# Adverse Drug Event Cohort Framework

Jennifer Massey, PharmD
SME – Opioid Stewardship/Adverse Drug Events

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## Hospital Quality Improvement

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# Adverse Drug Event Cohorts

Jennifer Massey, PharmD
Jennifer has 15 years of experience in clinical pharmacy in the acute care hospital setting and in various roles at Alliant Health Solutions working on the CMS contract for the Quality Innovation Network–Quality Improvement Organization (QIN–QIO). She currently serves as SME for Opioids and Adverse Drug Events for HQIC.

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# Learning Objectives

- Learn Today:
  - Introduction to Adverse Drug Event Cohort structure
  - Understanding of expectations
    - From Subject Matter Experts
    - From QI Coach
    - From Hospitals
- Use Tomorrow:
  - Access available tools and resources to implement targeted interventions

# Cohort Structure

- Targeted cohort members have been identified based on data
- Alliant supplies quantitative data
- Hospital supplies qualitative data – make it your program
  - What is happening in your building
  - What are your pain points around these topics
- Use quantitative and qualitative data to identify interventions
- Apply interventions in 1:1 dialogue based on barriers
- 30 day focus plans – small, fast tests of change

# Expectations of QI Coach/Alliant SMEs

- Monthly 1:1 focus call with QI coach for cohort intervention only
  - SME will attend as invited
- Monthly review of data – portal access
- PDSA review and implementation with each coaching call
- Provide timely resources for specified interventions

Drop into chat what you expect or need from QI Coach/SME

# Expectations for Hospitals

- Attend monthly 1:1 coaching calls for specific cohort topics
- Access portal data during coaching calls
- Brainstorm barriers for deficiencies based on available data (fishbone)
- With QI Coach – use barriers to determine a potentially successful intervention
- Implement intervention using rapid cycle (30 day) PDSA
- Continue rapid cycle improvement until change is embedded and implement additional interventions to amplify success

# What's in our toolbox?

- Fishbone Diagram
- PDSA Template/Examples/Recordings
- QI Bootcamp Series
- Coaching Packages
  - TOP 5
- HQIC Website Resources
- Portal Access
- Monthly Newsletter
- 1:1 Coaching
- Access to Subject Matter Experts


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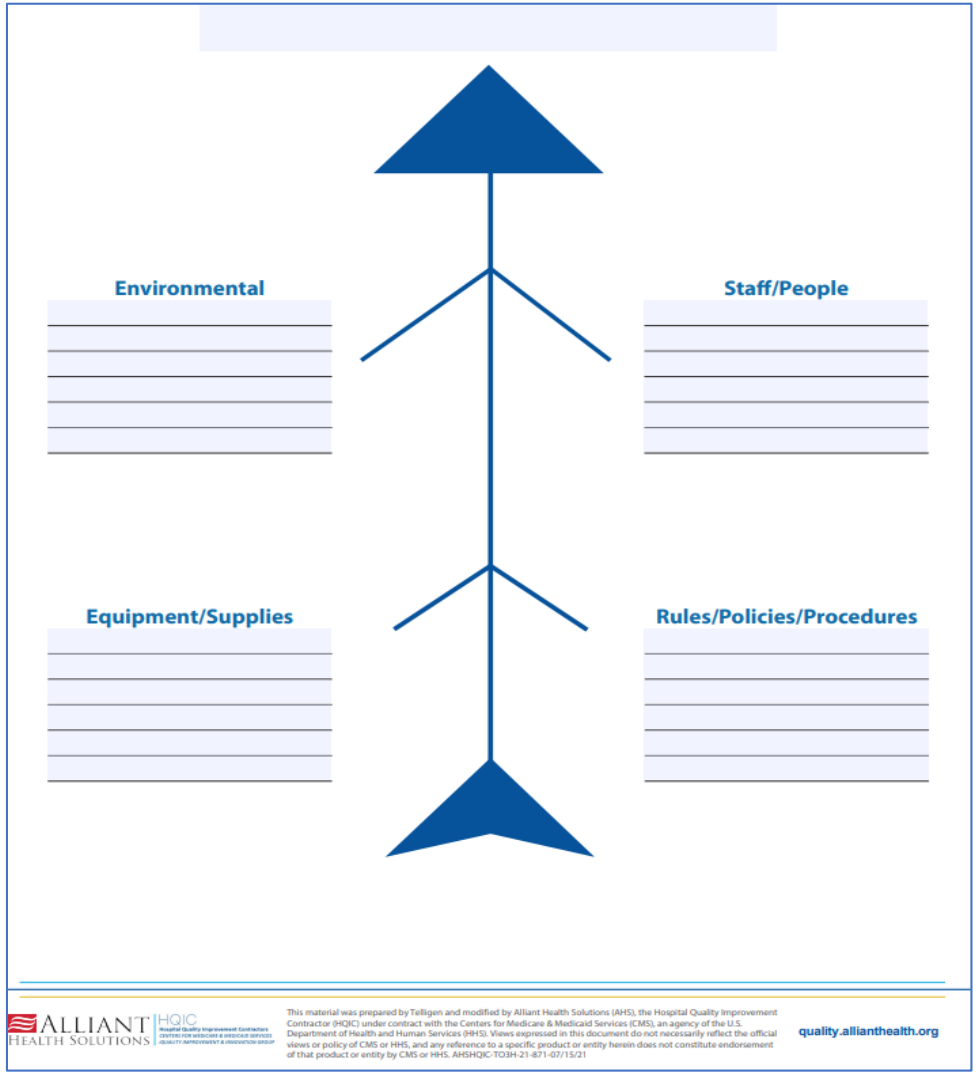
# Fishbone Diagram




