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CENTER FOR MEDICATION
SAFETY ADVANCEMENT

Ending Adverse Drug Events: Optimizing Measurement to Sustain Change

John B. Hertig, PharmD, MS, CPPS
Associate Director
Center for Medication Safety Advancement
Purdue University College of Pharmacy
Indianapolis, IN

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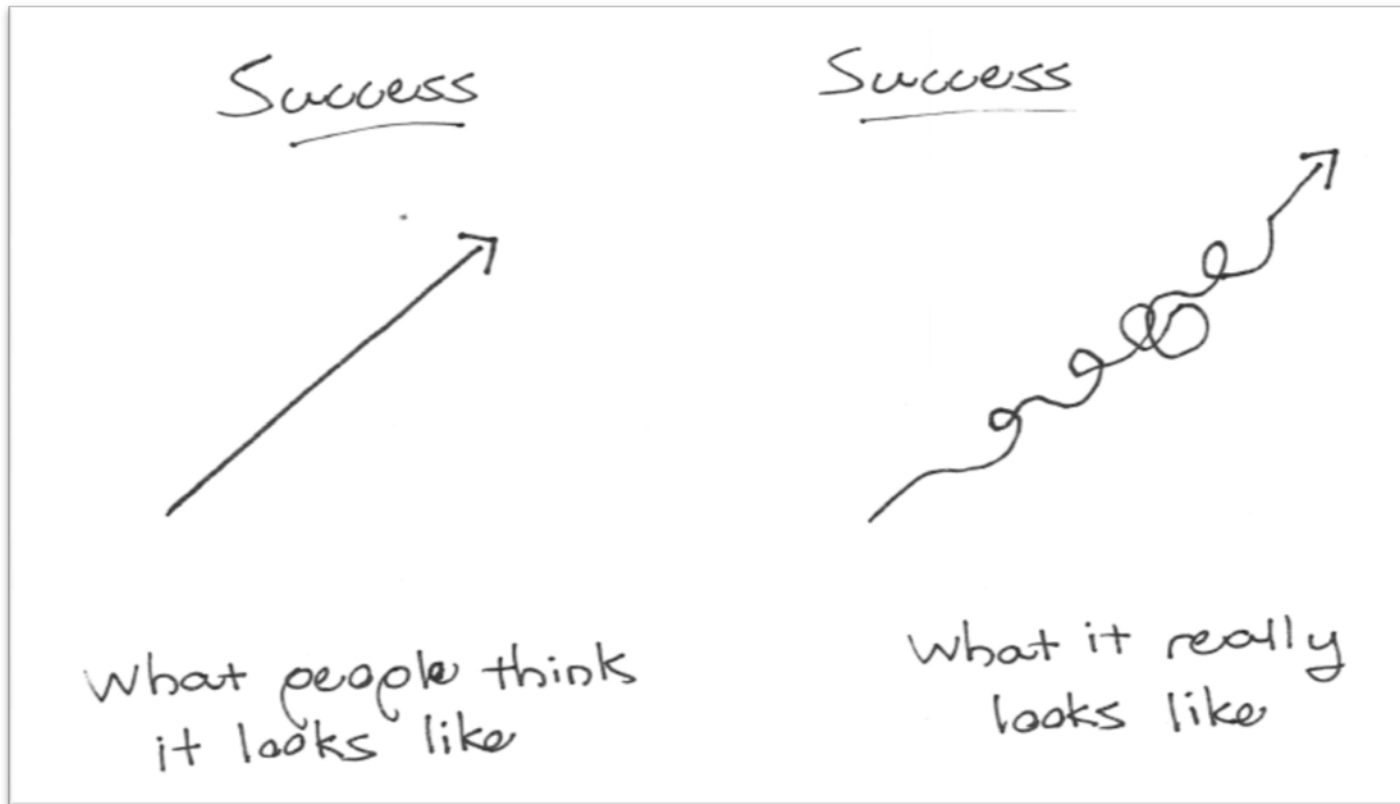
Objectives

- Outline a model for pharmacist involvement in an ADE reduction community of practice
- Apply PDSA and measurement tools to the development of a medication safety measurement framework
- Identify sustainability strategies, focusing on the importance of transparency in an ADE reduction plan

