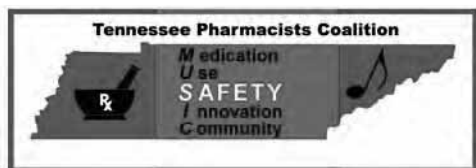


## Preventing ADE's: MUSIC Project Update



Tennessee Pharmacists Association Annual Convention  
 Brian D. Esters, PharmD, CPPS  
 Assistant Professor of Pharmacy Practice/Medication Safety Officer  
 South College School of Pharmacy  
 July 23, 2014

## Financial Disclosures

- The speakers for this presentation have no financial disclosures to make

## Objectives

- Review efforts to improve medication safety nationally
- Discuss the shifting landscape of pharmacist involvement in quality initiatives
- Discuss Tennessee coalition of pharmacists focused on improving medication use
- Review strategies to build a sustainable process for this effort

“Medications are the most common intervention in health care and are also most commonly associated with adverse events in hospitalized patients.”



Leape, et al, The nature of adverse events in hospitalized patients, Results of the Harvard Medical Practice Study II. *New England Journal of Medicine*, 323, 377 – 384.

An Adverse Drug Event, or ADE, is defined by the Institute of Medicine (IOM) as *“an injury resulting from medical intervention related to a drug, which can be attributable to preventable and non-preventable causes.”*

Mark S.M., Little J.D., Geller S., Weber R.J. (2011). Chapter 5. Principles and Practices of Medication Safety. In J.T. DiPiro, R.L. Talbert, G.C. Yee, G.R. Matzke, B.G. Wells, L.M. Posey (Eds), *Pharmacotherapy: A Pathophysiologic Approach*, 8e. Retrieved July 19, 2013 from <http://www.accesspharmacy.com/content.aspx?aid=7966229>.

The IOM defines a medication error, or ME, as *“any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer.”*

Mark S.M., Little J.D., Geller S., Weber R.J. (2011). Chapter 5. Principles and Practices of Medication Safety. In J.T. DiPiro, R.L. Talbert, G.C. Yee, G.R. Matzke, B.G. Wells, L.M. Posey (Eds), *Pharmacotherapy: A Pathophysiologic Approach*, 8e. Retrieved July 19, 2013 from <http://www.accesspharmacy.com/content.aspx?aid=7966229>.

**ADEs – Opportunity for Impact**


Most common causes of inpatient complications → prolong length-of-stay and increase costs

**INSIDE the hospital**

- Affect ~1.9 million hospital stays annually
- Add 1.7 to 4.6 hospital days
- Cost \$4.2 billion USD annually

Classen DC et al. Health Aff (Millwood) 2011;30:581-9.  
Agency for Healthcare Research and Quality, Rockville, MD. 2011 April. HCUP Statistical Brief #109.  
Classen DC et al. JAMA. 1997;277:301-6. Bates DW et al. JAMA 1997;277:307-11.

**Data Draws National Attention**



ADEs responsible for ~100,000 emergent hospitalizations in older Americans, annually

- ~ Two-thirds resulting from just four medication classes (anticoagulants, insulin, oral hypoglycemics, antiplatelets)
- ~ Two-thirds resulting from unintentional overdoses (or supratherapeutic effects)

Budnitz DS et al. N Engl J Med 2011;365:2000-12.

**ADEs Gain Federal Interest**

Data sparked interest of Federal stakeholders:

- Interest from Congress
- Interest from Secretary of HHS



Office of Disease Prevention & Health Promotion (ODPHP) charged with developing National Action Plan for ADE Prevention:

- Modeled after the National Action Plan to Prevent Healthcare-Associated Infections

**PARTNERSHIP FOR PATIENTS:  
TURNING ADE GOALS INTO ACTION**



**Partnership for Patients (PfP)  
A Call to Action**

The Partnership for Patients and its over 3,700 participating hospitals are focused on making hospital care safer, more reliable, and less costly through the achievement of two goals:

- Making Care Safer.** By the end of 2013, preventable hospital-acquired conditions would decrease by 40% compared to 2010.
- Improving Care Transitions.** By the end of 2013, preventable complications during transition from one care setting to another would be decreased so that all hospital readmissions would be reduced by 20% compared to 2010.