- Problem = Head of the Fish
  - Determined based on quantitative data
- Bones = major categories of contributors to the problem
  - Determined based on qualitative data

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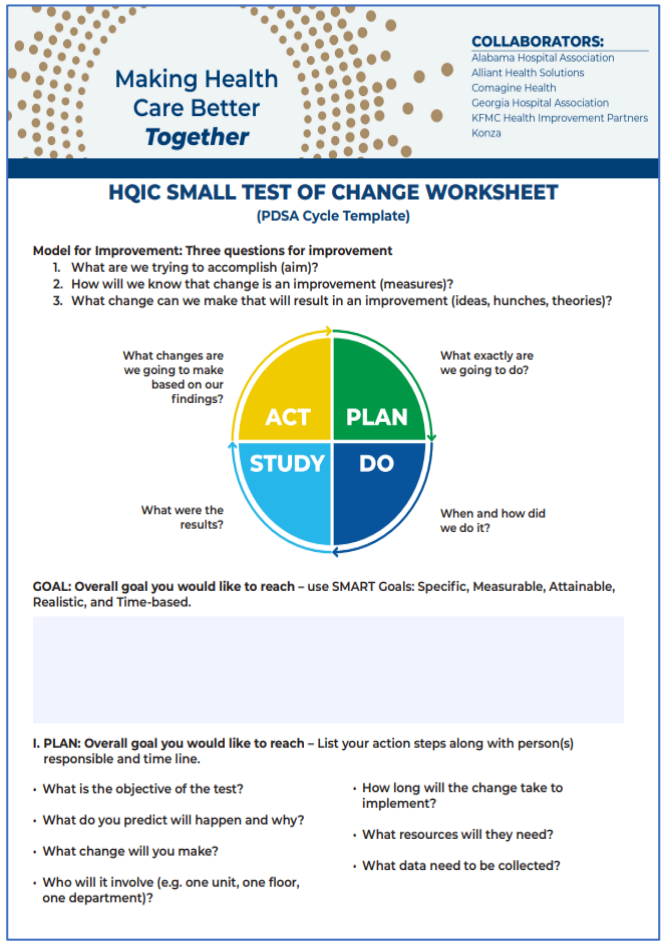
# PDSA Template



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## HQIC SMALL TEST OF CHANGE WORKSHEET

(PDSA Cycle Template)

**Model for Improvement: Three questions for improvement**

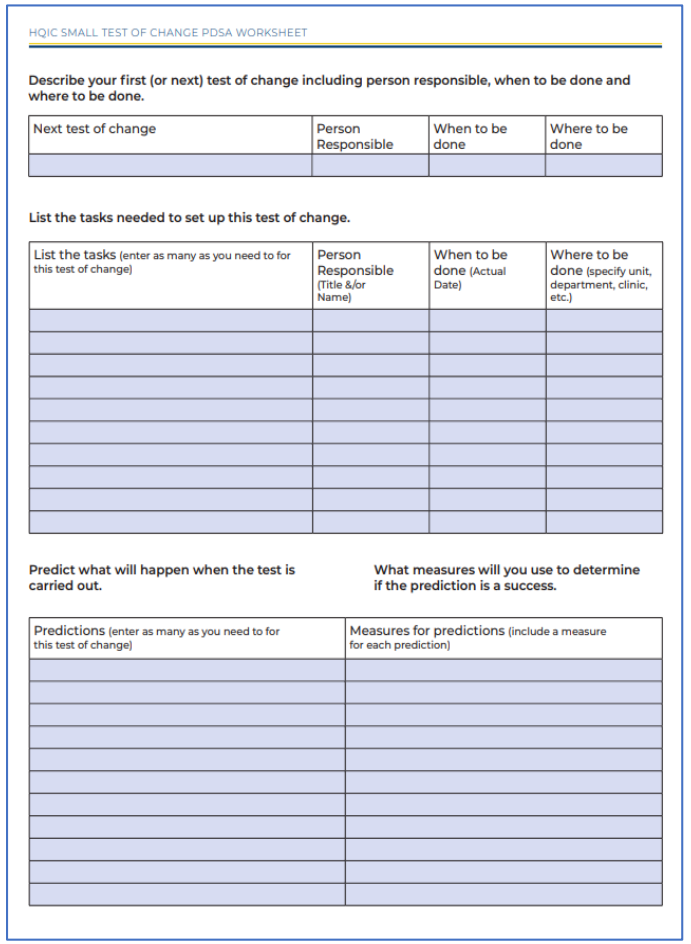
1. What are we trying to accomplish (aim)?
2. How will we know that change is an improvement (measures)?
3. What change can we make that will result in an improvement (ideas, hunches, theories)?



