



## Welcome to Telligen's Project ECHO® Series: Long-Term Care Medication Management of Blood Thinners

### **We will get started momentarily**

- Using chat, enter your organization name and state
- Please complete the poll

# A Project ECHO® Series: Long-Term Care Medication Management of Blood Thinners

**Session One – Introduction to Adverse Drug Events with a Focus on  
Anticoagulant Medications**

August 2, 2023

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## Project ECHO® Disclaimer

Project ECHO® collects registration, participation, questions/answers, chat comments, and poll responses for some ECHO programs. Your individual data will be kept confidential. These data may be used for reports, maps, communications, surveys, quality assurance, evaluation, research and to inform new initiatives.

# Before We Begin

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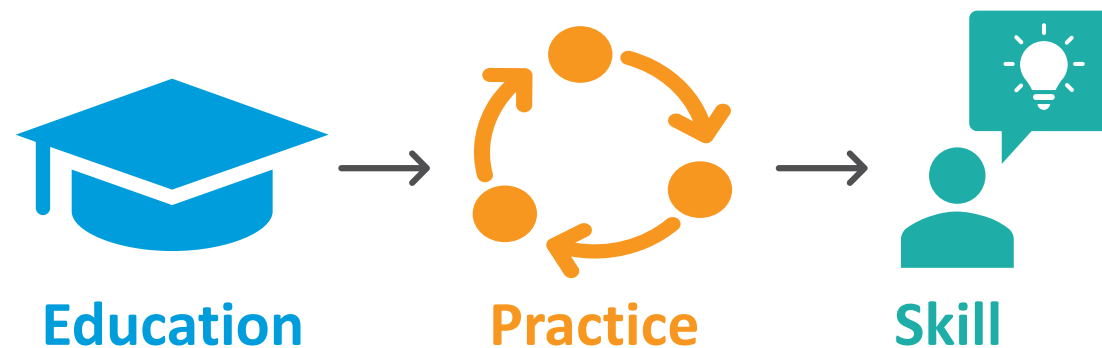
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# Begin With the End in Mind

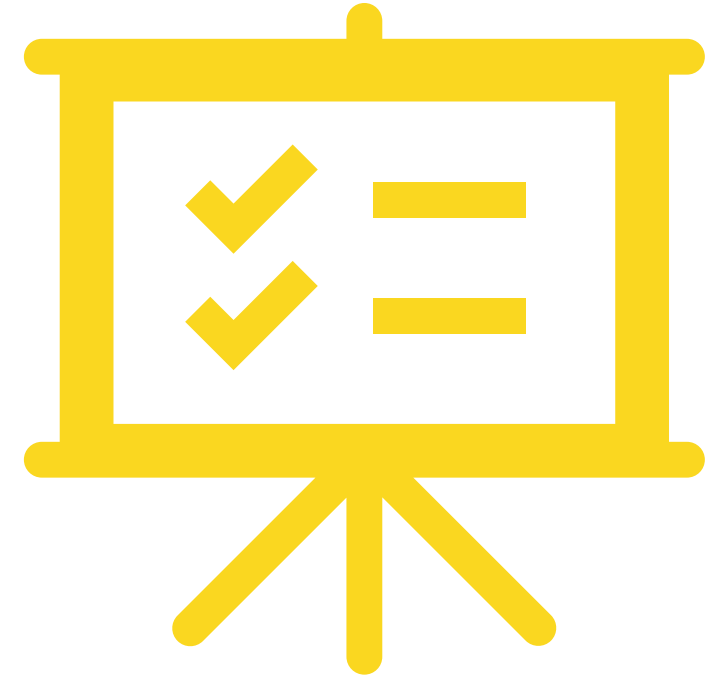
## During the presentation, visualize and plan how you will use the information:

- What impactful actions can you take as a result of the information shared today?
- How are you able to increase collaboration within your network to ensure a true change in patient safety?
- Based on what you heard today, what activities do you currently have underway that can leverage immediate action over the next week, 30, 60 and 90 days?



# Objectives

- Define the impact of adverse drug events
- Discover the value of anticoagulant medication monitoring
- Recognize opportunities for process improvement



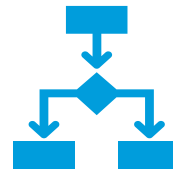
# Age-Friendly Health System

- What is an [Age-Friendly Health System](#) (AFHS)?
- Age-Friendly Health Systems aim to:
  - Follow an essential set of evidence-based practices
  - Cause no harm
  - Align with what matters to the older adult and their caregivers

## 4Ms: What Matters, **Medication**, Mentation and Mobility



Monitoring system



Necessity decision



Does not interfere with What Matters,  
Mentation and Mobility

# Why Focus on Adverse Drug Reactions?

- Impact on residents: falls, fractures<sup>1</sup>, suffering, care service transitioning, quality of life and death
- Impact on rehospitalization and emergency department visits rates
- Impact on providers: shame, guilt and legal liability
- Adverse drug reactions (ADR) alone may result in >100,000 deaths annually
- Inpatient ADR incidence rate is 6.7%; fatal incidence rate is 0.32%<sup>2</sup>
- Annual economic impact estimated at \$30.1B or ~1% of healthcare expenditures<sup>3</sup>

1. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2755293>

2. <https://pubmed.ncbi.nlm.nih.gov/9555760>

3. <https://pubmed.ncbi.nlm.nih.gov/24347988>



# Adverse Events

## Adverse Event (AE)

- Unintended physical injury resulting from or contributed to by medical care that requires additional monitoring, treatment, hospitalization or that results in death

## Adverse Drug Events (ADE)

- An injury resulting from medical intervention related to a drug
  - Includes medication errors, adverse drug reactions, allergic reactions and overdoses



## Did You Know?

Each year ADEs account for nearly:

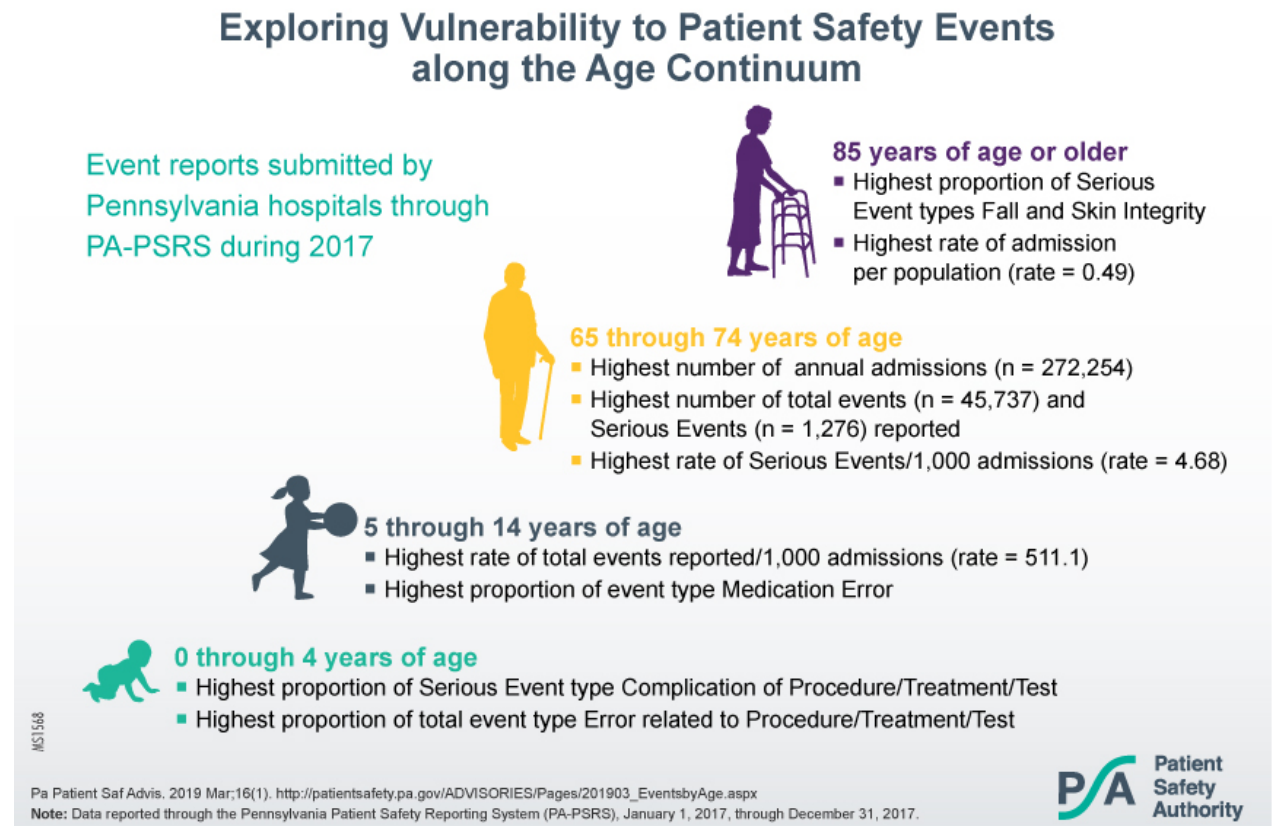
- 700,000 emergency department visits
- 100,000 hospitalizations

[Medication Errors and Adverse Drug Events | PSNet \(ahrq.gov\) 2019](#)