<http://partnershipforpatients.cms.gov/>

**Hospital Engagement Networks**

- American Hospital Association (1935)
- Premier Healthcare Alliance (400)
- VHA (400)
- NC Hospital Assoc (227)
- Intermountain HealthCare (195)
- GA Hospital Assoc (144)
- TX Hospital Assoc (150)
- MN Hospital Assoc (145)
- Healthcare Assoc of NY State (135)
- IA Healthcare Collaborative (125)
- PA Hospital Assoc (104)
- WA Hospital Assoc (103)
- DFWHC Foundation (77)
- OH Hospital Assoc (75)
- NJ Hospital Assoc (72)
- Ascension Health (70)
- TN Hospital Association (70)
- MI Health & Hospital Assoc (66)
- National Public Hospital & Health Institute (66)
- LifePoint Hospitals, Inc (53)
- Joint Commission Resources (50)
- OCHSPS National Children's Network (83)
- Dignity Health (Catholic West) (38)
- NV Hospital Assoc (33)
- Carolinas Health Care (32)
- UHC (35)

*\* Approximate numbers*

## Partnership for Patients THA HEN

- THA one of 26 entities selected by CMS
- Focus on
  - reduction of hospital acquired complications
  - minimize readmissions
- Ten priority areas of concentration

Adverse Drug Events	Catheter Assoc. UTI
Central line blood infections	Injury from falls/immobility
Obstetrical adverse events	Pressure Ulcers
Surgical Site infections	Venous Thromboembolism
Ventilator Assoc. Pneumonia	Readmissions



## Partnership for Patients (PfP) A Call to Action



The Partnership for Patients:

- Ten Core Patient Safety Areas of Focus
- Adverse Drug Events area of focus
- ADE also impacts readmissions, other events i.e. falls
- Opportunity for tremendous impact in patient safety
- Opportunity for pharmacists

- 1 in 7 Medicare patients experiences an adverse event while in the hospital
- 1 in 3 Medicare patients are readmitted within 30 days of discharge

## Medication Problems Linked with Readmissions

- Study of 998 patients admitted with HF to an urban academic center
- 72% of patients reporting non-adherence to their medications were readmitted in the year post discharge vs. 29% adherent patients
- Non-adherent patients were 1.7 times more likely to be readmitted  $\geq 3$  times in the year post discharge

Source: Shency et al, JACC, March 2012 (adapted from David G. Schulke presentation ASHP Summer meeting 2014)

## *Dawn of a New Era!*



## The Pharmacist Role

- Traditionally
  - Dispensing medications in accordance with a prescription
  - Final check to ensure accuracy of delivery of medications to patients
  - Review of prescribed drug regimens to prevent inappropriate dosing and minimize drug interactions
  - Expanded roles in primary care and disease management services



## A Prescription for Change

**ASHP Foundation: Pharmacy Forecast 2014-2018**

- 75% of Hospital Pharmacy Departments will be accountable for contributing measurable to improvement of performance
- 59% of Forecast Panelists believe that pharmacist will be involved with ALL committees charged with improving medication-related core-measure performance
- *Shifting landscape requires a clear understanding of how pharmacy can contribute to collective system goals*

Source: Zellmer et al. ASHP Foundation. Pharmacy Forecast 2014-2018, December 2013.

## Potential Contribution of Pharmacist as a Team Member

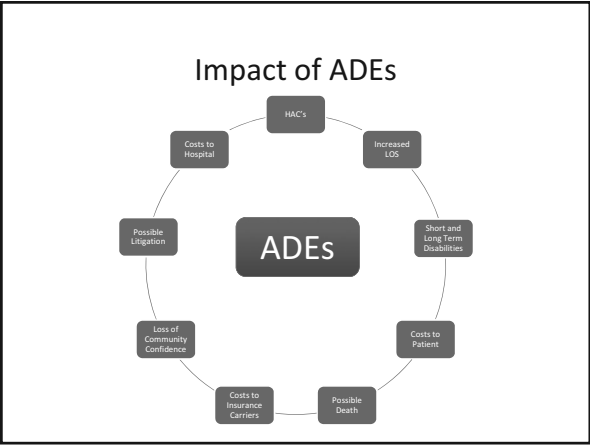
- Pharmacist-Recorded Medication Histories Result in Higher Accuracy and Fewer Medical Errors.
  - Gleason KM, Groszek JM, Sullivan C, et al. Reconciliation of Discrepancies in Medication Histories and Admission Orders of Newly Hospitalized Patients. *Am J Health Syst Pharm.* 2004;61:1689-1695.
  - Bond CA, Raehl CL, Franke T. Clinical Pharmacy Services, Hospital Pharmacy Staffing and Medication Errors in United States Hospitals. *Pharmacotherapy.* 2002; 22:134-147.
  - Nester TM, Hale LS. Effectiveness of a pharmacist-acquired Medication History in Promoting Patient Safety. *Am J Health Syst Pharm.* 2002;59:2221-25.