**GOAL: Overall goal you would like to reach** – use SMART Goals: Specific, Measurable, Attainable, Realistic, and Time-based.

**I. PLAN: Overall goal you would like to reach** – List your action steps along with person(s) responsible and time line.

- What is the objective of the test?
- What do you predict will happen and why?
- What change will you make?
- Who will it involve (e.g. one unit, one floor, one department)?
- How long will the change take to implement?
- What resources will they need?
- What data need to be collected?



HQIC SMALL TEST OF CHANGE PDSA WORKSHEET

**Describe your first (or next) test of change including person responsible, when to be done and where to be done.**

| Next test of change | Person Responsible | When to be done | Where to be done |
|---|---|---|---|
| | | | |

**List the tasks needed to set up this test of change.**

| List the tasks (enter as many as you need to for this test of change) | Person Responsible (Title &/or Name) | When to be done (Actual Date) | Where to be done (specify unit, department, clinic, etc.) |
|---|---|---|---|
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**Predict what will happen when the test is carried out.**

**What measures will you use to determine if the prediction is a success.**

| Predictions (enter as many as you need to for this test of change) | Measures for predictions (include a measure for each prediction) |
|---|---|
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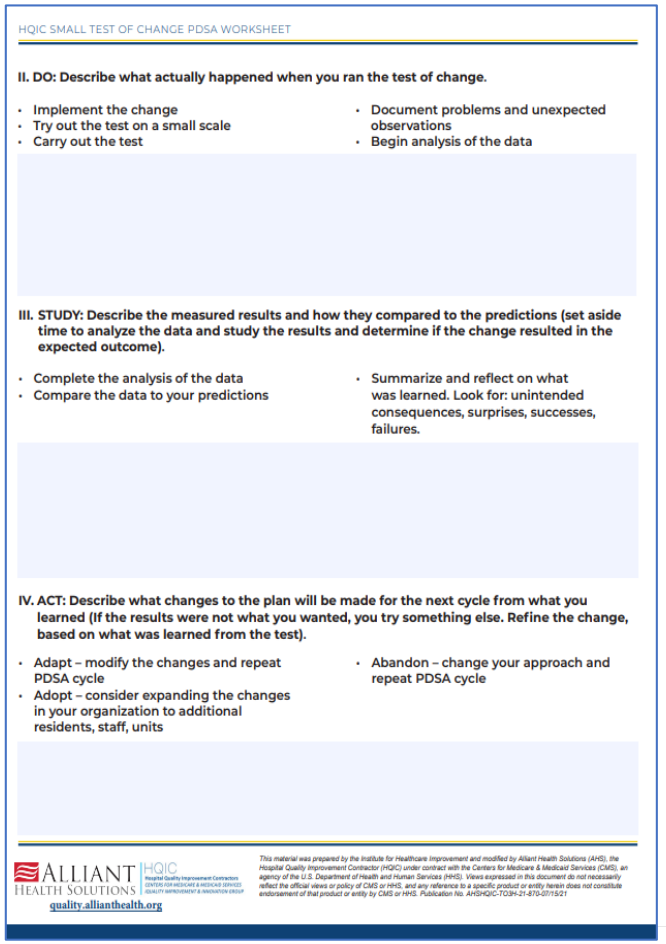

HQIC SMALL TEST OF CHANGE PDSA WORKSHEET

**II. DO: Describe what actually happened when you ran the test of change.**

- Implement the change
- Try out the test on a small scale
- Carry out the test
- Document problems and unexpected observations
- Begin analysis of the data

**III. STUDY: Describe the measured results and how they compared to the predictions (set aside time to analyze the data and study the results and determine if the change resulted in the expected outcome).**

- Complete the analysis of the data
- Compare the data to your predictions
- Summarize and reflect on what was learned. Look for: unintended consequences, surprises, successes, failures.

**IV. ACT: Describe what changes to the plan will be made for the next cycle from what you learned (If the results were not what you wanted, you try something else. Refine the change, based on what was learned from the test).**

- Adapt – modify the changes and repeat PDSA cycle
- Adopt – consider expanding the changes in your organization to additional residents, staff, units
- Abandon – change your approach and repeat PDSA cycle

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# PDSA Example: Naloxone Prescribing

- Plan: To prescribe naloxone for all patients discharged on an opioid
- Do: In EHR – complete a build for naloxone prescription to automatically populate in discharge medication list when any order is entered for a CII-CV. Non-EHR method – education discharge nurse/case manager on contacting physician for naloxone order for any discharge Rx for CII-CV.
- Study: Run internal discharge medication data to assess effectiveness. Data shows certain units not as effective at contacting physician for Rx.
- Act: For discharge planning check list – add Naloxone Rx line item.

