2024

Preventing Adverse Drug Events

Telligen QI Connect™
Partnering to improve health outcomes through relationships and data

HQIC
Hospital Quality Improvement Contractors
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

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WHY IS THIS IMPORTANT?

An adverse drug event (ADE) occurs when a patient experiences harm as a result of taking a medication. Certain types of adverse drug events are more common for specific medication classes, such as low blood sugar (hypoglycemia) related to insulin use, bleeding disorders related to anticoagulant therapy, and effects related to opioid use.[1]

BACKGROUND[1]

Older adults (65 years or older) visit emergency departments for adverse drug events almost 450,000 times each year, more than twice as often as younger persons, and are nearly seven times more likely than younger persons to be hospitalized after an emergency visit. However, most of these hospitalizations are due to just a few drugs that should be monitored carefully to prevent problems (blood thinners such as warfarin, diabetes medications such as insulin, seizure medications such as phenytoin, and prescription opioids are some examples of these medications). About 350,000 patients each year need to be hospitalized for further treatment after emergency visits for adverse drug events. Older adults also typically take more medicines, increasing the risk of adverse events. According to Centers for Medicare & Medicaid Services (CMS), nearly one in three Medicare beneficiaries experienced an adverse event within their first 35 days in a skilled nursing facility; nearly 60% of those events were preventable. ADEs have been estimated to cost the U.S. health system between $1.1 billion – $2.3 billion, with an additional $22 million in operational costs due to clinician/pharmacist hours.

Indian Health Service (IHS) data reveals that American Indians and Alaska Natives (AI/AN) are at least 50% more likely to die of a drug-induced error than all other races in the U.S. (2010 data). Additionally, metanalyses conducted in 2018 showed that Asians were most frequently determined to be at higher risk of anticoagulant-related ADEs, and black patients were most frequently determined to be at higher risk for diabetes agents-related ADEs. Whites were most frequently identified as at increased risk for opioid-related ADEs.

The prevalence of ADEs highlights the critical need for quality improvement in healthcare. By addressing root causes, providers can develop targeted strategies to mitigate risks. Implementing evidence-based guidelines, enhancing patient monitoring and ensuring continuous education for healthcare professionals are essential steps to reduce these events and promote safer, more effective care.

PREPARING FOR CHANGE

The Plan-Do-Study-Act (PDSA) cycle provides a sound framework for quality improvement. Plan by mapping the current process to identify gaps, identifying who will be involved, and confirming what resources may be needed. Do the work by implementing a change or intervention and collecting data on the results as you go. Study the data – were the desired results achieved? Act on the results – accept or adjust the implemented change. Alongside this framework, Telligen recommends utilizing its comprehensive Quality Improvement Workbook which provides valuable resources to support your team's quality improvement efforts. Additionally, Telligen quality improvement facilitators developed the change pathway tool – a topic-specific, step-by-step guide to quality improvement, created using evidence-based practice resources and guidelines.

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[1] *https://sam.gov/api/prod/opps/v3/opportunities/resources/files/1c1717ffa2aa41b3b82c60c03f4c6ae5/download?&status=archived&token=*

ANTICOAGULANTS

PREVENTING ADVERSE DRUG EVENTS

CHANGE PATHWAY

The change pathway tool is a topic-specific, step-by-step guide to quality improvement. The change pathway is created using evidence-based practice resources and guidelines. Key quality improvement activities such as formulating an aim statement, conducting a root cause analysis and identifying interventions are included in each guide. Interventions are outlined as beginner, intermediate and expert so that you may explore opportunities for improvement that meet your needs.

- Change Pathway: Thromboprophylaxis of Hospitalized Patients

The use of "triggers," or clues, to identify adverse drug events (ADEs) is an effective method for measuring the overall level of harm from medications in a healthcare organization. The Trigger Tool for Measuring Adverse Drug Events and the Adapted Trigger Tools provide instructions for conducting a retrospective review of patient records using a known list of ADE triggers and instructions for measuring the degree of harmful medication events to guide quality improvement efforts.