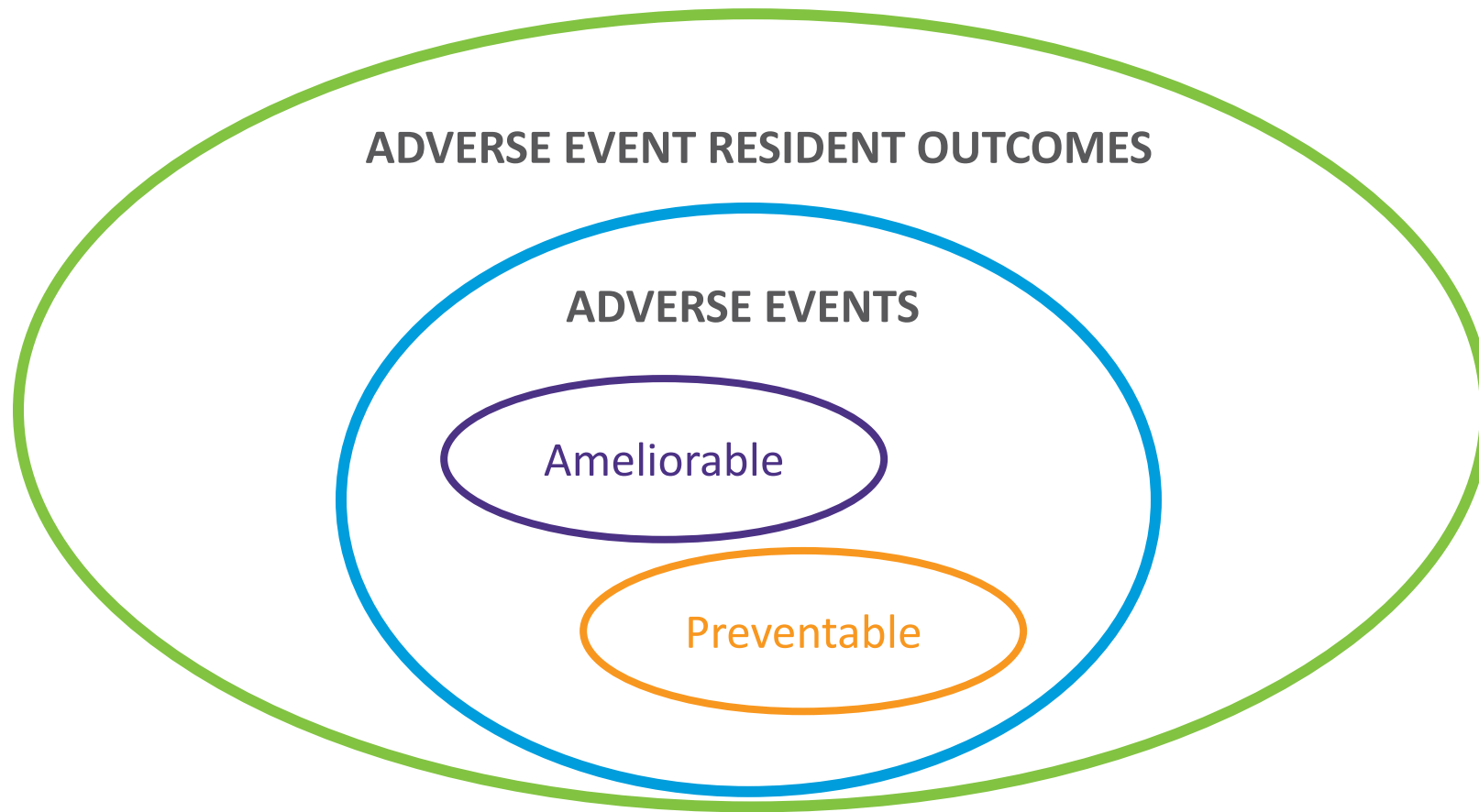
# Near Miss Event (Potential for an Adverse Event)

- Any event that could have had adverse consequences but did not and was indistinguishable from fully fledged adverse events in all but outcome
  - An error was committed, but the patient did not experience clinical harm, either through early detection or sheer luck

[Adverse Events, Near Misses, and Errors | PSNet \(ahrq.gov\)](http://www.ahrq.gov/PSNet)  
[Exploring Vulnerability to Patient Safety Events along the Age Continuum | Advisory](#); Pennsylvania Patient Safety Authority developed a data snapshot from more than 260,000 event reports submitted by Pennsylvania hospitals through the Pennsylvania Patient Safety Reporting System during 2017



# Adverse Events Compromise Resident Safety and Diminish Quality of Life



# Common Adverse Events



## Did You Know?

An estimated 22% of Medicare skilled nursing facility (SNF) residents experience adverse events during their SNF stay

[Adverse Events in Skilled Nursing Facilities: National Incidence Among Medicare Beneficiaries \(OEI-06-11-00370; 02/14\) \(hhs.gov\) OIG report](#)

[Adverse Events in Skilled Nursing Facilities: National Incidence Among Medicare Beneficiaries \(OEI-06-11-00370; 02/14\) \(hhs.gov\)](#)  
[Potentially Preventable Adverse Events in NHs \(cms.gov\)](#)