**REPEAT**

# Quality Improvement Basics Bootcamp

- 3 Part Series
- Tools/Recordings available on the Alliant HQIC Website
- Series Focus:
  - Quality improvement models and tools
  - Process improvement
  - Developing a quality improvement team/who should be at the table
  - Resources to be shared

# Coaching Packages

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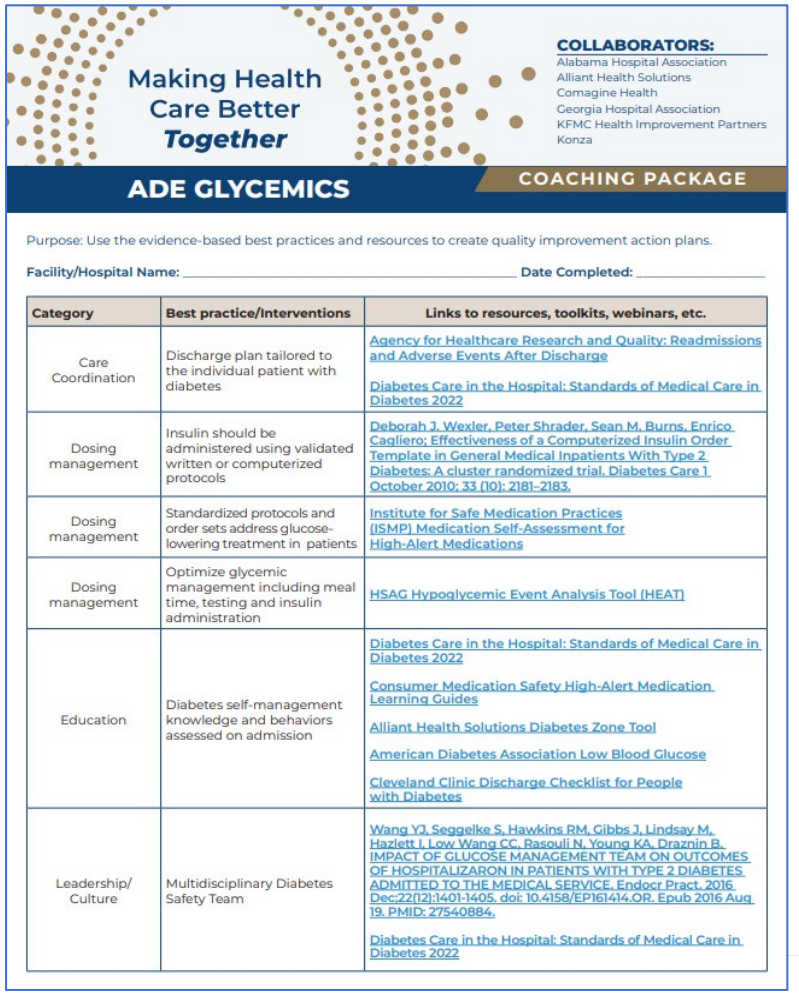
**ADE OPIOIDS** — COACHING PACKAGE

Purpose: Use the evidence-based best practices and resources to create quality improvement action plans.

**Facility/Hospital Name:** _____ **Date Completed:** _____

| Category | Best practice/Interventions | Links to resources, toolkits, webinars, etc. |
|---|---|---|
| Care Coordination | Structured process and warm handoff for referral to treatment for an opioid use disorder | U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) Directory of Opioid Treatment Programs |
| Care Coordination | Discharge summary sent to PCP if patient was discharged on an opioid | Pennsylvania Department of Drug and Alcohol Program, ED Warm Handoff Protocol |
| Dosing management | Leverage CSRS/PDMP prescribing information | Substance Abuse and Mental Health Services Administration (SAMHSA) PDMP Guide for Healthcare Providers<br>The PEW Charitable Trusts Prescription Drug Monitoring Programs |
| Dosing management | Ensure patient has a prescription for Naloxone if discharged on opioids | Colorado Hospital Association, 2019 Hospital Overdose Education and Naloxone Distribution Guidelines: Strategies for Hospitals and Hospital Based Clinicians to Decrease Rates of Opioid Overdose Death |
| Dosing management | Integrate appropriate national opioid prescribing guidelines | Centers for Disease Control (CDC) Opioid Prescribing Guidelines<br>The Joint Commission (TJC) Pain Management Standards for Accredited Organizations<br>US Department of Health and Human Services Safe Opioid Prescribing |
| Dosing management | Before starting opioid therapy for chronic pain, clinicians should establish treatment goals | |
| Education | Provide appropriate counseling to patient being prescribed opioids | The Do's and Don'ts of Pain Medicines<br>Consumer Medication Safety High-Alert Medication Learning Guides |



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**ADE GLYCEMICS** — COACHING PACKAGE

Purpose: Use the evidence-based best practices and resources to create quality improvement action plans.