Outline

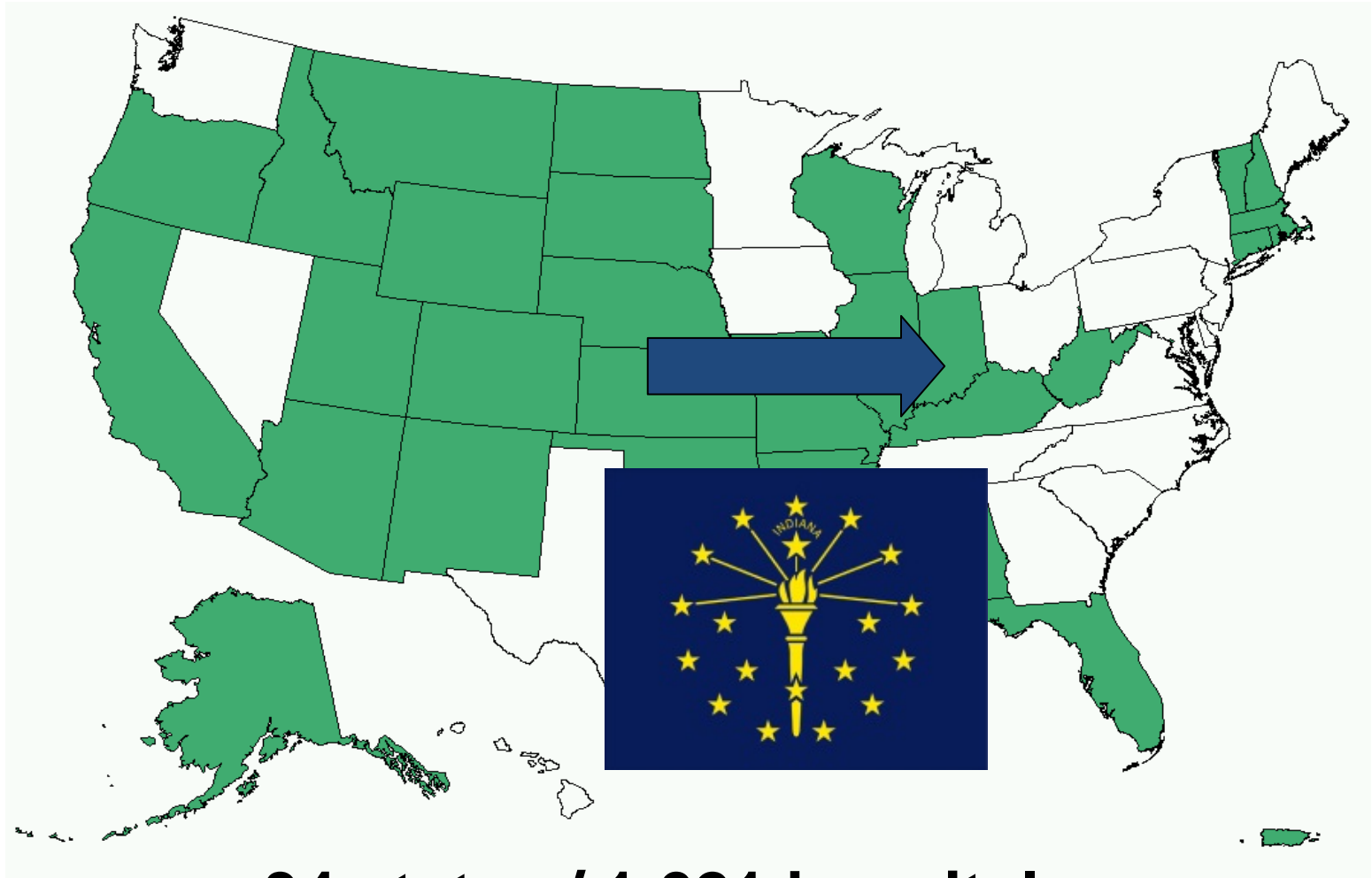
- Background and introduction
- Indiana measures initiative
 - Framework
 - Pharmacist involvement
- The “novice’s” guide to developing a medication safety measurement plan
 - Other considerations
- Questions?

Success





AHA/HRET HEN



34 states / 1,621 hospitals

Key Focus Areas

National (CMS)

- Early Elective Deliveries before 39 weeks (EED)
- Readmissions (Readmissions Race)

