



Reducing Adverse Drug Events

Overview

Health Services Advisory Group (HSAG) is contracted by the Centers for Medicare & Medicaid Services (CMS) to work with healthcare providers to improve coordination of care, reduce hospital readmissions, and improve medication safety by reducing adverse drug events (ADEs) for patients in the community. HSAG works with many healthcare providers in California on reducing ADEs, which contribute to readmissions as well as hospital utilization (emergency department visits, observations, admissions [ED+OBS+ADM]) and are the leading cause of preventable patient harm.¹ The top three implicated medication classes include anticoagulants, diabetic agents, and opioids. The Department of Health and Human Services (HHS) identified these medication classes as common, preventable, and measurable ADEs and selected them as high-priority targets in the National Action Plan for Adverse Drug Event Prevention.² Furthermore, ADEs contribute to an additional \$3.5 billion in healthcare costs and negatively impact patient care.³

ADEs in California

Medicare claims data reveal consistently high utilization rates for beneficiaries on one or more of the three high-risk medication (HRM) classes: anticoagulants, diabetic agents, and opioids. ADE rate is measured by counting the number of hospital admissions and ED visits related to an ADE from one of the three HRMs.

Figure 1 Medicare Fee-For-Service (FFS) Beneficiaries on HRMs in California—2015⁴



Represents beneficiaries with at least 30-days supply of drug type. Patients may be included in more than one drug type category.

Figure 2 ADE Rates Among Medicare FFS Beneficiaries Discharged on HRMs in California—2015 (ADEs per 1,000 Discharges)⁴



Despite lower frequency of use, patients taking anticoagulants have the highest rate of ADEs per 1,000 discharges among Medicare beneficiaries on HRMs, followed by diabetic agents. Opioids have much lower ADE rates based on claims data.

Figure 3 Percent of Utilization (ED+OBS+ADM) Attributable to Beneficiaries on HRM Drug Class in California—2015⁴



In California, utilization among patients taking opioids and diabetic agents is more frequent than anticoagulants, suggesting ample opportunity for improvement. Utilization for the top 10 principal diagnoses attributable to opioids includes constipation and lack of pain relief. For patients taking diabetic agents, the top 10 principal diagnoses include hypoglycemia, syncope, weakness, dizziness, and altered mental status. In patients taking anticoagulants, the top 10 principal diagnoses include epistaxis and pulmonary embolism.



Figure 4 2015 California Medicare Readmissions Within 30 Days⁴



What Providers Can Do to Reduce the Risk of ADEs for Their Patients

1. Ensure medications are reconciled at each visit.
2. Refer high-risk/complex patients to a pharmacist for a medication therapy management (MTM) service. Medicare Part-D patients may be eligible for no cost comprehensive medication review (CMR) from their plan.
3. For patients on high-risk medications:

High-Risk Medication	Description
Warfarin: ⁵	<ul style="list-style-type: none"> • Consider referral to an anticoagulation clinic. • Ensure patients are monitored regularly (stable INR every 4–12 weeks or patient self-testing (PST)/patient self-management (PSM) for patients who are motivated and can demonstrate competency; stable INR with single out of range INR of < 0.5 within 1–2 weeks). • <u>With each visit:</u> assess for significant drug and dietary interactions, evaluate patient's warfarin therapy understanding/incorporate patient education (i.e., regular monitoring of INRs, regular follow-up, drug-food and drug-drug interactions, and signs/symptoms of bleeding), communicate INR results and dosing decisions.
Opioids: ⁶	<ul style="list-style-type: none"> • Advise patients about common effects of opioids such as constipation. Ensure patients on chronic opioid therapy have a bowel regimen. • Review prescription drug monitoring program (PDMP) database for patient's history of controlled substance prescriptions. • Establish treatment goals with all patients. Ensure patient's improvement in pain and function as well as benefits and risks are evaluated regularly (starting of opioid therapy within 1–4 weeks, continued therapy every 3 months or more frequently). • When initiating opioid therapy for chronic pain, immediate-release instead of extended-release/long-acting opioids should be prescribed. • Avoid prescribing opioids and benzodiazepines concurrently. • Calculating total daily dose of opioids helps identify patients who may benefit from closer monitoring. • Consider offering naloxone when prescribing opioids to patients at increased risk of overdose.
Diabetic agents: ^{7,8}	<ul style="list-style-type: none"> • Consider diabetes self-management education (DSME) referral. • Evaluate patient's hypoglycemic risk. • Consider less stringent glycemic goals to patients at increased risk of hypoglycemia (i.e., elderly patients, history of severe hypoglycemia, advanced diabetes complications, life-limiting comorbid illnesses, substantial cognitive or functional impairments). • Inform patients of the signs and symptoms of hypoglycemia and how to treat it.

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