**Facility/Hospital Name:** _____ **Date Completed:** _____

| Category | Best practice/Interventions | Links to resources, toolkits, webinars, etc. |
|---|---|---|
| Care Coordination | Discharge plan tailored to the individual patient with diabetes | Agency for Healthcare Research and Quality: Readmissions and Adverse Events After Discharge<br>Diabetes Care in the Hospital: Standards of Medical Care in Diabetes 2022 |
| Dosing management | Insulin should be administered using validated written or computerized protocols | Deborah J. Wexler, Peter Shrader, Sean M. Burns, Enrico Cagliero; Effectiveness of a Computerized Insulin Order Template in General Medical Inpatients With Type 2 Diabetes: A cluster randomized trial. Diabetes Care 1 October 2010; 33 (10): 2181–2183. |
| Dosing management | Standardized protocols and order sets address glucose-lowering treatment in patients | Institute for Safe Medication Practices (ISMP) Medication Self-Assessment for High-Alert Medications |
| Dosing management | Optimize glycemic management including meal time, testing and insulin administration | HSAG Hypoglycemic Event Analysis Tool (HEAT) |
| Education | Diabetes self-management knowledge and behaviors assessed on admission | Diabetes Care in the Hospital: Standards of Medical Care in Diabetes 2022<br>Consumer Medication Safety High-Alert Medication Learning Guides<br>Alliant Health Solutions Diabetes Zone Tool<br>American Diabetes Association Low Blood Glucose<br>Cleveland Clinic Discharge Checklist for People with Diabetes |
| Leadership/ Culture | Multidisciplinary Diabetes Safety Team | Wang YJ, Seggelke S, Hawkins RM, Gibbs J, Lindsay M, Hazlett L, Low Wang CC, Rasouli N, Young KA, Draznin B. IMPACT OF GLUCOSE MANAGEMENT TEAM ON OUTCOMES OF HOSPITALIZARON IN PATIENTS WITH TYPE 2 DIABETES ADMITTED TO THE MEDICAL SERVICE. Endocr Pract. 2016 Dec;22(12):1401-1405. doi: 10.4158/EP161414.OR. Epub 2016 Aug 19. PMID: 27540884.<br>Diabetes Care in the Hospital: Standards of Medical Care in Diabetes 2022 |

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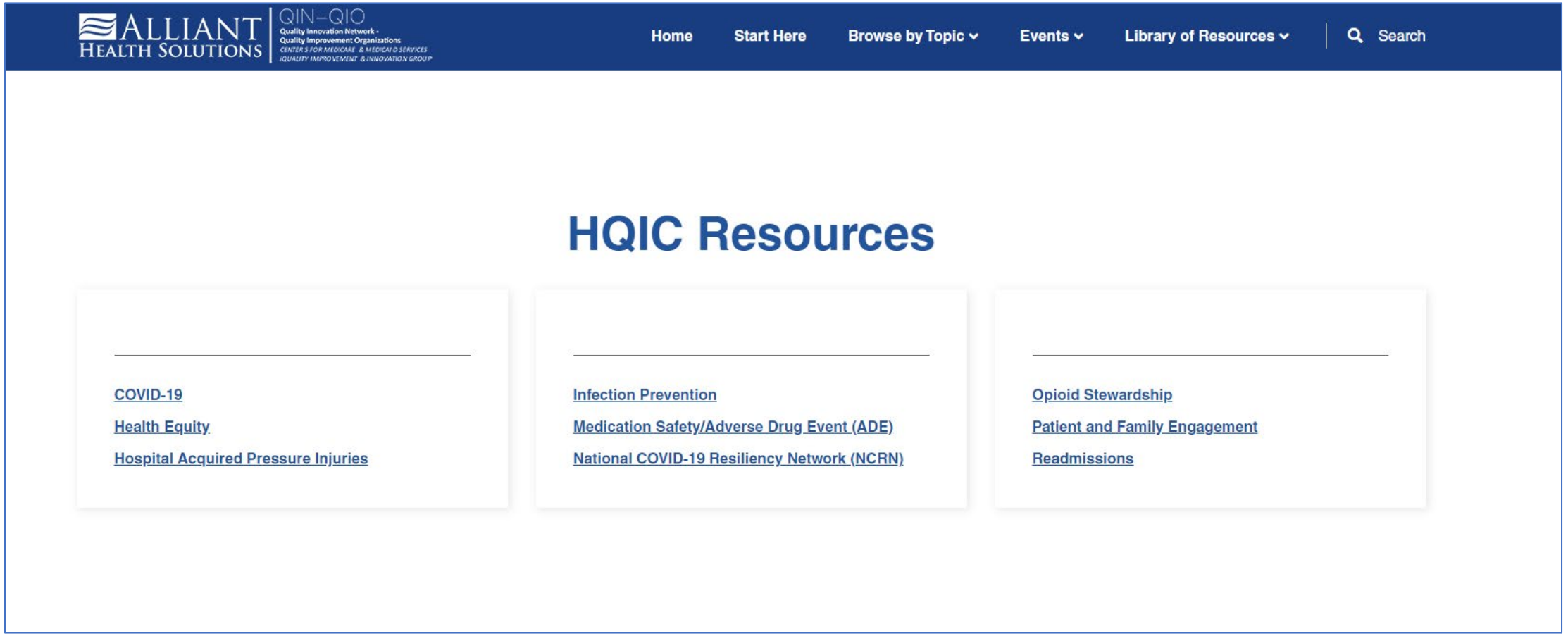
# Targeted Interventions: Top 5 Opioids

