Anticoagulants (AC) are life-saving therapies for individuals with cardiac and vascular disorders. Anticoagulants reduce the risk of stroke in patients with atrial fibrillation by as much as 62%1 and reduce the risk of pulmonary embolism and recurrence in patients with venous thromboembolism (VTE).2

Anticoagulation Stewardship is defined as coordinated, efficient, and sustainable system-level initiatives designed to achieve optimal anticoagulant-related health outcomes and minimize the problem of avoidable adverse drug events (ADEs).3

The Problem is Common

Anticoagulants are the #1 drug class associated with ADEs, accounting for 21.5% of ADE-related emergency department (ED) visits4,5 and over 1.2 million ED visits within a 5-year period.6

The Problem is Serious

80% of ADE-related ED visits occur in patients ≥ 65 years old.6 Nearly 50% of all ADE-related visits require hospitalization.6 Unintended variations in care contribute to avoidable thromboembolic or bleeding events.7-11

The Problem Demands Action

Use of oral anticoagulants (OACs) has increased by 70% over the past decade and will continue to rise due to demographic factors and expanded indications for OACs.12,13 Many organizations have recognized the need for a systematic approach to improve the quality and safety of AC management.14-17

With the need to improve care processes for the growing number of patients utilizing direct oral anticoagulants (DOACs) while simultaneously faced with limited resources to achieve these goals, innovative health systems are leveraging digital tools such as electronic health record (EHR)-based “dashboards” to better monitor and manage populations of patients on OACs while generating operational efficiencies.18-23

"Partners should lead efforts to promote the concept of ‘anticoagulation stewardship’ to reduce anticoagulant ADE burden. – US Department of Health and Human Services' National Action Plan for Adverse Drug Event Prevention"17

National Estimates of US ED Visits for Adverse Drug Events (% of Identified ADEs)

Anticoagulation Stewardship can reverse the trajectory of OAC ADE-related ED visits.4
What is a Population Health-Based Digital Tool?

Key characteristics of a population health-based digital tool:
- Interfaces with electronic health record
- Evaluates patient data against clinical standards
- Interactive interface for monitoring of multiple patients
- Alerts clinicians regarding cases potentially requiring intervention
- Tracks and reports metrics of safety and quality of care

The Anticoagulation Forum considers Population Health Management Dashboards to be an advantageous care model for Anticoagulation Stewardship.

Traditional Care Model
- 1:1 Encounters
- Inefficient clinician encounters for all patients regardless of need for intervention

Population Health Management Care Model
- Electronic dashboard screens and identifies patients in need of intervention
- Efficient and focused clinician encounters for specific patient(s) in need of intervention

Differentiating Between Digital Tool Models

- Clinical Decision Support (CDS)
  - Displays guidance only at point of care (entry/signature/etc.)
  - Impacts clinical decision making for single patient
  - Not responsive to real-time changes in patient clinical status

- Population Health Management Dashboard
  - Provides proactive surveillance for problems in real time throughout the course of care
  - Identifies potential interventions on multiple patients
  - Responsive to real-time changes in patient clinical status

- Quality Improvement/Management Dashboard
  - Retrospectively evaluates performance
  - Indirectly impacts clinician decision making and care of future patients
  - Not responsive to real-time changes in patient clinical status

Population Health-Based Digital Tools May:
- Enable clinicians to efficiently manage patients and coordinate care through seamless integration of clinically relevant information
- Improve the quality and safety of care by support of actionable interventions
- Support systematic initiatives to anticoagulation management
Because each health system is unique, no single digital tool will apply to all facilities. As such, implementation of elements may need to be customized based on infrastructure and access to resources.

### Secure Administrative Leadership Commitment

- **Prioritize anticoagulation quality** across the organization.
- Allocate personnel and information technology (IT) resources to implement and sustain technology systems that improve the quality, safety, and efficiency of anticoagulation management.

### Establish Professional Accountability and Expertise

- Identify a champion to serve as the leader who is accountable for implementation oversight of the digital tools and achievement of related goals.
- Identify one or more clinician(s) with advanced training and expertise in anticoagulation management and secure informatics support in development, implementation, and evaluation of the digital tools.

### Implement Systematic Care

- Develop and implement policy addressing key aspects of the digital tools, such as structure and function of the tools, and defining the roles and responsibilities for those using the tools.
- Implement evidence-based clinical guidelines to drive interventions (e.g., periprocedural management, automatic dose adjustments based on age, weight, and/or organ function; automatic alerts to identify unnecessary therapeutic duplications or inappropriate prescribing) to drive interventions and mitigate unintended variation in care.

### Engage Multidisciplinary Support

- Identify multidisciplinary representatives to obtain valuable perspectives from all domains of anticoagulation management (e.g., surgical and non-surgical clinicians, nursing, pharmacy, information technology, data analytics).
- Establish a mechanism (e.g. standing committee) for multidisciplinary input on the implementation and performance of the digital tools.

### Perform Data Collection, Tracking, and Analysis

- Develop and implement processes to collect data and track outcomes to evaluate the safety, efficacy, and cost-effectiveness of the digital tools and identify opportunities for improvement.

### References