Medication Safety Quality Improvement: Collaboration to Reduce Adverse Drug Events

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Disclosure

“I have had no financial relationship over the past 12 months with any commercial sponsor with a vested interest in this presentation.”

Read the fine print
Objectives

- Review the National Action Plan (NAP) for Adverse Drug Event (ADE) Prevention
- Name the three drug classes targeted in NAP and explain the reasons for their inclusion
- Compare ADE data at national, state and community level and identify strengths and areas for improvement in North Dakota
- Review and discuss current collaborative approaches to prevent ADEs
- Formulate opportunities to improve medication safety in your practice
Expectations

- All teach, all learn
- Active participation and discussion
- Leave in action
- Learn approaches to collaborate and improve medication safety in your practice
Background
The National Action Plan for Adverse Drug Event Prevention
Adverse Drug Event (ADE)

- Definition

Source: National Action Plan for Adverse Drug Event Prevention
National Action Plan - The Need

- Nationally

  Annually ADEs account for...
  - 280,000 hospital admissions
  - 3.5 million office visits
  - 1 million emergency dept. visits

  Of adults 65 and older...
  - 59% taking 5-9 medications
  - 19% taking 10+ medications

ADEs account for 1/3 of hospital adverse events

ADEs prolong hospital stays from 1.7 to 4.6 days

Source: National Action Plan for Adverse Drug Event Prevention
National Action Plan for ADE Prevention

- Released in fall 2014 by US Department of Health and Human Services
- Modeled after successful National Action Plan to Prevent Healthcare-Associated Infections
- Federal interagency steering committee and workgroups
- [http://www.health.gov/hcq/ade.asp#overview](http://www.health.gov/hcq/ade.asp#overview)
National Action Plan for ADE Prevention

- Four-Pillared Approach
  - Surveillance
  - Prevention
  - Incentives and Oversight
  - Research
National Action Plan for ADE Prevention

- High Impact Targets and Populations
  - Common
  - Clinically significant
  - Preventable
  - Measurable
National Action Plan for ADE Prevention

- 3 targeted drug classes

Source: National Action Plan for Adverse Drug Event Prevention
National Action Plan for ADE Prevention

- The most vulnerable
  - Elderly
  - Low health literacy
  - Limited access to health care service
  - Low socioeconomic status
  - Certain minority and ethnic groups

Source: National Action Plan for Adverse Drug Event Prevention
National Action Plan for ADE Prevention

Figure 2. Hospital Stays Complicated by Adverse Drug Events, Distribution by Age [11]*

- 0-17 yrs old: 3.0%
- 18-44 yrs old: 13.8%
- 45-64 yrs old: 30.0%
- 65+ yrs old: 53.1%

*2008 data analyzed from the Healthcare Cost and Utilization Project, AHRQ

Source: National Action Plan for Adverse Drug Event Prevention
National Action Plan – the Goal

- Reduce preventable ADEs
- The Triple Aim
Question to Run On

- In what way(s) may the National Action Plan to Prevent ADEs impact your practice?
Medication Safety Data
Hospital Readmissions

Readmissions per 1000 Medicare FFS Beneficiaries

Year Ending


Nation
ND
ADE Surveillance

Types

• Active – Collects data from health records or previously collected information
  ▪ Technology driven

• Passive – Voluntary reporting to surveillance system
  ▪ Manual
  ▪ Example – FDA Adverse Event Reporting System

Source: National Action Plan for Adverse Drug Event Prevention
ADE Surveillance

- Barriers
  - Active
    - Coding not designed for ADE
    - Cause and effect
  - Passive
    - Manual
    - Sampling
    - Voluntary – Underreporting

Source: National Action Plan for Adverse Drug Event Prevention
ADE Surveillance

- Additional considerations
  - Reporting requirements
  - Severity
  - Settings
  - Timeliness

Source: National Action Plan for Adverse Drug Event Prevention
## ADE Data

### National, Regional, State

<table>
<thead>
<tr>
<th>State</th>
<th>Total Beneficiaries</th>
<th>% at high risk for ADE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Anticoagulants</td>
</tr>
<tr>
<td>Kansas</td>
<td>404,445</td>
<td>6.7%</td>
</tr>
<tr>
<td>Nebraska</td>
<td>260,660</td>
<td>8.1%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>97,604</td>
<td>8.4%</td>
</tr>
<tr>
<td>South Dakota</td>
<td>125,298</td>
<td>7.6%</td>
</tr>
<tr>
<td>United States</td>
<td>37,079,097</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Source: 2013 Medicare Part D claims analysis
North Dakota
ZIP Code Level Percent of FFS Beneficiaries at High Risk for an ADE
(January 1, 2013 - December 31, 2013)

Benefits at High Risk for an ADE
- 7.14% - 16.95%
- 16.96% - 20.22%
- 20.23% - 22.45%
- 22.46% - 24.26%
- 24.27% - 25.53%
- ≥ 25.54%

Zips with ≤ 10 Beneficiaries
No Data Available
Community (2014)