- Formation of an Opioid Stewardship Committee
- Prescribe Narcan at discharge for patients who have a prescription for opioids
- Patient not concurrently prescribed opioids and benzodiazepines
- Patient offered non-pharmacologic comfort interventions for pain control
- Opioid committee/pharmacy reviews ADEs with use of reversal agents and audits documentation for s/s leading up to reversal agent administration

# Targeted Interventions: Top 5 Hypoglycemic

- Hypoglycemic episodes and adverse drug events are evaluated for a root cause
- Ensure patients are not receiving sliding scale insulin alone
- Discharge plain tailored to the individual patient with diabetes
- Notification process for patients who have BG < 100
- Notification process for patients who are on glycemic agents who are suddenly NPO

# HQIC Website Resources/Tools

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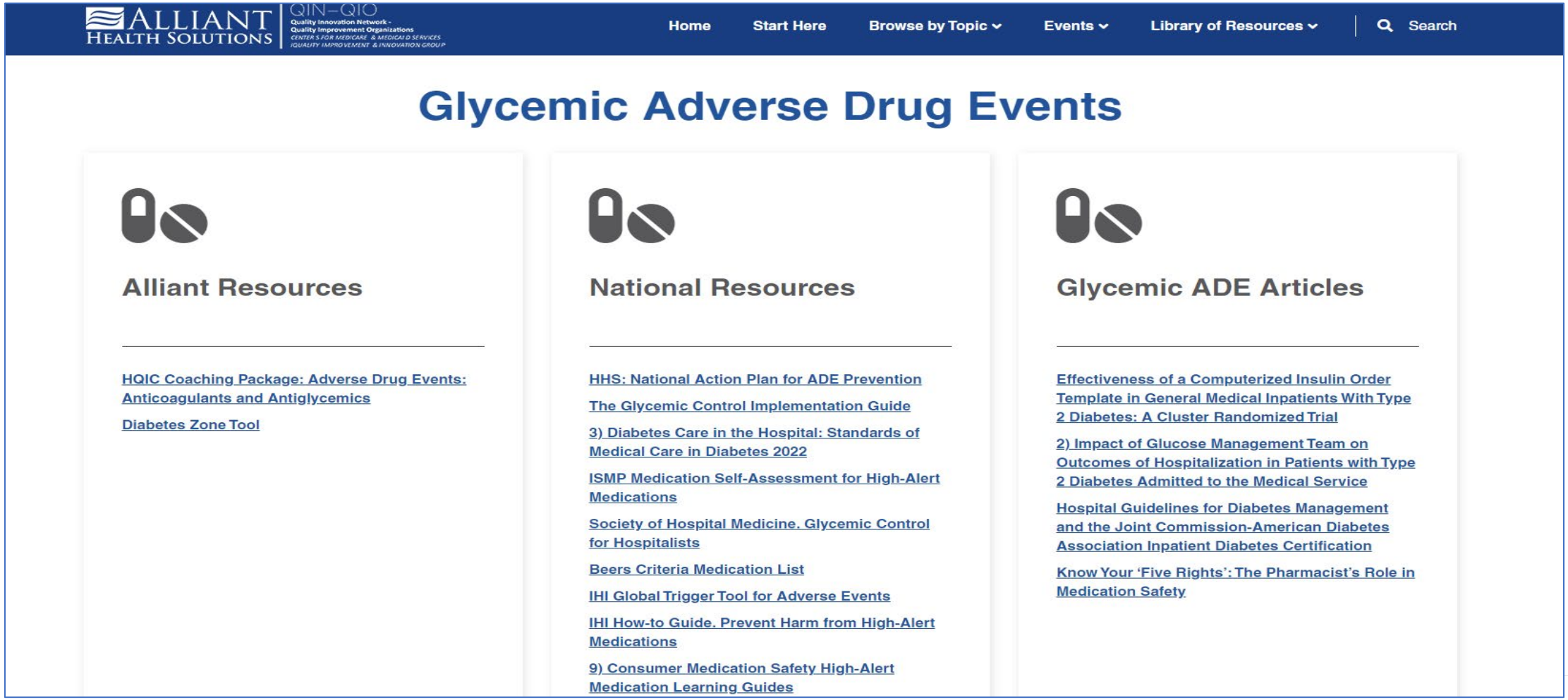
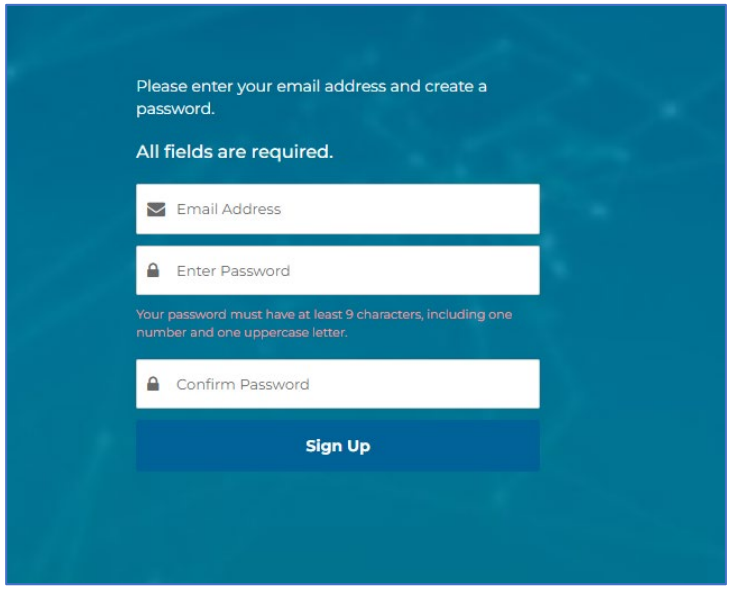
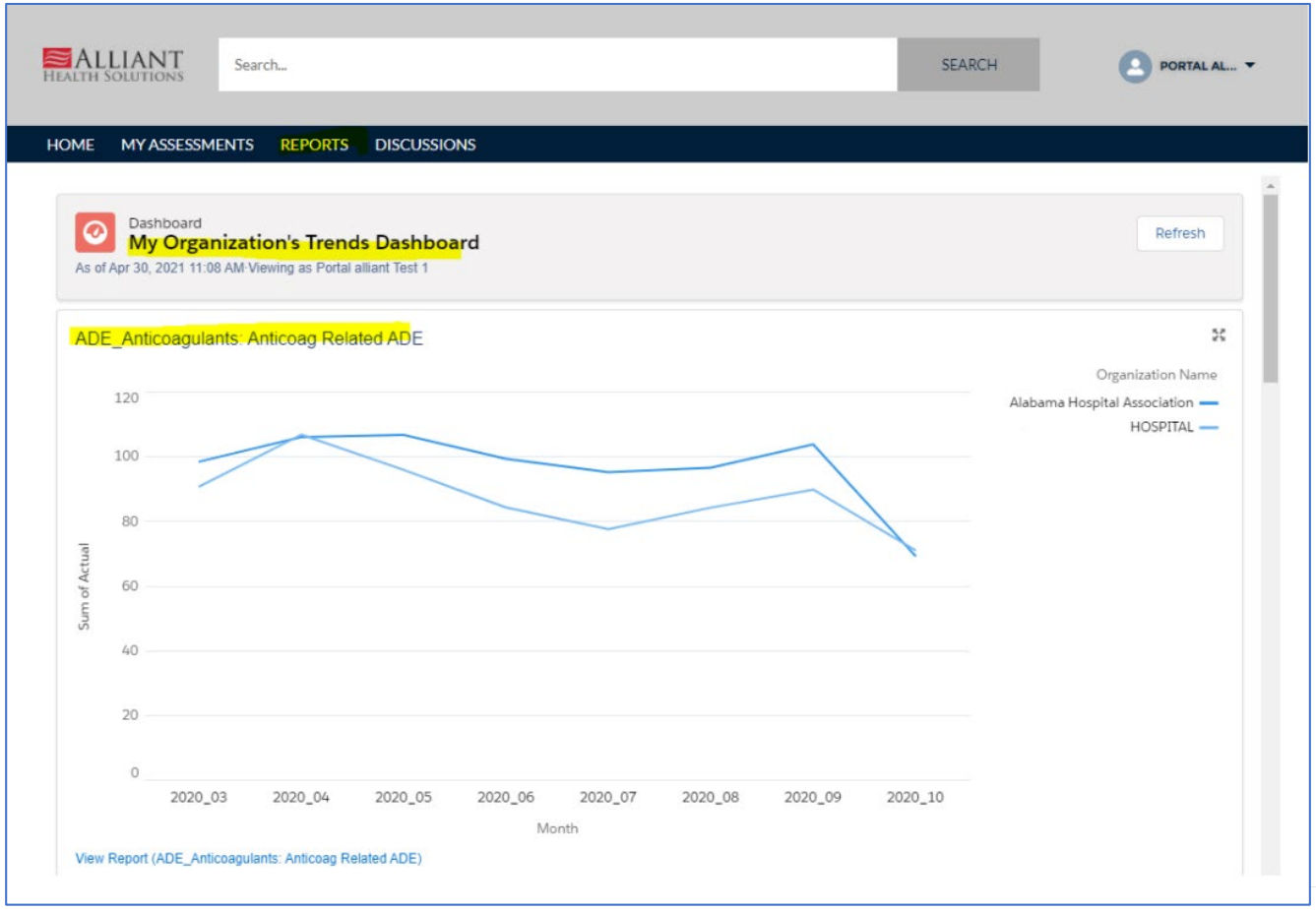