Adapted from David G. Schulke (ASHP Summer Meeting 2014)

## How Pharmacist can take their hospitals to the Next Level

- Establish pharmacy leadership to ensure organization awareness of medication safety gaps
- Identify and mitigate medication management risks and hazards to reduce preventable patient harm
- Support and drive organizational culture of safety
- Perform medication safety walk-arounds to evaluate medication process
- Engage front line staff
- Establish systems to prevent ADEs
- Support local and national ADE initiatives

Burgess LH, et al. A new leadership role for pharmacist: a prescription for change. *J Patient Saf.* 2010 Mar;6(1): 31-7.



## Leverage Existing Standards

- Examples: Joint Commission National Patient Safety Goal
  - “Reduce the likelihood of patient harm associated with the use of anticoagulant therapy” (NPSG.03.05.01)
  - Sentinel Event Alert: “Safe Use of Opioids in Hospitals” (August 8, 2012)
  - American Society of Health System Pharmacists Best Practices
- Applications to reduce ADE’s and possible readmissions
  - Use protocols for initiation and maintenance
  - Written policy for baseline and ongoing lab tests
  - Provide patient and family education that includes: importance of follow-up, compliance, interactions
  - Evaluate practices and measure effectiveness

## Statewide Collaborative Partners

## Tennessee Safety Center Initiatives

- **Leadership Engagement**
  - THA Board Aim Zero Preventable Harm
  - Trustee Education
  - CMO Society
- **Organizational Culture**
  - AHRQ Culture Survey
  - Comprehensive Unit Based Safety Program
- **Nursing Partners Collaborative**
- **Tennessee NSQIP Surgical Quality Collaborative**
- **Collaborative to Reduce Healthcare -Acquired Infections**
- **PSO Program**
- **Partnership for Patients Hospital Engagement Network Contractor**
  - Reduce Hospital-Acquired Conditions by 40%
  - Reduce Hospital Readmissions by 20%



## Tennessee Pharmacist Coalition Vision

Reduce harm and preventable adverse drug events through directed inquiry into current pharmacy practices, identify medication safety-gaps, and make recommendations for best practice across Tennessee.



## Tennessee Pharmacist Coalition Goals

- Inspire pharmacist's engagement as quality improvement partners
- Align partners and agencies efforts on medication safety
- **Identify performance measures in key topic areas**
- Collaborate to spread innovations and best practice recommendations
- Provide educational opportunities and resources for pharmacists and schools of pharmacy in regards to medication safety initiatives within Tennessee

Measure	Category	Priority	Status
Identify performance measures in key topic areas	Pharmacy	High	Active
Collaborate to spread innovations and best practice recommendations	Pharmacy	Medium	Active
Provide educational opportunities and resources for pharmacists and schools of pharmacy in regards to medication safety initiatives within Tennessee	Pharmacy	Low	Active
Inspire pharmacist's engagement as quality improvement partners	Pharmacy	Low	Active
Align partners and agencies efforts on medication safety	Pharmacy	Low	Active

<http://tnpatientsafety.com/SafetyQualityInitiatives/AdverseDrugEventsADE/Pharmacy/tabid/312/Default.aspx>



## Identified ADE Measures by TPC

Opioids Outcome Measure:

$$\frac{\text{Total \# doses of Narcan dispensed}}{\text{Total \# doses of Opioids dispensed}}$$



## Identified ADE Measures by TPC

Anticoagulants Outcome Measure:

$$\frac{\text{Total \# patients with an INR > or equal to 4.0}}{\text{Total \# doses of Warfarin or Coumadin dispensed}}$$



## Identified ADE Measures by TPC

Hypoglycemic Agents Outcome Measure:

Total # patients with a blood glucose equal to or less than 70

Total # doses of Insulins dispensed

## ADE Measure Reporting

THA Data Reporting System

### Data Collection and Reporting

- The Tennessee Hospital Association (THA) has a secure data reporting system and infrastructure for data management and analysis.
- THA has data use agreements with hospitals already in place for the safety center initiatives that define the confidentiality and protections for data use.
- Data collection is limited to essential numerators and denominators for each measure – no PHI data is collected

### THA's Data Use Agreement

- Executed between THA and each participating facility
- Data use to improve quality of health care and patient safety
- THA provides monthly reports to each hospital to allow monitoring of their overall progress
- Allows each facility to benchmark their aggregate rates against Tennessee statewide aggregate rates

### THA's Data Use Agreement

- THA will NOT release hospital identifiable data to any third party or provider, other than to the Provider or the system owner of that Provider who reported the data to THA, without permission
- THA may use hospital identified data in accordance with the THA Board of Directors approved decisions on the use/release of hospital quality data

