



QAPI news brief



Transforming the lives of nursing home residents through continuous attention to quality of care and quality of life

EFFECTIVE QUALITY ASSURANCE AND PERFORMANCE IMPROVEMENT (QAPI) PROGRAMS are built upon written and implemented policies and procedures that include systems for data collection, and monitoring for high risk, high volume, and problem-prone issues, which include adverse events. It is essential that facilities systematically identify, report as appropriate, track, and investigate data and information relating to adverse events with the aim of developing and implementing plans to prevent adverse events and ensure resident safety. In this QAPI news brief, we focus on medication related adverse events in nursing home providers to enhance resident safety through effective QAPI.

2014 OIG Report on Adverse Events

The Department of Health and Human Services (DHHS) Office of Inspector General (OIG) issued a report entitled [*Adverse Events in Skilled Nursing Facilities: National Incidence among Medicare Beneficiaries*](#).

The report was focused on estimating the national incidence rate, preventability, and cost of adverse events in skilled nursing facilities (SNFs) among Medicare beneficiaries. In addition to finding that nearly one in three Medicare beneficiaries experienced an adverse event or temporary harm event within their first 35 days in the SNFs, they found that nearly 60% of those adverse events were preventable. The study determined that \$2.8 billion was spent on hospital treatment for harm caused in SNFs in fiscal year 2011.

Potentially Preventable Adverse Events

The Centers for Medicare & Medicaid Services (CMS), in conjunction with the Agency for Healthcare Research & Quality (AHRQ), and with input from the OIG, developed a list of potentially preventable nursing home adverse events (see table on the right) using events cited in the OIG report. Emphasis was placed on those events which the OIG determined were preventable, high risk, and occur with frequency in nursing homes. CMS stresses that this list is subject to change as technology and research redefine what is preventable.

Potentially Preventable Adverse Events Related to Medication

- Change in mental status/delirium related to use of opiates and psychotropic medication
- Hypoglycemia related to use of antidiabetic medication
- Ketoacidosis related to use of antidiabetic medication
- Bleeding related to use of antithrombotic medication
- Thromboembolism related to use of antithrombotic medication
- Prolonged constipation/ileus/impaction related to use of opiates
- Electrolyte imbalance (including dehydration and acute kidney injury) related to use of diuretic medication
- Drug toxicities including: acetaminophen; digoxin; levothyroxine; ACE inhibitors; phenytoin; lithium; valproic acid; antibiotics
- Altered cardiac output related to use of cardiac/blood pressure medication

Potentially Preventable Adverse Events Related to Resident Care

- Falls, abrasions/skin tears, or other trauma related to care
- Electrolyte imbalance (including dehydration and acute kidney injury/insufficiency) associated with inadequate fluid maintenance
- Thromboembolic events related to inadequate resident monitoring and provision of care
- Respiratory distress related to inadequate monitoring and provision of tracheostomy/ventilator care
- Exacerbations of preexisting conditions related to inadequate or omitted care
- Feeding tube complications (aspiration, leakage, displacement) related to inadequate monitoring and provision of care
- In-house acquired/worsened stage pressure ulcers, and unstageable/suspected deep tissue injuries
- Elopement

Potentially Preventable Adverse Events Related to Infections

- Respiratory infections such as Pneumonia or Influenza
- Skin and wound infections such as Surgical Site Infections (SSIs) or Soft tissue and non-surgical wound infections
- Urinary tract infections (UTIs) such as Catheter associated UTIs or other UTIs
- Infectious diarrhea such as Clostridium difficile or Norovirus

Preventable harm was most often a result of substandard treatment, inadequate resident monitoring, failure or delay in treatment, and inadequate resident assessment and care planning – DHHS OIG, 2014

ADVERSE EVENTS DEFINED

An untoward, undesirable, unanticipated event that causes death or serious injury, or the risk thereof.

(Centers for Medicare & Medicaid Services)

Approximately one in three Medicare beneficiaries experienced at least one adverse event or temporary harm event in their first 35 days of a skilled nursing facility stay – OIG, 2014 (See page 1).

REDUCING MEDICATION RELATED ADVERSE EVENTS: A CASE STUDY



The Tool:

In July 2015, CMS released its **Adverse Drug Event Trigger Tool** developed in collaboration with AHRQ. This tool lists potentially preventable adverse drug events (ADEs), risk factors, triggers, and probes to assist in investigating actual and potential ADEs, also known as near misses, and help determine if systems are in place and functioning to prevent ADEs.