This material was prepared by Telligen, the Quality Innovation Network National Coordinating Center, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. [115OW-QUINCC-00208-05/08/15]
Admissions per 1,000 FFS Beneficiaries by Drug Class (CY 2013)

North Dakota

Nation

FFS Beneficiaries

HRM Benes - Diabetic Agents

HRM Benes - Anticoagulants

HRM Benes - Opioids
Readmissions per 1,000 FFS Beneficiaries by Drug Class (CY 2013)

- **Diabetic Agents**: 80.18 (North Dakota) vs. 106.18 (Nation)
- **Anticoagulants**: 128.83 (North Dakota) vs. 192.39 (Nation)
- **Opioids**: 147.93 (North Dakota) vs. 158.29 (Nation)

[Graph showing readmissions per 1,000 FFS Beneficiaries for different drug classes with specific rates for North Dakota and the Nation.]
Probable Adverse Drug Event (ADE) Rates (CY 2013)
for Drug Classes: Anticoagulants, Diabetic Agents, and Opioids

**North Dakota**

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Probable ADE ICD-9 CM Codes</th>
<th>2013 Rates (per 1,000 HRM bene)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticoagulants</td>
<td>Diagnosis Code in Any Position</td>
<td>30.79</td>
</tr>
<tr>
<td>Diabetic Agents</td>
<td>Diagnosis Code in Any Position</td>
<td>17.75</td>
</tr>
<tr>
<td>Opioids</td>
<td>Principal Diagnosis Code Only</td>
<td>15.39</td>
</tr>
</tbody>
</table>

**National**

<table>
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<th>Drug Class</th>
<th>Probable ADE ICD-9 CM Codes</th>
<th>2013 Rates (per 1,000 HRM bene)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticoagulants</td>
<td>Diagnosis Code in Any Position</td>
<td>40.96</td>
</tr>
<tr>
<td>Diabetic Agents</td>
<td>Diagnosis Code in Any Position</td>
<td>20.30</td>
</tr>
<tr>
<td>Opioids</td>
<td>Principal Diagnosis Code Only</td>
<td>17.17</td>
</tr>
</tbody>
</table>

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The Good News (and the Bad)

Probably Adverse Drug Event Rates (CY 2013)
ND’s National Rank (lower is better)
A Broader Picture

U.S. and State Age-adjusted Death Rates for Drug Poisoning, 2002-2014

Sources:
http://www.cdc.gov/drugoverdose/data/statedeaths.html

Probable ADE Rates

Source: QHA analysis of Medicare Part D and Part A claims 8/1/14 thru 7/31/2015
Questions to Run On

- What are your thoughts after seeing this data?
- Have you noticed similar data/trends in your practice?
- What is your greatest area of concern in relation to the three targeted high-risk drug classes?
ADE Prevention Approaches
ADE Determinants

Source: National Action Plan for Adverse Drug Event Prevention
ADE Determinants

- Underlying drivers
  - Communication failures
  - Suboptimal management systems
  - Inadequate access to medication information
  - Low patient activation

- What are drivers within your community?

Source: IPRO. Parade: Preventing and Reducing Adverse Drug Events in Care Coordination Communities (webinar). January 6, 2015.
Improving Medication Safety

- Establish partnerships to improve communication among hospitals, skilled/LTC nursing facilities, home health agencies, pharmacists, physicians and other community stakeholders
- Develop partnerships with patients and families to improve readiness for transitions of care, chronic disease self-management and to reduce medication harm
Example Interventions: Suboptimal Communication/Management

- Nurse-to-nurse calls
- SBAR
- Follow-up MD appointments made before hospital discharge
- Medication reconciliation by pharmacist
- Readmission risk assessment
- Post discharge telephone follow-up with high-risk patients
Example Interventions: Inadequate Access to Medication Information

- Communication between senders and receivers
- Medication reconciliation
- Patient and family involvement during transitions
Example Interventions: Low Patient Activation

- Teach-back
- Patient and family education
- Chronic disease self-management
- Medication adherence programs
- Personal health record
Example Interventions: Multiple Drivers

- INTERACT Quality Improvement Program
- Cross-setting workgroups
- Project RED (Re-engineered Discharge)
- Advance care planning
- Medication Therapy Management (MTM)
Medication Safety Resources

- http://greatplainsqin.org/initiatives/medication-safety/
- http://greatplainsqin.org/initiatives/coordination-care/
Resources and Assistance

- Great Plains QIN provides
  - Learning and Action Network
  - Facilitation
  - Technical Assistance
  - Tools and best practices
  - Data analysis
  - Promote and share resources
Area Examples

- Medication reconciliation
  - Hospital-SNF: Organizational

Pharmacist Inpatient Med Rec - Orders per SNF readmit requiring clarification
Area Examples

- Medication reconciliation
  - Hospital-SNF: Collaborative

![SNF Cover Sheet - Orders per readmit requiring clarification](image)

- Linear (Orders per readmit requiring clarification - Readmit)
- Orders per readmit requiring clarification - Readmit
Area Examples