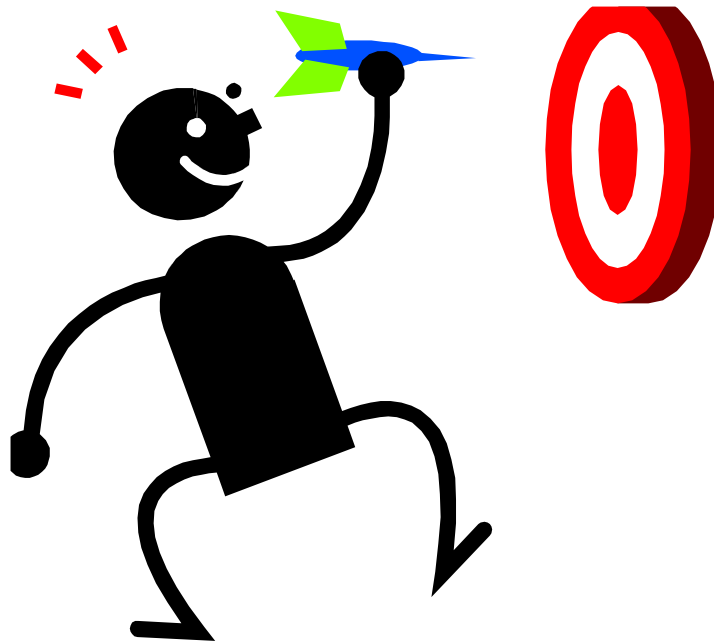


Indiana

- EED
- CAUTI
- Readmissions
- Adverse Drug Events
- Falls Prevention



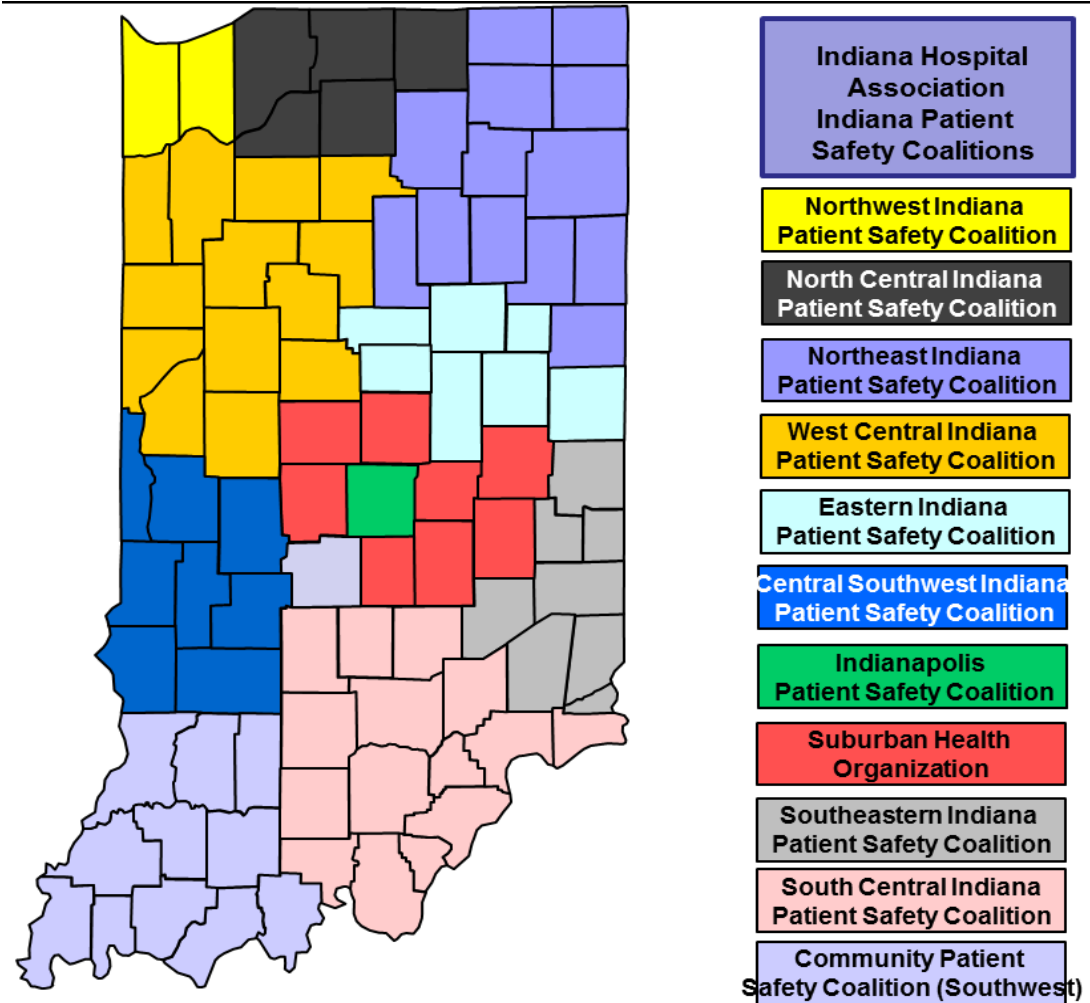
INDIANA EXAMPLE: TARGETING ANTICOAGULATION HARM



Building a Strategic Network



- **Eleven regional safety coalitions**
- **Members agree not to compete on patient safety**
- **Layered model** of regional coalitions and affinity groups supports transformation, learning and spread
- **Represents pre-existing foundation for the Medication Safety Alliance**
 - Focused on harm related to medication use



Medication Safety Alliance (MSA)

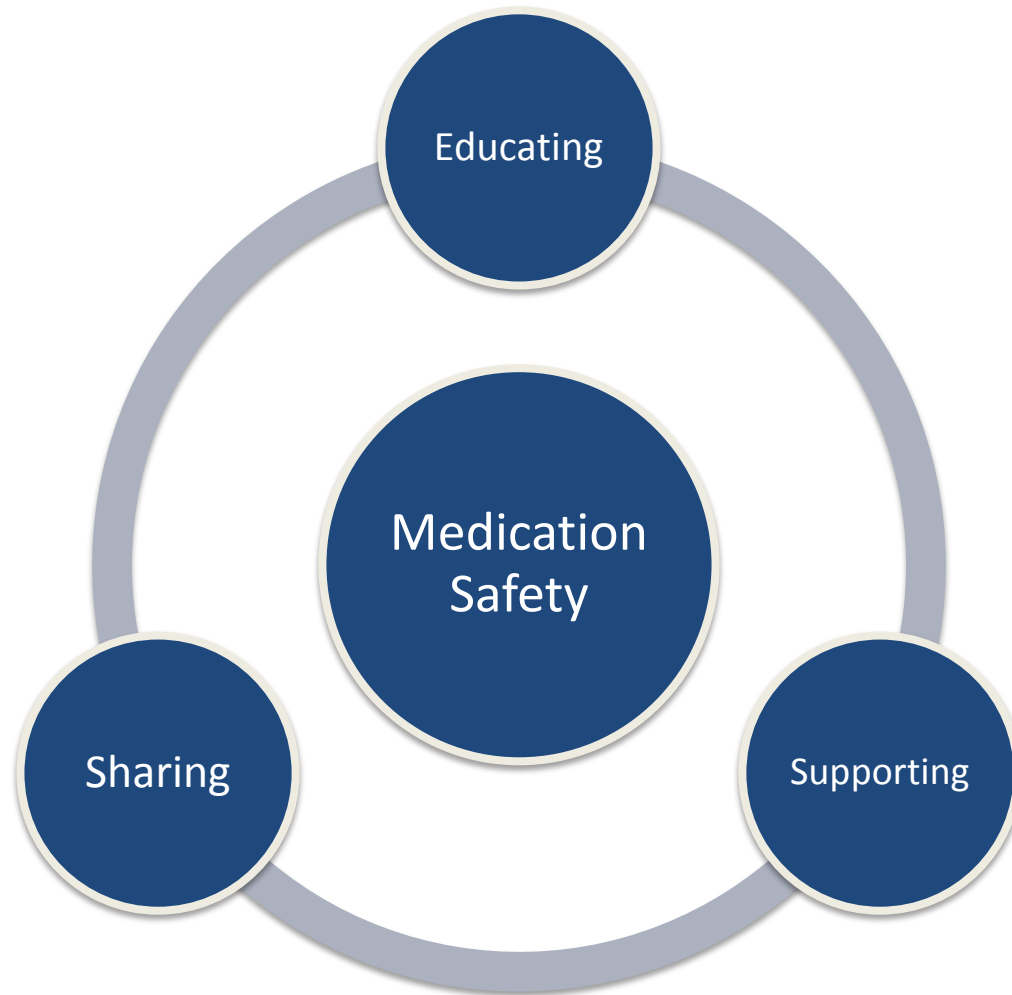
- Purpose
 - Network of safety leaders
- Partnerships
 - Over 30 hospitals
 - More than 45 health-professionals
- Pharmacist's Role
 - Path for involvement