**Table 3: Adverse Events Identified Among Medicare SNF Residents by Category**

Types of Adverse Events	Percentage*
<b>Events Related to Medication</b>	<b>37%</b>
<ul style="list-style-type: none"> <li>Medication-induced delirium or other change in mental status</li> <li>Excessive bleeding due to medication</li> <li>Fall or other trauma with injury secondary to effects of medication</li> <li>Constipation, obstipation, and ileus related to medication</li> <li>Other medication events</li> </ul>	<p>12%</p> <p>5%</p> <p>4%</p> <p>4%</p> <p>14%</p>
<b>Events Related to Resident Care</b>	<b>37%</b>
<ul style="list-style-type: none"> <li>Fall or other trauma with injury related to resident care</li> <li>Exacerbations of preexisting conditions resulting from an omission of care</li> <li>Acute kidney injury or insufficiency secondary to fluid maintenance</li> <li>Fluid and other electrolyte disorders (e.g., inadequate management of fluid)</li> <li>Venous thromboembolism, deep vein thrombosis (DVT), or pulmonary embolism (PE) related to resident monitoring</li> <li>Other resident care events</li> </ul>	<p>6%</p> <p>6%</p> <p>5%</p> <p>4%</p> <p>4%</p> <p>14%</p>
<b>Events Related to Infections</b>	<b>26%</b>
<ul style="list-style-type: none"> <li>Aspiration pneumonia and other respiratory infections</li> <li>Surgical site infection (SSI) associated with wound care</li> <li>Urinary tract infection associated with catheter (CAUTI)</li> <li><i>Clostridium difficile</i> infection</li> <li>Other infection events</li> </ul>	<p>10%</p> <p>5%</p> <p>3%</p> <p>3%</p> <p>5%</p>
<b>Total</b>	<b>100%</b>

\*The percentages for conditions listed within the clinical categories do not sum to 100 percent because of rounding. See Appendix D for percentage estimates and confidence intervals. See Appendix F for a complete listing of all adverse events identified by the reviewers. Source: OIG analysis of SNF stays for 653 Medicare beneficiaries discharged in August 2011.

# Study on Preventable Adverse Events

Table 3. shows top seven events

Frequency of events grouped by type of event

Event	Overall (n=379)	Preventable/Ameliorable (n=267)
Event related to resident care, frequency (%)	197 (52.0)	173 (64.8)
Health care-acquired infections, frequency (%)	108 (28.5)	49 (18.4)
Event related to medication, frequency (%)	64 (16.9)	39 (14.6)
Pressure ulcer	56	53
Respiratory	45	13
Skin tear, abrasion or breakdown	40	37
Fall with injury	38	34

# Regulation Guidance

- Physician Services [§483.30\(a\)](#)
- Nursing Services [§483.35](#)
- Pharmacy Services [§483.45](#)
- QAPI Plan to Address High Risk Areas [§483.75\(e\)\(1\)](#)
  - See LTC Survey Pathways under Survey Resources in the [CMS Nursing Home](#) downloads section
- Reference the Regulation Map in [this session one presentation](#) on the topic of high-risk medication management. (Pages 17-18)

# Today's Speaker

## Focusing on Anticoagulation: Cutting to the Chase



Dr. Gregory Gahm, MD, FACP  
Chief Medical Officer  
Vivage Beecan Colorado

# Today: Goal of Anticoagulation

**Overall Goal: Decrease Patient's Morbidity / Mortality**

- 1. Why use anything for Atrial Fib? Hip Fractures?**
- 2. Which agents work best?**
- 3. When is anticoagulation + an antiplatelet agent ok?**



# Quick Overview of Pharmacologic Choices

## **ANTICOAGULANTS**

# Xa inhibitors

## Apixaban (*Eliquis*), Rivaroxaban (*Xarelto*)

- Therapeutic 1 hour after first dose is given
- Eliquis is first choice for patients with severe renal disease
- Xarelto is absorbed better with a high calorie meal
- There are NO LABS to follow or dosage options – *they just work*

# Ila (Thrombin) inhibitor

## Dabigatran (*Pradaxa*)

- Needs acid environment for absorption;  
avoid PPIs / H2 blockers

# Warfarin

- Only approved choice for prosthetic heart valves and factor deficiencies
- Cost is combination of...
  - Drug
  - INRs
  - Cost of excess complications
    - Transportation; copays; ER / hospital, additional morbidities

# Low Molecular Weight Heparin

Inhibits thrombin and factor Xa leading to anticoagulation

# Quick Overview of Pharmacologic Choices

## **ANTI-PLATELET AGENTS**

# Aspirin

- Irreversible Thromboxane A<sub>2</sub> / COX-1 inhibitor  
(inactivates platelets)
- 25 mg leads to a 95% inhibition
- Low Dose is more effective than full dose

## **Clopidogrel (*Plavix*); Prasugrel (*Effient*)**

- Binds irreversibly to inhibit binding of ADP, thus inhibiting platelet coagulation