In this section, you'll read one resident's story and see how the surveyor probes included in the **Adverse Drug Event Trigger Tool** could assist nursing home staff to detect opportunities for improvement related to high risk, high frequency, and problem-prone medications, including anticoagulants, and perhaps have prevented the ADE that the resident experienced.

The Story:

Mr. E. is a resident that Ann, a surveyor, met during a recent annual survey at a nursing home. On the first day of the survey, while chatting with Mr. E., Ann noticed that he had several bruises on his hands and forearms. Mr. E. was alert and oriented and explained to Ann that he couldn't remember what caused the bruising but that he had been bruising more easily lately. He asked Ann if they could talk the next day because he wasn't feeling very well and wanted to rest.

The following day, the charge nurse told Ann that Mr. E. had been transferred to the hospital. Upon review of his medical record, Ann found that Mr. E. experienced profuse rectal bleeding in the middle of the night. The nursing notes describe Mr. E. as being fearful

that he was not going to recover and that he experienced a panic attack. He was admitted to the hospital due to gastrointestinal bleeding secondary to warfarin use.

With further review of his medical record, Ann found that warfarin was prescribed for Mr. E. approximately eight months prior to the survey for newly-diagnosed atrial fibrillation. At that time, the physician noted the target international normalized ratio (INR) for Mr. E. should be 2.0 - 3.0. Initially, frequent blood tests to monitor the INR were conducted. Warfarin doses were consistently reviewed in response to his INR results and changes often resulted, particularly early in the warfarin therapy. Upon notification of the INR results, the physician routinely ordered the next lab test.

Ann identified issues related to warfarin management around the time Mr. E. had a dental procedure which occurred approximately six weeks prior to the survey. The physician stopped Mr. E.'s warfarin for five days before surgery and also discontinued the INR monitoring during that time.

Following the dental procedure, the physician resumed Mr. E.'s warfarin for five days before surgery and also ordered a course of erythromycin, a drug known to increase the effect of warfarin. However, the physician did not reorder the INR monitoring. Since the restart of his warfarin (approximately five and a half weeks before survey), Mr. E. did not have his INR monitored. It was 9.2 at the time of his admission to the hospital.

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The Process:

Several probes on the **Adverse Drug Event Trigger Tool** could have helped the nursing home staff to ensure that there were intact, well-functioning systems to prevent ADEs related to anticoagulants.



While Mr. E.'s INR was appropriately monitored initially, monitoring was not resumed when the warfarin was restarted after his procedure.



Lab Monitoring: A system for routine lab monitoring of all residents on anticoagulant therapy would include ensuring orders to resume on-hold medications are accompanied by appropriate lab monitoring so that Mr. E.'s INR monitoring would have been resumed.



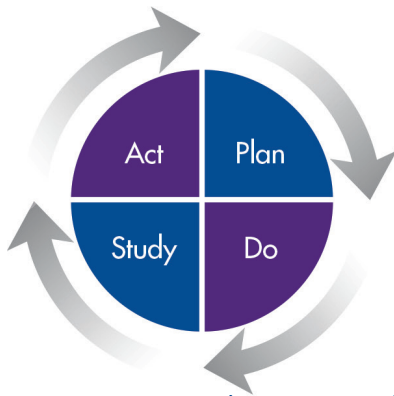
Education: A system ensuring caregivers, and the resident and their family are educated on signs and symptoms of excessive bleeding as a result of anticoagulant therapy may have led to early detection of Mr. E.'s elevated INR, preventing the GI bleed.



Alerts: A system ensuring prescribers and nursing staff are alerted when anticoagulants are combined with drugs that increase the risk of bleeding would have resulted in a pharmacy notification regarding the concurrent use of warfarin and erythromycin, prompting increased monitoring of Mr. E.

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.

Have a Question About QAPI?

- Please send your inquiries to our QAPI mail box: Nhqapi@cms.hhs.gov
- CMS QAPI webpage: <http://go.cms.gov/Nhqapi>

Useful Resources and Tools

- [Nursing Home Adverse Drug Event Trigger Tool.](#)
- [Office of Inspector General \(OIG\) Report.](#)
- [Institute for Healthcare Improvement SNF Trigger Tool for Measuring Adverse Events.](#)

Coming Soon: Look for our next news brief on care and infection related adverse events.