Principles: Teamwork Training

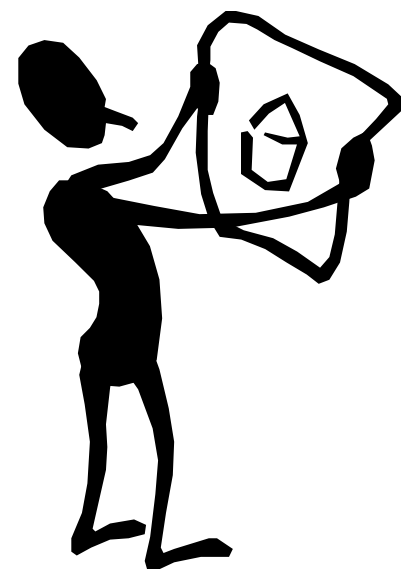


MSA Structure



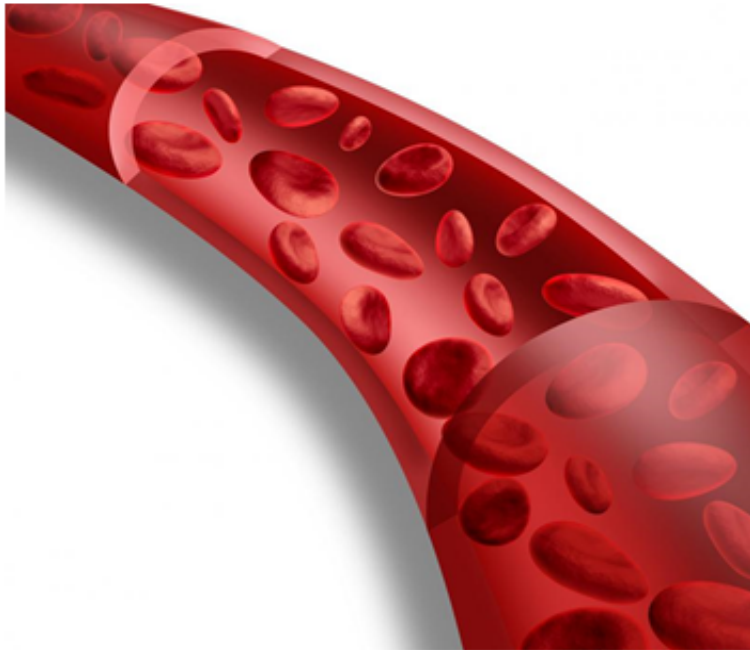
The Plan

- Leverage Medication Safety Alliance
 - Communication
 - Best practice sharing/storytelling
 - Coaching/webinars
 - Web portal/forum
- Resource development
 - Toolkit
 - Checklists
 - Tip sheets
- Deliberate focus on data tracking and transparency