# Non-Valvular ATRIAL FIBRILLATION

*What is the approximate annual risk of an embolic event with...*

- No treatment **5%**
- Antiplatelet agent **4%**
- Anticoagulation 2.5%, but 0.5% have hemorrhagic strokes, so really... **3%**

# Non-Valvular ATRIAL FIBRILLATION

- **Xas / Pradaxa** were approved as they were significantly *more effective than warfarin* at preventing TIAs/CVAs & systemic emboli
  - 3.3% vs 4.7% (NNT = 71)
  - 1000 pts treated with a Xa instead of warfarin for 21 months would lead to 6 fewer CVAs, 8 fewer deaths, and 15 fewer major bleeds
- **Xas** are *less likely to have major hemorrhagic events*
- **Xas** are more expensive than warfarin, but when lab, hospitalization, transportation and additional morbidities are included, Xas are significantly less expensive

# DVT / PE

*Same story...*

**Xas are more effective with less risk for major bleeds**

- 1<sup>st</sup> DVT / PE with likely precipitating factor: DC after 3 mos

# Post Hip or Knee Replacement

- Xas approved as they were **significantly more effective than LMWH** at preventing DVTs, PEs and Death
  - Combining results of approval trials, if 1000 patients are treated with a Xa instead of LMWH post hip replacement, there would be **26-73 fewer DVTs, PEs or deaths**
- Bleeding risks were the same
- For Xas treatment is 35 days for hips & 12 days for knees

## Conditions NOT Requiring Anticoagulation

- Vegetative or bedridden state
- Lower Extremity fractures that do not involve the femur

# Anticoagulant + Antiplatelet Agent

## Only 4 indications where benefits exceed risks:

- ✓ Mechanical Valve patients w/ low bleeding risk
- ✓ Acute Coronary Syndrome
- ✓ Recent Coronary Stents or Bypass Surgery
- ✓ Documented Peripheral Vascular Disease

# References

1. Granger, C, et al. Apixaban versus Warfarin in Patients with Atrial Fibrillation. NEJM 2011; 365:981-92.
2. Lassen, MR, et al. Apixaban versus Enoxaparin for Thromboprophylaxis after Hip Replacement. NEJM 2010; 363:2487-98.
3. Guyatt, G, et al. Executive Summary: Antithrombotic Therapy and Prevention of Thrombosis, 9<sup>th</sup> ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest 2012; 141:7S-47S.
4. Eriksson, B, et al. Rivaroxaban versus Enoxaparin for Thromboprophylaxis after Hip Arthroplasty. NEJM 2008; 358:2765-75.
5. Patel, M, et al. Rivaroxaban versus Warfarin in Nonvalvular Atrial Fibrillation. NEJM 2011; 365:883-91.
6. Stevens, S, et al. Antithrombotic Therapy for VTE Disease. CHEST 2021; 160(6):e545-e608.
7. Naito, R, et al. Rivaroxaban Monotherapy vs Combination Therapy with Antiplatelets on Total Thrombotic and Bleeding Events in Atrial Fibrillation with Stable Coronary Artery Disease. JAMA Cardiology 2022; 6/15/22.
8. Gaist, D, et al. Association of Antithrombotic Drug Use with Subdural Hematoma Risk. JAMA 2017; 317:836-46.
9. Abraham, N, et al. Comparative risk of GI bleeding with dabigatran, rivaroxaban and warfarin: population based cohort study. BMJ 2015; 350:h1857

# Blood Thinner Medications Require Monitoring and Action

- Assessment/observation
- Lab monitoring/response
- Care planning
- Staff education – symptoms and reporting
- Resident/representative education upon admission, during stay, discharge
  - [Blood Thinner Pills: Your Guide to Using Them Safely | Agency for Healthcare Research and Quality \(ahrq.gov\)](#)
- [A Patient's Guide to Taking Warfarin | American Heart Association](#)
- Root Cause Analysis of events
  - Prescribing errors
  - Transcription errors
  - Missed labs
  - Administration errors
  - Limited recognition and slow response in change of condition
  - Other?

Share your vision to improve the high-risk medication management system with everyone  
Nursing homes, medical directors, prescribing physicians, pharmacists, hospitalist/discharge planners



## Case Study

A 78-year-old male resident with a diagnosis of hypertension, peripheral vascular disease (PVD), diabetes mellitus (DM) and cerebrovascular accident (CVA) receives anticoagulant therapy with warfarin. The resident develops a nosebleed. Since the resident is on anticoagulant therapy, the MD is notified, and a prothrombin time/international normalized ratio (PT/INR) is ordered and obtained. The results show the INR to be elevated, requiring the resident to receive an injection of vitamin K.

CNA #1 stated that two days prior she had noted the resident's gums were bleeding during oral care and thought that maybe he just needed his teeth cleaned, but she did mention it to the nurse. CNA #2 reports that the resident had a medium black tarry stool the night before the nosebleed, but she became busy and forgot to report it to the Charge Nurse. It is later noted that the resident had two extra warfarin doses than they should have, and two less doses of their levothyroxine.