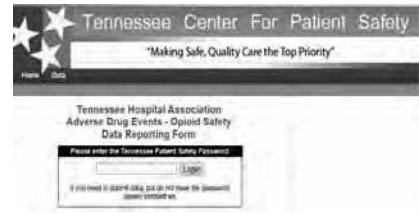
### THA's Data Use Agreement

- Aggregate (Non-hospital identified) data may be used:
  - To demonstrate overall performance of TCPS initiatives
  - To advocate on behalf of THA member hospitals
  - Other purposes approved by the TCPS Advisory Council and THA Board of Directors
  - Progress reports to the THA Board of Directors

## Medication Safety Data for TN Initiatives

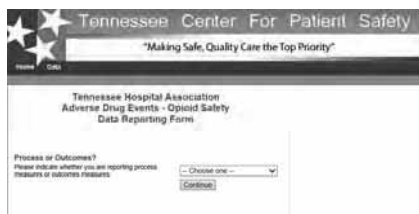
- THA will not release any hospital specific data to the state or any external agency.
- THA provides monthly *aggregate* progress reports to CMS for the THA HEN project. No hospital specific data is shared.

## Opioids



Log-in page. Password is safer4u

## Opioids



Choose to enter process or outcomes data from this page

## ADE Opioid Safety Outcomes Measure Data Collection Tool

## ADE Opioid Safety Process Measure Data Collection Tool

## Anticoagulation Safety



Log in page ...password safer4u

# Anticoagulation Safety

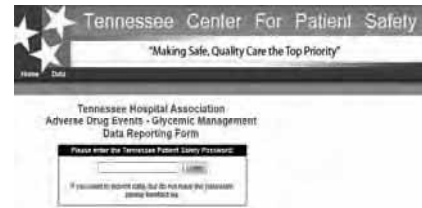


Choose to enter process or outcomes data from this page

# Anticoagulation Safety Outcomes Measure Data Collection Tool

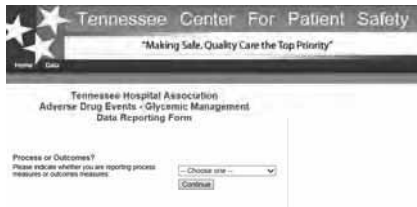
# Anticoagulation Safety Process Measure Data Collection Tool

# GLYCEMIC MANAGEMENT



Log in page...password safer4u

# GLYCEMIC MANAGEMENT



Choose to enter process or outcomes data from this page

# Glycemic Management Outcomes Measure Data Collection Tool



### Glycemic Management Process Measure Data Collection Tool

**Tennessee Hospital Association  
Adverse Drug Events - Glycemic Management  
Data Reporting Form  
Process Measure**

**Facility Information**

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_

**Adverse Drug Events (ADE) - Glycemic Management Process Measure**

1. Please select the timeframe for this reporting period:  
 Month: \_\_\_\_\_ Year: \_\_\_\_\_

2. During the reporting period, how many patients age 18 years or older receiving insulin treatment (insulin treatment includes all oral insulin) were included?  
 \_\_\_\_\_

3. During the reporting period, what is the total number of patients age 18 years or older who received insulin? (NOTE: If the patient is on insulin day one (1) only report 1 dose.)  
 \_\_\_\_\_

Please provide your name and email address so that we can contact you in the event we have questions about the provided data.

Name: \_\_\_\_\_  
 Email: \_\_\_\_\_

[Submit Form]

**ADE - Glycemic Management Process Measure**

1. **Insulin** - should be included in treatment for type 1 and type 2 diabetes. Insulin should include all oral insulin. Do not include insulin administered to patients in the intensive care unit (ICU) or in the operating room.

2. **Oral Insulin** - should be included in treatment for type 1 and type 2 diabetes. Do not include insulin administered to patients in the intensive care unit (ICU) or in the operating room.


3. **Insulin** - should be included in treatment for type 1 and type 2 diabetes. Do not include insulin administered to patients in the intensive care unit (ICU) or in the operating room.

4. **Insulin** - should be included in treatment for type 1 and type 2 diabetes. Do not include insulin administered to patients in the intensive care unit (ICU) or in the operating room.