- Adapted IHI Trigger Tool for Measuring Anticoagulant Related Adverse Drug Events

RESOURCES

AHRQ – CANDOR	National Action Plan for Adverse Drug Event Prevention
AHRQ – TeamSTEPPS 2.0	Society of Hospital Medicine – A Guide for Medication Reconciliation Quality Improvement
IHI – Trigger Tool for Measuring Adverse Drug Events	

RECORDINGS AND SLIDE DECKS

HQIC Patient Safety ADEs: Slides from Alliant Health

The Impact of Meaningful Medication Reconciliation on Adverse Drug Events: Slides

EFFECTIVENESS CHECKS

1. Audit for the specific change you were aiming for.
2. Collect and analyze the data.
3. Share findings, opportunities and successes with staff, leadership and if possible, with patients.

Based on your data findings, if the change seen did not lead to the desired improvement, re-evaluate the root cause and consider launching another PDSA cycle.

For additional information and resources, visit Telligen's hospital resources page.

HYPOGLYCEMIA

PREVENTING ADVERSE DRUG EVENTS

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- Change Pathway: Exploring Strategies to Prevent Hypoglycemic Events in Hospitalized Patients

The use of "triggers," or clues, to identify adverse drug events (ADEs) is an effective method for measuring the overall level of harm from medications in a healthcare organization. The Trigger Tool for Measuring Adverse Drug Events and the Adapted Trigger Tools provide instructions for conducting a retrospective review of patient records using a known list of ADE triggers and instructions for measuring the degree of harmful medication events to guide quality improvement efforts.

- Adapted IHI Trigger Tool for Measuring Antidiabetic Related Adverse Drug Events

RESOURCES

AHRQ - CANDOR	Rural Health Information Hub – Rural Diabetes Prevention and Management Toolkit
AHRQ – TeamSTEPPS 2.0	Rural Health Information Hub – Approaches to Increase Access to Foods that Support Health Eating Patterns
IHI – Trigger Tool for Measuring Adverse Drug Events	Telligen – Change Pathway: Meaningful Medication Reconciliation to Prevent Adverse Drug Events
National Action Plan for Adverse Drug Events – Diabetes Agents	

RECORDINGS AND SLIDE DECKS

Exploring Strategies to Prevent Hypoglycemia in Hospitalized Patients: Slides, Recording and Hypoglycemia Process Improvement Discovery Tool

HQIC Patient Safety ADEs: Slides from Alliant Health

The Impact of Meaningful Medication Reconciliation on ADEs: Slides

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OPIOIDS

PREVENTING ADVERSE DRUG EVENTS

CHANGE PATHWAY

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- Change Pathway: Exploring Strategies to Prevent Opioid Morbidity and Mortality

The use of "triggers," or clues, to identify adverse drug events (ADEs) is an effective method for measuring the overall level of harm from medications in a healthcare organization. The Trigger Tool for Measuring Adverse Drug Events and the Adapted Trigger Tools provide instructions for conducting a retrospective review of patient records using a known list of ADE triggers and instructions for measuring the degree of harmful medication events to guide quality improvement efforts

- Adapted IHI Trigger Tool for Measuring Opioid Related Adverse Drug Events

RESOURCES

AHRQ – CANDOR	IHI – Trigger Tool for Measuring Adverse Drug Events
AHRQ – TeamSTEPPS 2.0	National Quality Forum – Opioid Stewardship Playbook
AHA – Stem the Tide: Addressing the Opioid Epidemic	Society of Hospital Medicine – A Guide for Medication Reconciliation Quality Improvement
Cal Hospital Compare – Opioid Management Hospital Self-Assessment	Society of Hospital Medicine – Opioid Safety
CDC – Clinical Practice Guideline for Prescribing Opioids for Pain (2022)	Telligen – Change Pathway: Meaningful Medication Reconciliation to Prevent Adverse Drug Events
CDC – Healthcare Administrators: Applying the Guideline	

RECORDINGS AND SLIDE DECKS

Opioid Sprint –

- Session 1 – Establish the What and Why for Change: Recording and Slides
- Session 2 – Plan for Change and identify Solutions: Recording and Slides
- Session 3 – Identify How to Measure Change: Recording and Slides
- Session 4 – Implement and Sustain Change: Recording and Slides
- Sprint Wrap-up: Recording and Slides

Impact of Meaningful Medication Reconciliation on ADEs: Slides

EFFECTIVENESS CHECKS

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