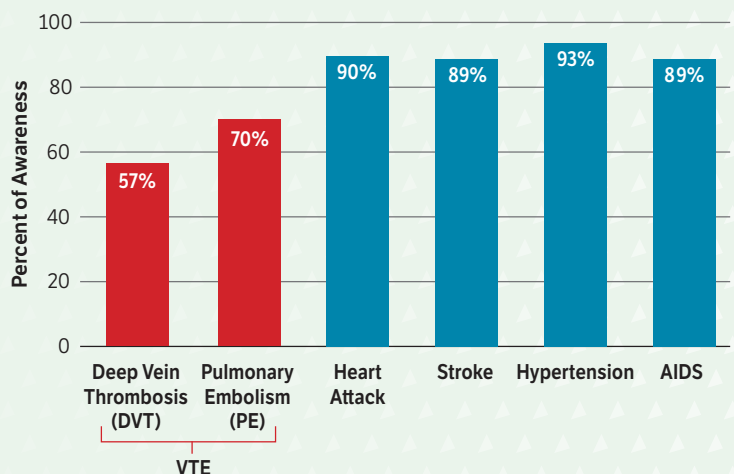
- ✓ Ensuring patients have “medication in hand” at discharge through a meds-to-beds program, “starter packs” for DOACs, and home delivery (by a local pharmacy).
- ✓ Expanding the use of “test claims” to determine insurance coverage and out-of-pocket cost for the medication that is being considered, to ensure that the medication prescribed is one the patient can afford.
- ✓ Utilizing patient assistance programs to provide DOACs when financial assistance is needed.
- ✓ Reviewing orders post-discharge to identify and correct any errors in dosing and to provide education and training for clinicians when errors occur.
- ✓ Programming the EHR to notify the anticoagulation clinic or a clinical pharmacist when a DOAC order for VTE is entered, plus approval for the pharmacist to correct certain errors without having to contact the prescriber.
- ✓ Expanding ready access to clinical pharmacists and other experts in anticoagulation for consults in inpatient, emergency department, and ambulatory settings.

Patient Engagement and Education Activities

Knowledge of VTE among patients is limited, and many patients with VTE report receiving confusing and overwhelming information at initial diagnosis.¹⁴ Providers play a key role in educating patients to ensure patients take their medication as prescribed.^{5,14}

- ✓ Standardizing delivery of evidence-based patient education, with teach-back to ensure understanding and methods to track patient education.
- ✓ Providing educational videos to share in clinic or through patient web portals and quick response (QR) codes for patients to access on digital devices.

Patient awareness is lowest for DVT and PE compared to other selected medical conditions.¹⁵



Sample size is 800

- ✓ Optimizing patient-facing discharge instructions—developing comprehensive educational materials for patients that are reviewed by patient and family advisory councils to ensure they are easy for patients to understand and follow.
- ✓ Optimizing provider-facing discharge summaries—with details about anticoagulation medication, the recommended course of treatment, adherence to prescribed therapy, and emphasis on when a decision must be made about preventive treatment to reduce the risk of recurrence of VTE.
- ✓ Creating “smart phrases” in the EHR to help document the provision of patient education (with teach-back) and that medication availability and affordability were confirmed.

Restructure/Redesign Care Processes

Anticoagulation clinics (ACCs) provide an invaluable service to patients and providers by offering expertise in anticoagulation management, ensuring follow-up, and bridging care transitions.

- ✓ Ensure follow-up by a clinical pharmacist within 48 to 72 hours after discharge for patients newly diagnosed with VTE.
- ✓ Expanding anticoagulation clinics to include patients prescribed DOACs, in addition to warfarin. Services may include:
 - Automating enrollment in the ACC for all patients discharged on an anticoagulant or creating alerts within the EHR that notify providers when their patient is discharged with VTE so they can refer them to the ACC.
 - Identifying and calling patients who do not have a primary care provider or have a provider outside the system within 72 hours of discharge from the ED to ensure they have their medication, understand its use and duration of therapy, all questions have been answered, and they are following up with primary care.
 - Optimizing use and coordination of patient assistance programs through enhanced communication and workflow between anticoagulation clinics/services and outpatient pharmacies.



This work was supported by Janssen Scientific Affairs, LLC, Titusville, NJ.

¹Damschroder L. *Implement Sci.* 2009. DOI: 10.1186/1748-5908-4-50. ²Boustani M. *J Am Geriatr Soc.* 2018. DOI: 10.1111/jgs.15283. ³Ortel TL. *Blood Adv.* 2022. DOI: 10.1182/bloodadvances.2020001830. ⁴DeSancho M. *Thromb Res.* 2021. DOI:10.1016/j.thromres.2021.01.001. ⁵Rosovsky R. *Endovasc Today.* 2021. <https://evtoday.com/articles/2021-july-supplement/transitions-of-care-for-patients-with-venous-thromboembolism>. ⁶Waltz TJ. *Implement Sci.* 2019. DOI: 10.1186/s13012-019-0892-4. ⁷Thygeson NM. *Learn Health Syst.* 2020. DOI: 10.1002/lrh.2.10270. ⁸Bolton R. *J Appl Behav Sci.* 2021. DOI: 10.1177/0021886321991597. ⁹Burnett AE. *J Thromb Thrombolysis.* 2016. DOI: 10.1007/s11239-015-1310-7. ¹⁰Jackson CD. *JAMA.* 2022. DOI: 10.1001/jama.2022.7325. ¹¹Kabrhel C. *J Am Coll Emerg Physicians Open.* 2021. DOI:10.1002/emp2.12588. ¹²Pulleyn T. *J Thromb Haemost.* 2019. DOI: 10.1007/s11239-019-01880-3. ¹³Xu Y. *J Thromb Haemost.* 2021. DOI: 10.1111/jth.15140. ¹⁴Golemi I. *Int Angiol.* 2019. DOI: 10.23736/S0392-9590.19.04130-0. ¹⁵Wendelboe, AM. *J Thromb Haemost.* 2015. DOI: 10.1111/jth.13031. DOIs and URLs accessed on 2/16/2023.

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