Anticoagulation Toolkit

Anticoagulation Safety Toolkit



Improving Safety through Anticoagulation Therapy Management

Table of Contents

Introduction

Chapter 1: Self-Assessment

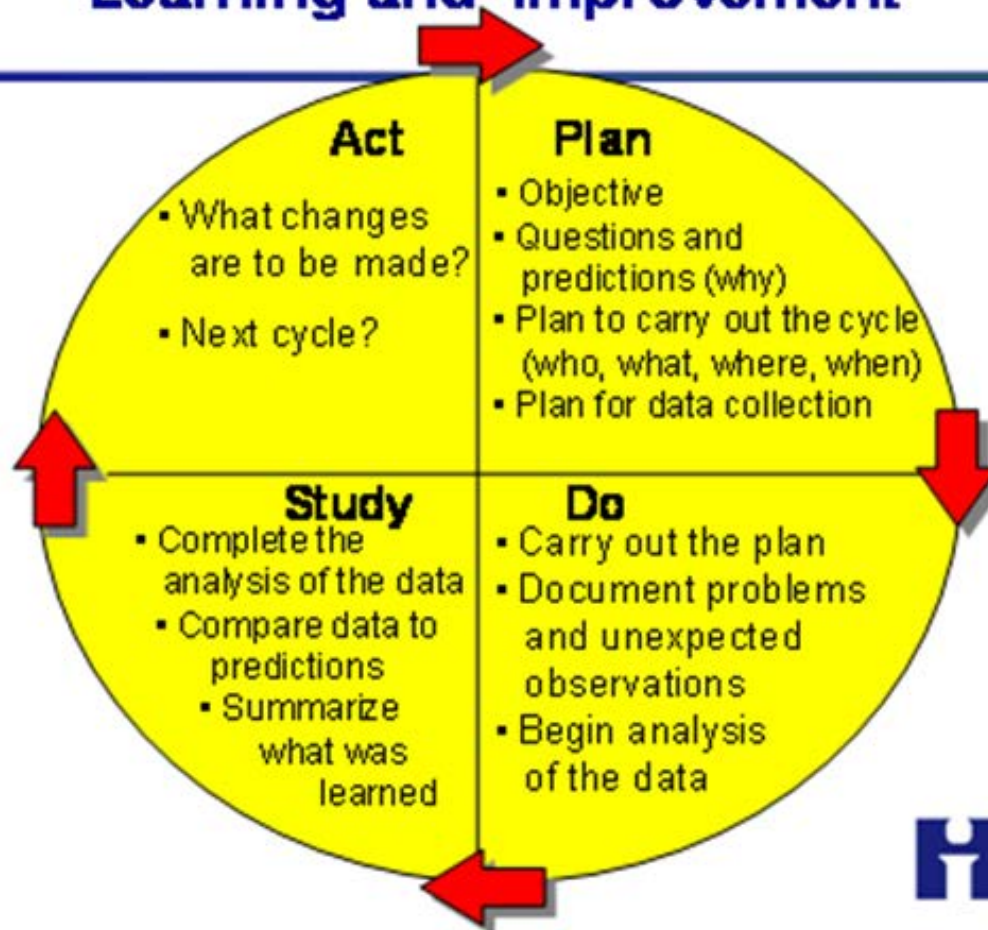
Chapter 2: Improving Anticoagulation Processes

Chapter 3: Measuring Performance

Additional Resources

- Tip Sheets
- Checklists
- Best practices

The PDSA Cycle for Learning and Improvement



Indiana Measures Initiative

- Measures adopted as statewide areas of emphasis
- Make it simple to report
 - Provide a pathway
 - Ensure the value proposition is clear for members
- Adopt a statewide ADE “safety dashboard”
 - Purpose: identify best practices and share improvement strategies

Indicator Name	Definition	Numerator	Denominator	Sources	EOM
Excessive Anticoagulation with Warfarin - Inpatients	All inpatients who had excessive anticoagulation with warfarin	Inpatients experiencing excessive anti-coagulation with warfarin (INR greater than 6)	Inpatients receiving warfarin anti-coagulation therapy	AHA/HRET EOM; CMS ISMP Trigger Alert List	ADE 12

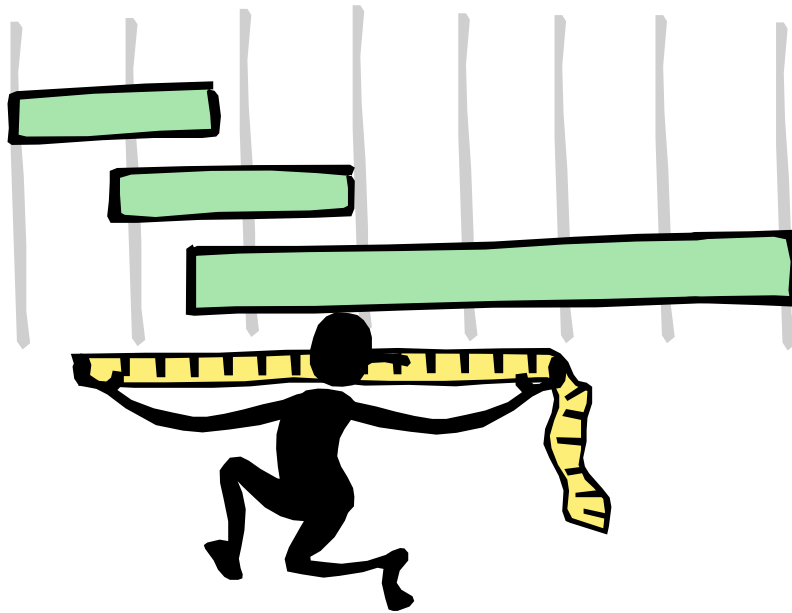
Measuring for Success

- Use measures to identify statewide ADE trends **P**
- Implement statewide continuous quality improvement efforts supported by data **D**
- Feedback and data reviewed and provided via web portals and meetings **S**
- Successes and challenges shared, resulting in sustainable, ongoing, improvement **A**

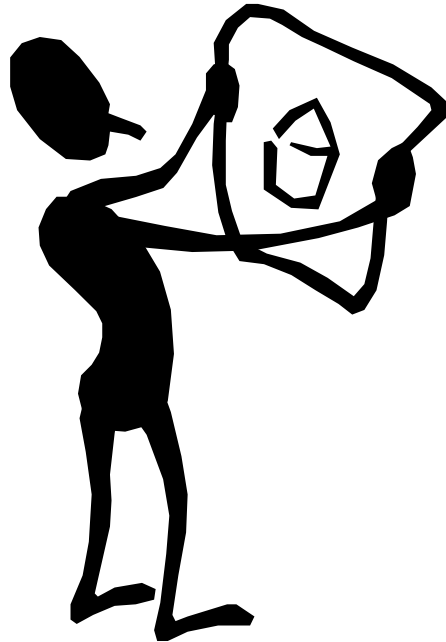
About Measurement

“Not everything that can be counted counts, and not everything that counts can be counted”