- More Hospital-SNF collaboration

![Readmission Trends - Workgroup SNFs vs. Other SNFs](chart.png)
Area Examples

- ADE screening as part of medication adherence program - Pilot
- Improving anticoagulation education
- Increasing awareness of community resources
- HEN – Inpatient and admission ADE tracking
- SD – PMP utilization
Great Plains QIN
ADE Environmental Scan

- **WHAT**: A tool to collect information regarding current status of medication safety efforts to detect and prevent Adverse Drug Events (ADE) within the Great Plains Quality Innovation Network (QIN)
- **HOW**: Link to environmental scan placed on the Great Plains QIN website during July and August 2015 and emails sent to providers and stakeholders
- **WHO**: Distributed to providers and stakeholders within the Great Plains QIN (Kansas, Nebraska, North Dakota and South Dakota)
Overview – Great Plains

115 responses representing 152 practice locations

- Physician Office: 13%
- HHA: 9%
- Pharmacy: 7%
- SNF: 12%
- Other: 13%
- PPS Hospital: 18%
- Critical Access Hospital: 18%
- LTC Facility: 18%

48
Overview – all settings

74% track ADEs

Most track ADEs via electronic records

Varying Use of Standardized Screening Tools

None of the above
ADE specific to Opioids
ADE specific to Diabetic Agents
ADE specific to Anticoagulants
All Adverse Drug Events
ND Responses

- **Use of data**
  - P&T/Medication safety committee review
  - RCA on each event with aggregate reporting for trending

- **Barriers**
  - Time/resources
  - Turnover
  - Pharmacist availability (CAH, SNF)
ND Responses

- Current initiatives
  - Increase med rec reviews
  - Bar coding
  - Anticoagulant (INR w/antibiotic starts)
  - Opioids (staff training, Narcan availability)
Question to Run On

- What are some examples of your involvement in medication safety initiatives?
Reflection & Action
Learning Assessment

- Which three drug classes are targeted in the NAP for ADE preventions?
- Why were these 3 classes chosen?
- Which drug class does ND have higher probable ADE rates than national average?
Questions to Run On

- What action will you take to reduce ADEs in your practice?
- What will you do in the next seven days to start this effort?
- Name one community partner you will contact in the next two weeks regarding collaborative efforts to improve medication safety.
# Action Plan Exercise

## Care Coordination and Medication Safety Action Plan

### Overall Goal:
Organizing Statement:

<table>
<thead>
<tr>
<th>Objectives (use SMART* criteria)</th>
<th>Process Steps</th>
<th>Responsible Individuals</th>
<th>Date/Timeline</th>
<th>Measure (how will we know it worked?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 3</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*SMART: specific, measurable, achievable, relevant and time-bound objectives
## Action Plan Example

**Overall Goal:** Improve medication safety within our community

**Organizing Statement:** We are organizing community health care professionals, service providers, and community members to identify areas for medication safety improvement and develop interventions to address these areas by September 2016.

<table>
<thead>
<tr>
<th>Objectives (use SMART* criteria)</th>
<th>Process Steps</th>
<th>Responsible Individuals</th>
<th>Date/Timeline</th>
<th>Measure (how will we know it worked?)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1</strong></td>
<td>1. Identify EMR capabilities and options to send reports</td>
<td>1. Clinic and hospital IT staff</td>
<td>1. 5/31/16</td>
<td>Process – % of time change summary is sent</td>
</tr>
<tr>
<td></td>
<td>2. Develop process and measures</td>
<td>2. Group leadership</td>
<td>2. 7/31/16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Educate staff on change</td>
<td>3. All community providers</td>
<td>3. 8/31/16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Collect data</td>
<td>4. All participants</td>
<td>4. 8/31/16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Implement change</td>
<td></td>
<td>5. 9/1/16</td>
<td>Process – med rec discrepancy rate</td>
</tr>
<tr>
<td><strong>Objective 2</strong></td>
<td>1. Identify resources available within community (pharmacy programs, public health, NDIPAT, etc)</td>
<td>Workgroup sub-committee</td>
<td>1. 5/31/16</td>
<td>Process – # of guides distributed</td>
</tr>
<tr>
<td></td>
<td>2. Develop resource guide for community members and health care providers</td>
<td></td>
<td>2. 6/30/16</td>
<td>Intermediate Outcome – # utilizing adherence services</td>
</tr>
<tr>
<td></td>
<td>3. Distribute throughout community</td>
<td></td>
<td>3. 7/31/16</td>
<td>Long term outcome – % with PDC &gt;80%</td>
</tr>
<tr>
<td></td>
<td>4. Provide educational sessions</td>
<td></td>
<td>4. 8/31/16</td>
<td></td>
</tr>
</tbody>
</table>
Leave in Action

- Follow through on Action Plan
- Sign up for the Learning and Action Network
  - Medication safety, care coordination, immunization, diabetes, and others
- View website resources
  - Care Coordination
  - Medication Safety
    - [http://greatplainsqin.org/initiatives/medication-safety/](http://greatplainsqin.org/initiatives/medication-safety/)
Contact Information

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Thank You!

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