National Priorities Partnership
Convened by the National Quality Forum

COMPACT ACTION BRIEF: A Roadmap For Increasing Value In Health Care

Preventing Medication Errors: A $21 Billion Opportunity

Opportunity

Preventable medication errors: $21 billion in wasteful health care spending

Solutions

7 million annual inpatient admissions and outpatient visits involving serious medication errors are potentially avoidable

Drivers for Change

- Incentive Payments
- Care Coordination
- Accreditation/Certification

Nationally, serious preventable medication errors occur in 3.8 million inpatient admissions and 3.3 million outpatient visits each year. [2, 3] In its report *To Err Is Human*, the Institute of Medicine estimated 7,000 deaths in the U.S. each year are due to preventable medication errors.[4]

The High Cost of Preventable Medication Errors

Cost Data for Medication Errors

- Inpatient preventable medication errors cost approximately $16.4 billion annually.[5]
- Outpatient preventable medication errors cost approximately $4.2 billion annually. [6, 7]
- Due to the lack of current and reliable data, the $21 billion opportunity in wasteful healthcare spending represents a conservative estimate of the cost of preventable medication errors.

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Using care coordination strategies, interdisciplinary teamwork, and computer technologies can significantly reduce preventable medication errors. These interventions increase the availability of data, provide clinical decision support, engage the patient, and improve the accuracy of prescriptions.

Patient Care Improvements

Improving Care Coordination

- **Communication:** Improved communication among physicians, pharmacists, and nurses prevented 85 percent of serious medication errors.[15]
- **Care Teams:** Including a pharmacist on routine medical rounds led to a 78 percent reduction in medication errors.[16]
  - Adding a pharmacist to a physician rounds team in an intensive care unit led to annual savings of $270,000.[17]
- **Patient-Informed Decisionmaking:** Active engagement of patients and family caregivers with the care team, use of patient safety checklists, and

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Overall reduction of medication errors requires a multipronged approach, ranging from financial incentives to organizational and care delivery improvements that address the root causes of these errors.

Action Steps

Incentive Payments

- Assist health professionals and hospitals in adopting clinical IT tools (e.g., EHRs, e-prescribing, CPOE, and eMAR), achieving "meaningful use" standards (drawn from HIT Policy Committee recommendations), and earning federal incentive payments.
- Provide private and state payer-based financial incentives to:
  - Providers using evidence-based practices that reduce medication errors.
  - Providers using EHRs that generate key patient medication information (e.g., active medication lists, medication allergy lists).

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Preventing Medication Errors: A $21 Billion Opportunity

Opportunity continued

Why Do Medication Errors Occur?

Prescription Mistakes

- 37 percent of preventable medication errors result from dosing errors.[8]
- 11 percent of preventable medication errors result from drug allergies or harmful drug interactions.[9]
- 22 percent of preventable medication reconciliation errors occur during admissions, 66 percent during transitions in care, and 12 percent during discharge.[10]
- Due to the high volume of medications dispensed, approximately 100 undetected dispensing errors can occur each day.[11]

Fragmentation of Care

- A survey of primary care physicians found that only 13 percent of them communicated with a pharmacist regarding new prescriptions.[12]

Lack of Information Technology (IT) Infrastructure

- Only 4 percent of physicians reported having EMR systems that were described as fully functional and had a prescribing function.[13]
- 32 percent of physicians in ambulatory care settings use electronic prescribing.[14]

Solutions continued

increased awareness of publicly reported hospital safety records can help reduce preventable medication errors.

Reconciling Medications

- **Pharmacist Follow-Up:** Patients who received pharmacist follow-up calls were 88 percent less likely to have a preventable medication error resulting in an ED visit or hospitalization.[18]

Enhancing Technology Interventions

- **Electronic Prescribing:** e-Prescribing systems reduced medication errors by approximately 85 percent.[19]
  - Utilizing e-prescribing systems in ambulatory care settings netted cost savings of $403,000.[20]
- **Bar Code Electronic Medication Administration System (eMAR):** Verifying the correct drug dosage with eMAR technology led to a 51 percent reduction in medication errors.[21]
  - Within a large academic hospital, the use of pharmacy barcodes led to annual savings of $2.2 million.[22]
- **Computerized Physician Order Entry:** CPOE with clinical support reduced serious medication errors by 81 percent.[23]

Drivers for Change continued

- Encourage providers to participate in the CMS Electronic Prescribing (eRx) Incentive Program.

Care Coordination

- Adopt Joint Commission recommendations for medication reconciliation, ensuring that medications are reconfirmed and reviewed with the patient at each transition in care. [24, 25]
- Empower patients and family caregivers to manage their medications by keeping PHRs and personal medication lists and informing them about medications' purpose, effects, and side effects.[26]

Accreditation/Certification

- Have specialty societies encourage providers to participate in the CMS Physician Quality Reporting Initiative (PQRI) for documenting current medications in the medical record.
- Set standards and require public reporting of medication errors as a condition for state licensure.
- Certify providers as trained and proficient in teamwork.

This series was produced in collaboration with NEHI (www.nehi.net)

Notes

Opportunity

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Drivers for Change

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