-Albert Einstein

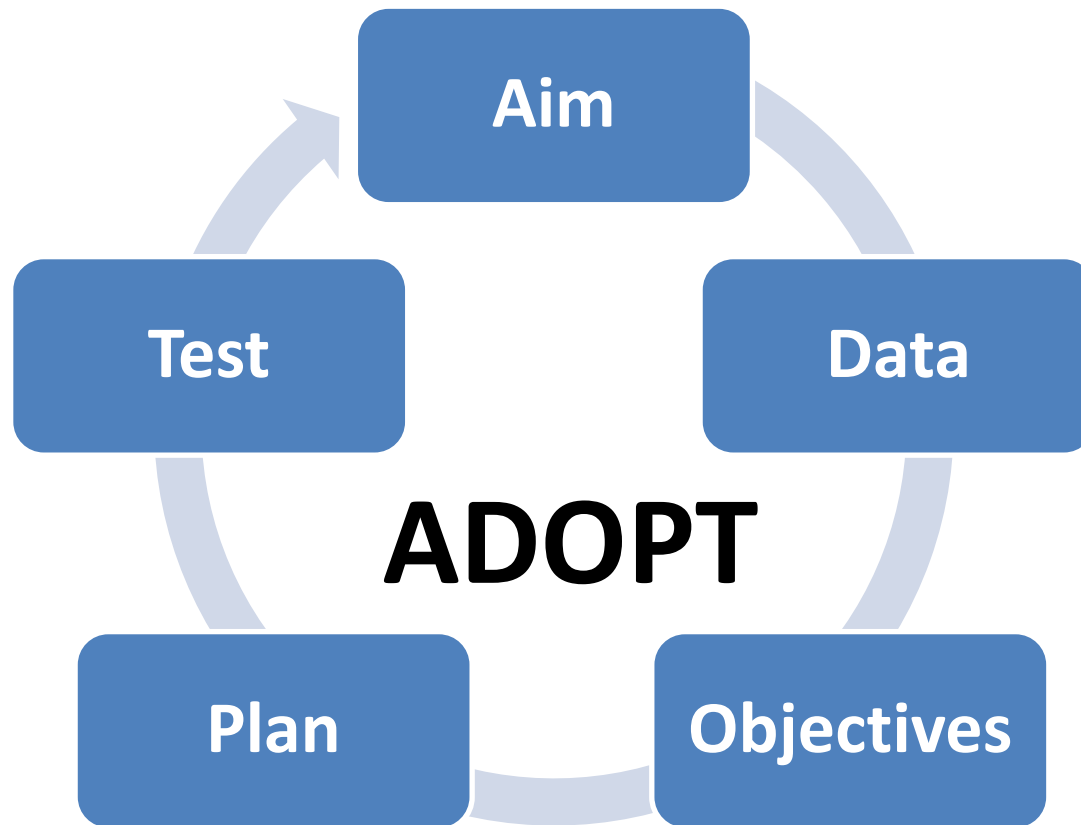


Developing and Implementing a Medication Safety Measurement Plan





Steps to Developing a Medication Safety Measurement Plan



Step 1: The Aim

- The most important (and time consuming!) step for successful development and implementation of a measurement plan
- Establish the purpose and scope of measures
 - What are you trying to accomplish?
 - What are the definitions and boundaries of the measures?
 - Who will need to be involved?
 - Who or what will be impacted by the measures?
- Form the measurement team

Potential Team Members

- Facilitator
- Medication safety leader
- Staff members
- Hospital or department quality representative
- Data analyst and/or informatics representative
- Clinical engineering
- Health-system leadership
- Other key stakeholders

Step 2: Data

- Need to establish the data that will be used to support your measurement plan
- May be external data sources
 - Partnership for Patients (encyclopedia of measures)
 - Center for Medicare and Medicaid Services
 - Department of Health
- Or internal
 - Barcode medication administration (BCMA)
 - Smart pump usage
- Engage staff in assessing data sources and feasibility
- Be thoughtful about using % vs. absolute numbers

Medication-Related Quality Measures

- Antibiotic selection (ICU/Non-ICU)
- Pneumococcal vaccination
- Influenza vaccination
- Blood cultures prior to antibiotic
- Pre-op antibiotic selection
- Antibiotic discontinued within 24 hours
- Thrombolytic administration
- Peri-operative beta-blocker administration
- VTE prophylaxis ordered
- VTE prophylaxis administered
- ACE/ARB for LVSD
- Discharge Medication Instructions
- Aspirin on arrival
- Aspirin on discharge

Step 3: Objectives

- Set your targets/ objective for each selected measure
 - Be “SMART”
- Start with well-defined targets
 - Internal and external benchmarking
- Alignment is important
 - Peer institutions
 - National initiatives
- For retrospective data, strive for 10% improvement over last year’s average



Benchmarking



- Where are we now?
- Where do we want to be?
- How do we get there?
- How do we know when we have arrived?
- Types
 - Internal: measuring performance against ourselves
 - External: measuring performance against others