# Events Related to Medication

## Prevent excessive bleeding due to medication (antithrombotic) – page 13

Includes:

a.) Foundational and Ongoing Education Topics to Consider

- Educate

b) Pre-Admission Practices

- Review, discuss

c) Admission Practices

- Establish, provide, involve, reconcile, communicate, plan

d) Ongoing Care Practices and Monitoring

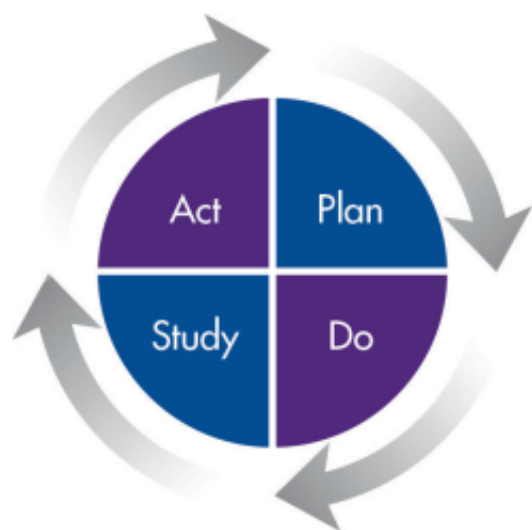
- Process management, communicate, identify, recognize

e) Resources to Consider



## Integrating QAPI:

Nursing home Quality Assessment and Assurance (QAA) committees may wish to refer to the Trigger Tool when developing performance indicators and processes to evaluate high risk, high frequency, and problem-prone medications, such as anticoagulants.



The committee can use the surveyor probes as part of proactive investigations of key systems related to high risk medications.

The triggers include signs, symptoms, and clinical interventions, which may indicate an ADE has occurred.

The committee would investigate any trigger to determine if an ADE has occurred.

If the committee determines that an ADE occurred, a systematic approach (such as root cause analysis) should be used to determine the underlying causes of



problems impacting larger systems. The surveyor probes are questions that may guide the investigation of an ADE.

Following systematic analysis of the ADE, the committee should develop a corrective action plan to prevent recurrence. To ensure sustained improvements result from the corrective action plan, the committee determines how to measure the effectiveness of those changes. If ongoing monitoring reveals that improvements have not been achieved, the committee would use the results of monitoring to identify new approaches and continue to monitor and revise as needed.

Nursing home staff and leadership, including those who serve on the QAA committee, may wish to consider how they can use the Trigger Tool in their efforts to improve quality of care and quality of life, making nursing homes safer places to live or rehabilitate.

# Data to Be Reviewed by the Quality Assessment and Assurance (QAA) Committee



## QAA/QAPI Meeting Agenda

<Name of Nursing Home>

<Date of Meeting>

Participants	
Name	Title

Updates or Outstanding	
Item	

5 Star Rating	
Overall	

Discussion:

Actions:

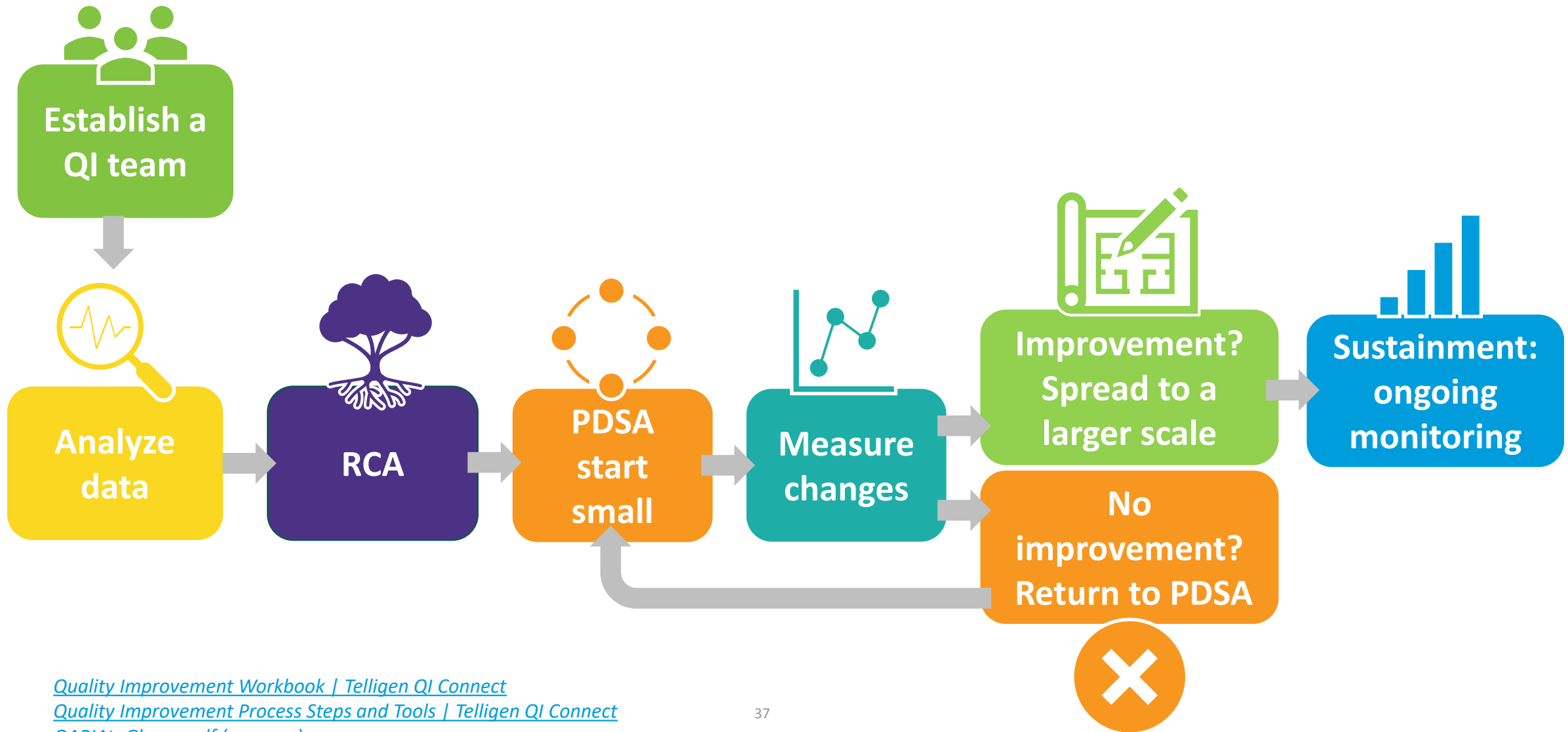
Current Quality Asses

### QAA Committee actions:

- ✓ Reviews data
- ✓ Identifies concerns
- ✓ Prioritizes QI activity
- ✓ Refers issues to the QAPI steering committee
- ✓ Monitors progress and outcomes

- Adverse events (e.g.; drug related)
- High-risk medication management
  - Anticoagulant use
  - Opioid management
  - Diabetic medication
  - Antipsychotic Stewardship
- Antibiotic Stewardship
- Unplanned hospitalization/ED rates
- QMs/Five-Star Ratings
- Widespread Quality of Care
- And so much more...

# Adverse Drug Event Process Improvement Project



# Next Steps – Lead into Action

- Bring your high-risk medication management program to Quality Assessment and Assurance (QAA) meetings
- Incorporate quality improvement activities



# Resources

- Pathway INTERACT® 4.5 Tools for Nursing Homes (sign up for free) <https://pathway-interact.com/>
- Stop the Clot®: What Every Healthcare Professional Should Know training <https://www.cdc.gov/ncbddd/dvt/training.html>
- Adverse Events in Nursing Homes <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/Adverse-Events-NHs>
- Drug-related falls in older patients: implicated drugs, consequences, and possible prevention strategies <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4125318/>
- Quality Prescribing: Adverse drug events (ADEs) remain an important, but largely preventable, source of harm to patients <https://paltc.org/quality-prescribing>
- A Call to Action: Raising Awareness for Reducing Adverse Events in Nursing Homes Campaign <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/Downloads/QAPI-Call-To-Action-Summary.pdf>

# High-Risk Medication ECHO Series Resources

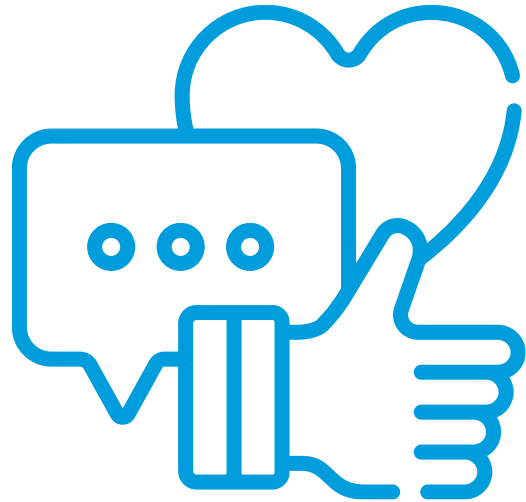
Seven sessions sharing key information and strategies focusing on medication management, resident safety and quality of care

- Review session summaries on the website and prioritize improvement needs
- Watch session recordings
- Use tools and resources
- Implement the call-to-action under each session title





## How Did We Do? Let Us Know:



Please fill out the poll before logging off

# Upcoming ECHO® **LTC Series** for Medication Management of Blood Thinners

Lunch with us for 30 minutes on the following Wednesdays at 11:30 a.m. MST/ 12:30 p.m. CST

ECHO® Session Dates and Topics:

- Session 2: August 9, 2023 – Anticoagulant adverse drug event recognition and Safety Review Tool
- Session 3: August 16, 2023 – Communication with residents and representatives
- Session 4: August 23, 2023 – Communication with prescribers, pharmacists and others outside the facility



**Learn more and register here:**

<https://telligen.zoom.us/meeting/register/tZ0ufu-orTwoGN0sUjZgaMnbutLkmqL4kn-N#/registration>

After each session, presentations and recordings can be found [here!](#)

# Project ECHO® Series on Anticoagulant Best Practices for Prescribers and Pharmacists

Lunch with us for 30 minutes on the following Thursdays at 11:30 a.m. MST/12:30 p.m. CST

ECHO® Session Dates and Topics:

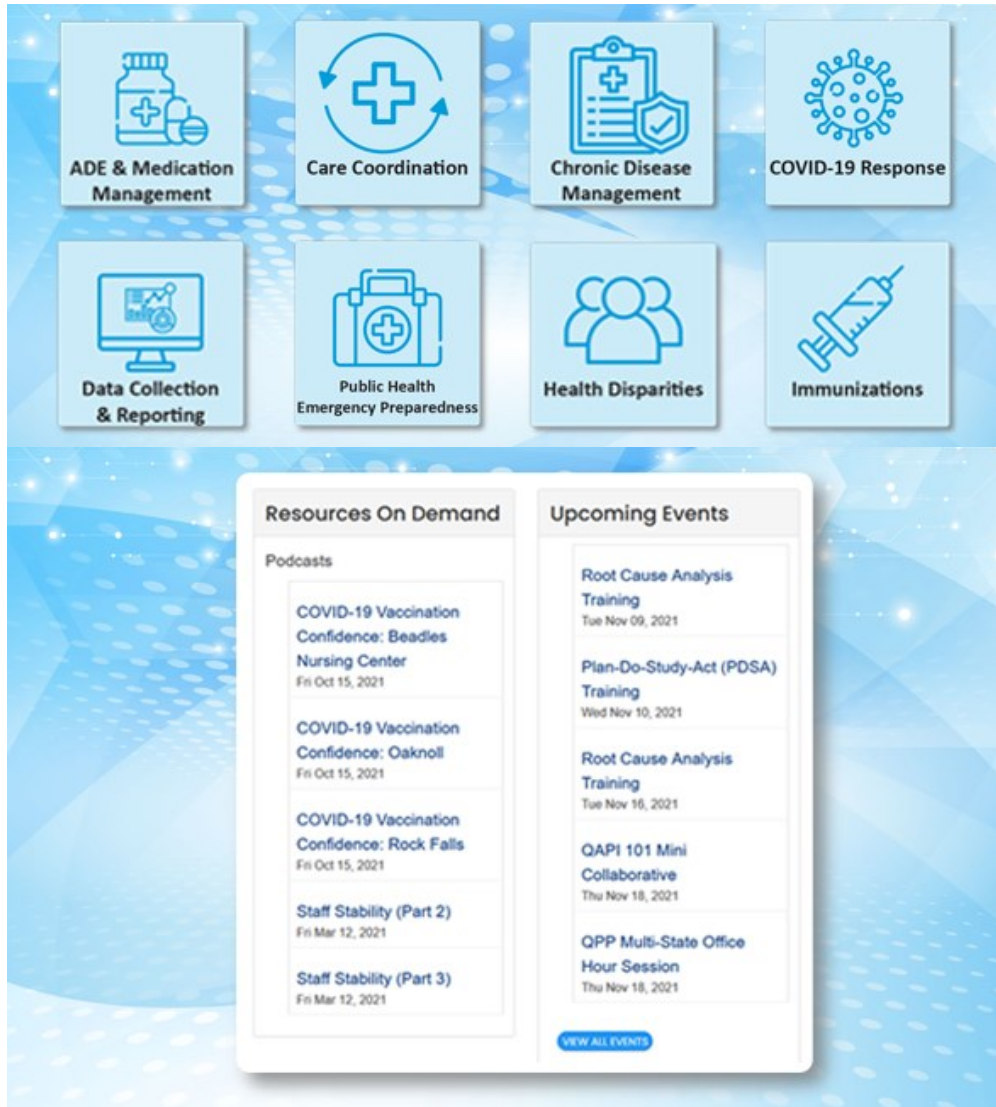
- Session 1: August 3, 2023 - Introduction to anticoagulant adverse drug events and the impact on long-term care
- Session 2: August 10, 2023 – Warfarin prescribing practices
- Session 3: August 17, 2023 – Uses for Direct Oral Anticoagulants (DOACs)



**Learn more and register here:**

[https://telligen.zoom.us/meeting/register/tZ0odu2hpjMoGtchn8\\_rv\\_O3olhyUt6UhRx#/registration](https://telligen.zoom.us/meeting/register/tZ0odu2hpjMoGtchn8_rv_O3olhyUt6UhRx#/registration)

After each session, presentations and recordings can be found [here!](#)



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