# Portal Access

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# Monthly HQIC Newsletter

## Expert Insights & Resources

**Alliant HQIC Online Portal**
Access the Alliant HQIC portal to view your assessments and measurement data, and chat with other HQIC-enrolled hospitals to share best practices, barriers and solutions. Download Portal Instructions to Get Started


**Check In: How Are We Doing?**
Alliant HQIC wants to hear from you! Please click here to share feedback with us.

### Behavioral Health/Opioid Stewardship

**Risk Factors for Opioid-Related Adverse Drug Events Among Older Adults After Hospital Discharge**
The Journal of the American Geriatrics Society published a retrospective cohort study of a national sample of Medicare beneficiaries aged 65 years and older, hospitalized for a medical reason, with at least one claim for an opioid within two days of hospital discharge. Hospice care and patients admitted from or discharged to a facility were excluded. Researchers used administrative billing codes and medication claims to define potential opioid-related ADEs within 30 days of hospital discharge and competing risks regression to identify risk factors for these events. Read the Study

### Patient Safety

**All-Cause Harm**

**All-Cause Harm Trigger Tool**
We know that positive safety culture, engaged employees, and satisfying patient experiences reduce all-cause harm. We also know that harm is underreported and under-detected. The 2012 Office of Inspector General report noted hospital staff did not report 86% of events to incident reporting systems, partly because of staff misperceptions about what constitutes patient harm. How does your facility's safety plan define harm? What education does your staff receive on what constitutes an event that should be reported? How does your facility detect harm? Consider the use of a trigger tool. Triggers are screening tools that signal the need for a more intense record review to determine if harm occurred.
Resources:
Institute for Healthcare Improvement, Trigger Tools
AHRQ: Triggers and Trigger Tools
OIG report: Hospital Incident Reporting Systems Do Not Capture Most Patient Harm
Developing and Evaluating an Automated All-Cause Harm Trigger System

**Adverse Drug Events**

**Early Prescribing Outcomes After Exporting the Equipped Medication Safety Improvement Program**
Prescribing potentially inappropriate medications (such as antihistamines, benzodiazepines, and muscle relaxants) can lead to adverse health outcomes. The Enhancing Quality of Prescribing Practices for Older Adults in the Emergency Department (EQUIPPED) program is a multicomponent intervention intended to reduce potentially inappropriate prescribing among older adults who are discharged from the emergency department. Twelve months after implementation at three academic health systems, the EQUIPPED program significantly reduced overall potentially inappropriate prescribing at one site; the proportion of benzodiazepine prescriptions decreased across all sites. Read More

- Timely journal articles on all HQIC topics
- Links to registration for all of our educational events
- Success stories from top performing hospitals
- Latest news from CMS
- Linked on HQIC website

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# Month 6 Sharing

- Which Top 5 Intervention was implemented at your hospital
- PDSA Examples
- Barriers faced
- How barriers were overcome
- Lessons learned
- Best practices

# Resource Links:

- QI Tools:
  - PDSA Template
  - Fishbone Template
- Coaching Packages
  - Opioids
  - Hypoglycemic Agents
- HQIC Website:
  - Opioid Stewardship
  - Medication Safety/Adverse Drug Event
- Portal:
  - Portal Instructions
  - Portal Registration and Multifactor Authentication
  - Portal Navigation and Feature Overview
- QI Bootcamp Series:
  - Session 1
  - Session 2
  - Session 3

# Key Takeaways

- Learn Today:
  - Understand new HQIC Cohort Structure
  - Understand expectations for SMEs, QI Coaches and hospitals
- Use Tomorrow:
  - Use available resources to implement positive change in your hospital for adverse drug events

**How will this change what you do? Please tell us in the poll…**

# Questions?

Email us at HospitalQuality@allianthealth.org or call us 678-527-3681.

# HQIC Goals

## Behavioral Health Outcomes & Opioid Misuse

- ✓ Promote opioid best practices
- ✓ Decrease high dose opioid prescribing and opioid adverse events in all settings
- ✓ Increase access to behavioral health services

## Patient Safety

- ✓ Reduce risky medication combinations
- ✓ Reduce adverse drug events
- ✓ Reduce *C. diff* in all settings

## Quality of Care Transitions

- ✓ Convene community coalitions
- ✓ Identify and promote optical care for super utilizers
- ✓ Reduce community-based adverse drug events

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# Upcoming Events

## QI Coaches will be scheduling 1:1 calls soon!

Opioid/ADE SME:

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**Thank you for joining us!**
**How did we do today?**

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