Internal Benchmarking



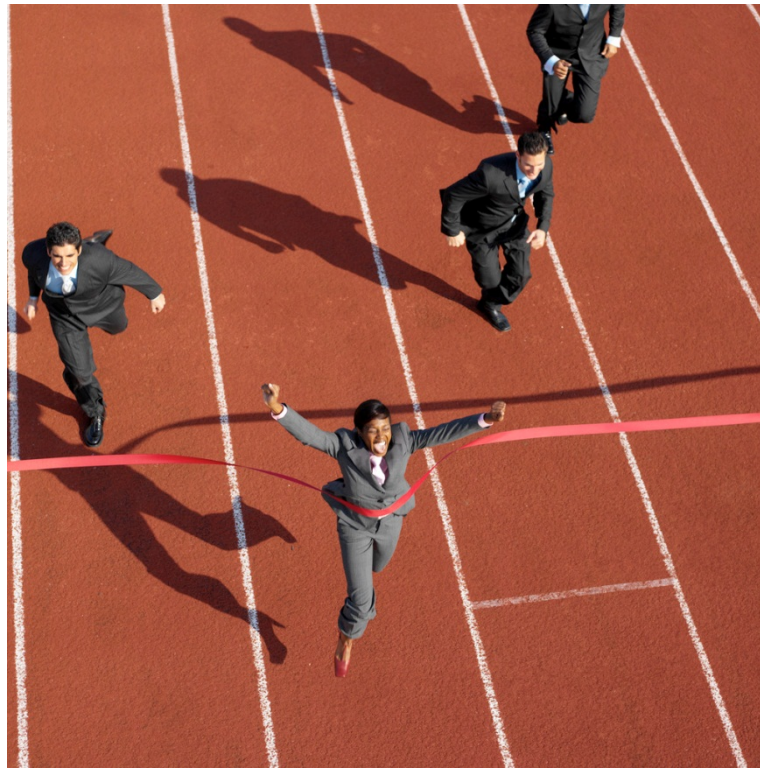
Guidelines for Internal Benchmarking

- Compares timely (e.g., monthly, quarterly) data elements against themselves
- Measures can be defined so they meet the needs of the organization; more controlled
- Can be utilized to support or dispute external benchmarking data
- More reflective of true clinical and operational status

Guidelines for Internal Benchmarking

- Measures should be validated, accurate and applied consistently over time
- Consider both volume and time
- Consider separating functional areas or patient care units
- Design with the end in mind!

External Benchmarking



Guidelines for External Benchmarking

- Compares internal data against data of other institutions
- Helps assess how one organization is doing compared to external peer groups
- Can be utilized to help drive improvement projects and development of internal benchmarks

Guidelines for External Benchmarking

- May not be as completely accurate
 - External reporting is sometimes filtered or reported inconsistently
- Very important to pick an appropriate comparison group
 - Bed size
 - Location
 - Affiliation
 - Specialty
 - Acuity mix
- Inappropriate peer group comparison can lead to incorrect strategic planning and frustration!

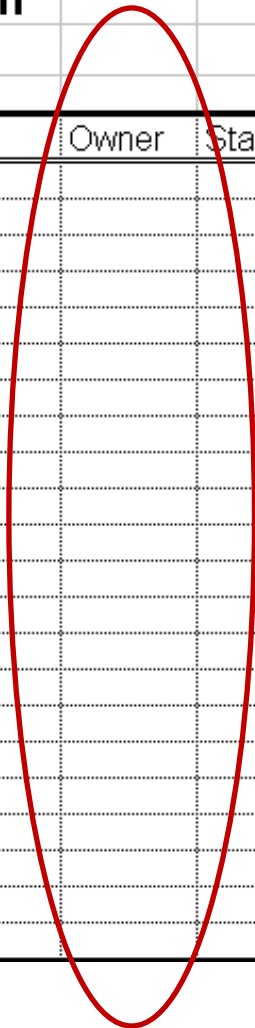
Step 4: Plan

- For each measure, determine your plan for successful gathering and use
- “Owner” and/or accountable persons
- Data collection and submission method
- Reporting frequency and “due date”
 - Weekly, monthly, quarterly, biannually
- Communication plan
 - How will your data and measures drive improvement?!

Implementation Plan

Project Name:

Item Description	Owner	Start Date	Completion Date	Cost	Comments



Progress Tracking

Goal	Recent Activity	Status	Stakeholder	Projected Completion Date
Reduce percent of patients with INR >5 by 20%	Updated warfarin dosing protocol(10/4/13)	Yellow	KEB	12/31/13
		Green		
		Red		

Factors used to determine current status: Goal clarity (are there clear objectives and direction) and goal timeline. If a goal is on time and on target then it should be **green**. If the goal timeline is at risk or if there are some questions as to objective, the goal should be **yellow**. If the project is past the goal completion date or if progress has ceased due to a roadblock, the project is **red**.

Remember to...Make it Visible!

- Make the measures everyone's responsibility
 - Encourage accountability
- Publicly post data
- Reward and share successes
 - Communicate feedback often
 - Present at regularly scheduled intervals
- Work together to overcome challenges
- Review measures plan at least annually



Step 5: Test



Small Tests of Change

“It’s better to get a little better today than to wait months for perfection.”

