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Resources to Reduce Adverse Drug Events in Rural Hospitals

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Introduction

Adverse drug events (ADEs) are defined as events involving patient injury resulting from medication use; some ADEs are side effects that may occur even when a medication is taken correctly, while others are medication errors that occur when a medication is incorrectly prescribed or administered.[1] ADEs result in significant patient morbidity, increase lengths of stay in the hospital, and are costly.[2-5]

Purpose

This policy brief describes resources that could be used to decrease ADEs in rural hospitals. A previous policy brief, "Identifying Adverse Drug Events in Rural Hospitals," found that ADE rates for the most common categories of medications involved in ADEs that occur during inpatient hospitalizations varied across CAHs, rural PPS, and urban PPS hospitals.

Approach

We reviewed the peer-reviewed literature to identify evidence-based strategies that have been successfully used to decrease ADEs in hospitals and searched the websites of organizations that have been actively involved in hospital quality improvement and medication safety initiatives, including the Institute for Healthcare Improvement, the Joint Commission, the Centers for Disease Control and Prevention, and the National Quality Forum. In selecting resources to feature in this policy brief, we focused on those that would be applicable to rural hospitals, including CAHs, and that are publicly available. The selected resources have already been successfully implemented in rural hospitals and/or were determined to be applicable to rural hospitals based on the clinical judgment of a physician with extensive rural hospital experience who was a member of the research team.

Resources to Decrease ADEs in Rural Hospitals

Training providers (physicians, nurses, and staff) to be aware of the potential risks of using certain medications as well as the signs of an ADE is recommended in all hospital and clinic settings. Various strategies and tools have been developed and implemented to identify and decrease ADEs in hospitals. These include overall resources to identify and prevent ADEs (Table 1) as well as resources to prevent ADEs resulting from use of specific medications, including anticoagulants (Table 2), narcotics and opiates (Table 3), and antibiotics (Table 4).

Table 1. Overall resources for preventing ADEs

Institute for Healthcare Improvement	**IHI Trigger Tool for Measuring Adverse Drug Events[a]** http://www.ihi.org/resources/pages/tools/triggertoolformeasuringadversedrugevents.aspx Triggers can be used to identify adverse drug events. This tool includes: • A list of medications or orders that are triggers, or clues that an adverse drug event occurred. • An overview of the process to create a sampling plan to identify adverse drug events using patient medical records and case studies.
Institute for Healthcare Improvement	**How-to Guide: Prevent Harm from High-Alert Medications[a]** http://www.ihi.org/resources/Pages/Tools/HowtoGuidePreventHarmfromHighAlertMedications.aspx This guide outlines steps in developing a team specific to improvement including a physician, nurse, and pharmacist among other staff. It highlights key principles for prevention of adverse drug events: • Develop pathways or protocols to establish a standardized approach to treating patients with similar needs. • Adopt TALL-man lettering for pharmacy-produced labels to differentiate drug names with potential for mix-up. • Standardize concentrations and dose strengths to the minimum needed for safe care. • Include reminders and information about appropriate monitoring parameters in the order sets, protocols, and flow sheets. • Centralized pharmacist- or nurse-run services for specific groups of medications • Consider protocols for vulnerable populations

[a]IHI Downloads may require login credentials, but it is free of charge to create a username and password to access materials.

Table 2. Resources for preventing ADEs involving anticoagulants

Purdue University PharmaTAP (in collaboration with the Indiana Patient Safety Center, Indiana Hospital Association, and VHA Central)	**Anticoagulant Toolkit: Reducing Adverse Drug Events** http://www.ihi.org/resources/pages/tools/anticoagulanttoolkitreducingades.aspx This toolkit provides a number of strategies to reduce anticoagulant-related ADEs in the inpatient, outpatient, and transitional care setting. Practices include: • Using protocols, checklists, guidelines, and reminders • Create a process that uses redundancy, checklists and double checks throughout the process • Improve access to patient and medication information • Simplify the number of tasks per staff member, reduce the amount of staff involved and manage staff fatigue • Provide staff with accurate training and resources.
Institute for Healthcare Improvement	**Reduce Adverse Drug Events Involving Anticoagulants*** http://www.ihi.org/resources/Pages/Changes/ReduceAdverseDrugEventsInvolvingAnticoagulants.aspx This website includes resources designed to make changes for improvement in how anticoagulants are used including: • Guidelines, flowsheets, and protocols for specific orders and dosing recommendations/regimens • Pharmacist-managed anticoagulation tips
Joint Commission	**Preventing Errors Relating to Commonly-Used Anticoagulants** https://www.jointcommission.org/sentinel_event_alert_issue_41_preventing_errors_relating_to_commonly_used_anticoagulants/ This JC Sentinel Event Alert highlights the importance of: • Use of evidence-based practices or best practices • Conducting an organization-wide risk assessment for possible anticoagulant therapy ADEs, • Setting dose limits • Labeling and differentiating between different types of medications • Evaluating anticoagulant dosing and communicate between providers • Patient education and practice administering medication

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Table 3. Resources for preventing ADEs involving opiates and narcotics

Institute for Healthcare Improvement	**Reduce Adverse Drug Events Involving Narcotics and Sedatives[a]** http://www.ihi.org/resources/Pages/Changes/ReduceAdverseDrugEventsInvolvingNarcoticsandSedatives.aspx Recommendations to reduce narcotic and sedative-related adverse drug events include: • Create a team for pain management • Use protocols and programmable devices when administering
Joint Commission	**Safe Use of Opioids in Hospitals** https://www.jointcommission.org/assets/1/18/SEA_49_opioids_8_2_12_final.pdf This resource emphasizes the following: • Processes should be effective and include policies for administration and monitoring of opioids • Safe technology should include alerts for providers during the prescribing process • Education and training for clinicians, staff, patients, and patient care-givers

[a]IHI Downloads may require login credentials, but it is free of charge to create a username and password to access materials.

Table 4. Resources for preventing ADEs involving antibiotics

Institute for Healthcare Improvement	**Reduce Adverse Drug Events Involving Antibiotics[a]** http://www.ihi.org/resources/Pages/Changes/ReduceAdverseDrugEventsInvolvingAntibiotics.aspx This site suggests tips to reduce antibiotic-related ADEs by: • Using protocols • Designing once daily protocols • Allowing pharmacists to initiate or manage drug protocols and provide automatic pharmacy consults
The Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases	**Core Elements of Hospital Antibiotic Stewardship Programs** http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf The CDC developed seven core elements that are important to improving antibiotic stewardship. They are: • Leadership development, support and commitment in antibiotic stewardship • Accountability of one leader to be responsible for the program • Drug Expertise such as using a pharmacist to lead the program or assist with management • Actions and policy to support optimal antibiotic use and resistance • Tracking and monitoring antibiotic use and resistance • Reporting information on antibiotic use and resistance • Education of clinicians, patients, families This document also includes a checklist for hospitals and clinics to use to assess the core elements of antibiotic stewardship in their facility.
National Quality Forum, National Quality Partners Antibiotic Stewardship Action Team	**National Quality Partners Playbook: Antibiotic Stewardship in Acute Care** http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=82501 This document uses the CDC's core elements of hospital antibiotic stewardship and provides strategies, potential solutions, and suggestions for use for each of the individual core elements.

[a]IHI Downloads may require login credentials, but it is free of charge to create a username and password to access materials.

References

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