### Data Entry Questions?


For ADE data entry questions, please contact:

- Jackie Moreland at [jmoreland@tha.com](mailto:jmoreland@tha.com)
- Larissa Lee at [llee@tha.com](mailto:llee@tha.com)



**MUSIC recognized by ASHP**

- “Hospital engagement networks report successes in decreasing adverse drug events”
  - *American Journal of Health System Pharmacy*
  - July 1, 2014
- THA HEN reports aggregate rate reduction of 62% in ADEs
  - Success directly tied back to formation of MUSIC coalition



### Next Steps

- Monitor and update best practices
- Identify new projects for next cycle
  - Decision support?
  - Smart Pumps?
  - Readmissions?
- Adopt ASHP strategy for volunteer groups
  - Spring call for volunteers via TPA/THA
  - Seat membership for next cycle
- Begin next cycle in September

Register / Log In

## Drug Topics

Voice of the Pharmacist

Enter your keywords

---

Home Publications Business Tech CME

TRENDING: Immunization, Friendly Visitation, Nutrition Guidelines, Lipid Lowering Potential in the Intensive Care Unit

Home

Issues & Trends

Continuing Education

Professional

Products Updates / Clinical

Health System

Regulatory

Technology

Commentary & Feedback


PREVIOUS

Employment opportunities for compounding pharmacists for compounding pharmacies access


Statewide initiative creates new standards for compounding kids' liquid medicine

FEB 17, 2014

By Tracey Walker, Contributing Editor



## Tennessee Pharmacists Coalition



Mark Sullivan, Pharm.D., MBA, BCPS, Chairman, Tennessee Pharmacists Taskforce & Director, VUH Pharmacy Operations, Vanderbilt University Hospital

Chris Clarke, RN, BSN, Senior Vice President, Clinical and Professional Practices, Tennessee Hospital Association

Jackie Moreland, RN, BSN, MS, Clinical Quality Improvement Specialist, Tennessee Center for Patient Safety, Tennessee Hospital Association

Todd Bess, Pharm.D., BCPS, Assistant Dean for Middle Tennessee, Director, Nashville Clinical Education Center & Statewide Community Pharmacy Residency Program, University of Tennessee College of Pharmacy

Jeff Binkley, Pharm.D, BCNSP, FASHP, Director of Pharmacy, Maury Regional Medical Center

Baeteena Black, D.Ph., Executive Director, Tennessee Pharmacists Association

Hayley Burgess, Pharm.D., Director of Medication Safety and System Innovations, Clinical Services Group/HCA

Jason Carter, Pharm.D., Chief Pharmacist TN Dept. of Mental Health and Substance Abuse Services, TN State Opioid Treatment Authority, Associate Professor, University of Tennessee College of Pharmacy

Micah Cost, Pharm.D., Director of Professional Affairs, Tennessee Pharmacist Association

9

## Tennessee Pharmacists Coalition



Brian Esters, Pharm.D., CPPS, Assistant Professor of Pharmacy Practice, South College School of Pharmacy

Carly Feldott, Pharm.D., Medication Safety Program Director, LifePoint Healthcare

Brandy Greene, Pharm.D., Clinical Pharmacy Manager, Saint Thomas at Midtown

Leah Ingram, Pharm.D., Director of Pharmacy, Cookeville Regional Medical Center

Keith Kuboske, D.Ph., Pharm.D., Director of Pharmacy, NorthCrest Medical Center

Carmen Leffler, D.Ph., M.S., Director of Pharmacy, Saint Thomas West Hospital

Andrew Martin, Pharm.D., Associate Professor of Pharmacy Practice, Union University School of Pharmacy

Susan Morley, Pharm.D, Assistant Professor, Lipscomb University College of Pharmacy

David Mulherin, Pharm.D., BCPS, Informatics Pharmacist, Vanderbilt

Sherry Osborne, D.Ph., Executive Director of Pharmacy, Jackson-Madison County General Hospital; Faculty Union University School of Pharmacy

Calita Richards, Pharm.D., MPH, Director of Pharmacy, Tennessee Department of Health

Kay Ryan, D.Ph., MS, MBA, Certified L/S Green Belt, Pharmacy Director, Regional Medical Center at Memphis

## Upcoming Events

- **July Medication Safety Webinar**
  - Wednesday July 30<sup>th</sup> at noon CT. "Update on the Chronic Pain Guideline" by Jason Carter, Pharm.D., Chief Pharmacist, State Opioid Treatment Authority, State of Tennessee, Department of Mental Health and Substance Abuse Services
- **TCPS Regional Meetings**
  - Knoxville—Tuesday, August 19<sup>th</sup>
  - Nashville—Thursday, August 21<sup>st</sup>
  - Memphis—Tuesday, August 26<sup>th</sup>

Contact Jackie Moreland @ [jmoreland@tha.com](mailto:jmoreland@tha.com) for more information

**“Do not follow where the path may lead. Go instead where there is no path and leave a trail.”**

**-Emerson**

## Questions