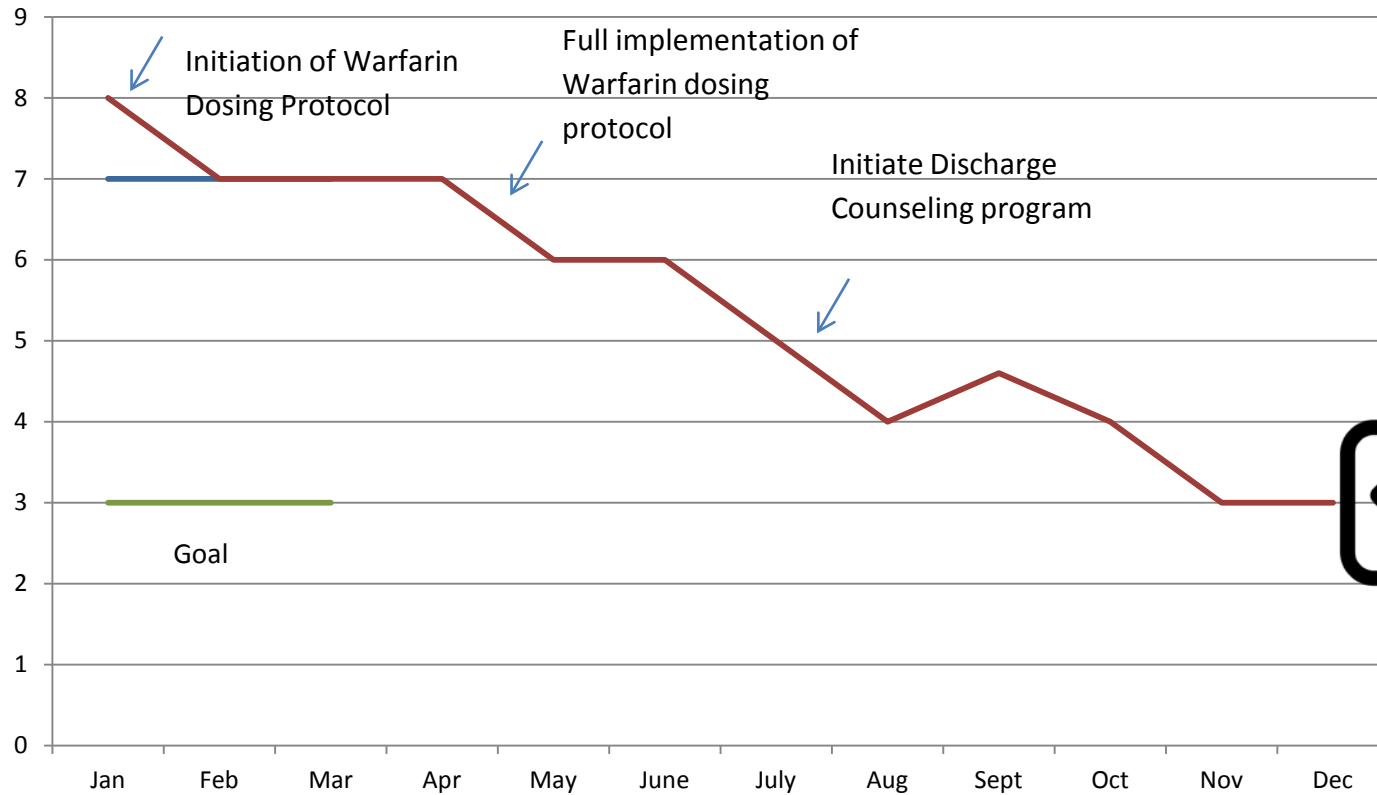
-- Brent Seeley, Seattle

Small Test of Change - PDSA

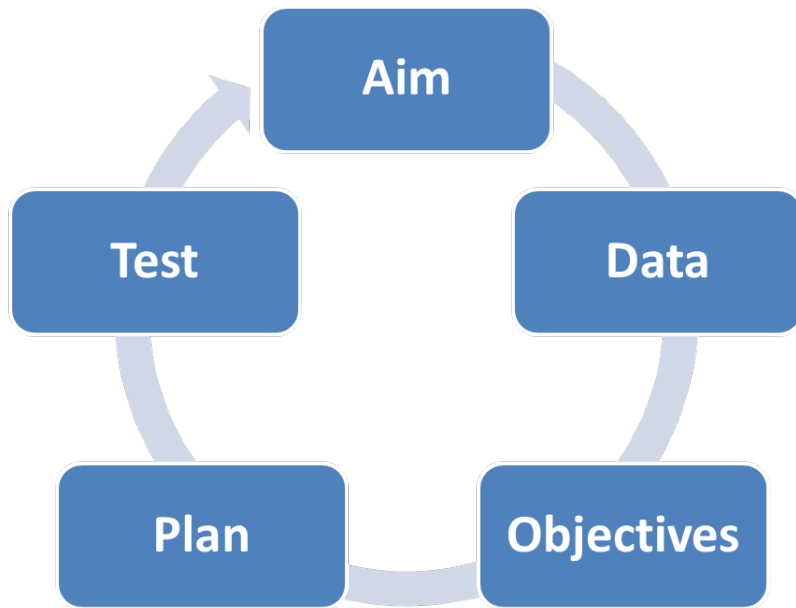
- Quick – start with an idea for improvement
- Small
 - Decide on how to measure impact
 - Test it on a small scale
- Anticipate the next cycle
 - Was it what was predicted?
- Expect some failures
 - “test”
 - “pilot”

Tests of Change

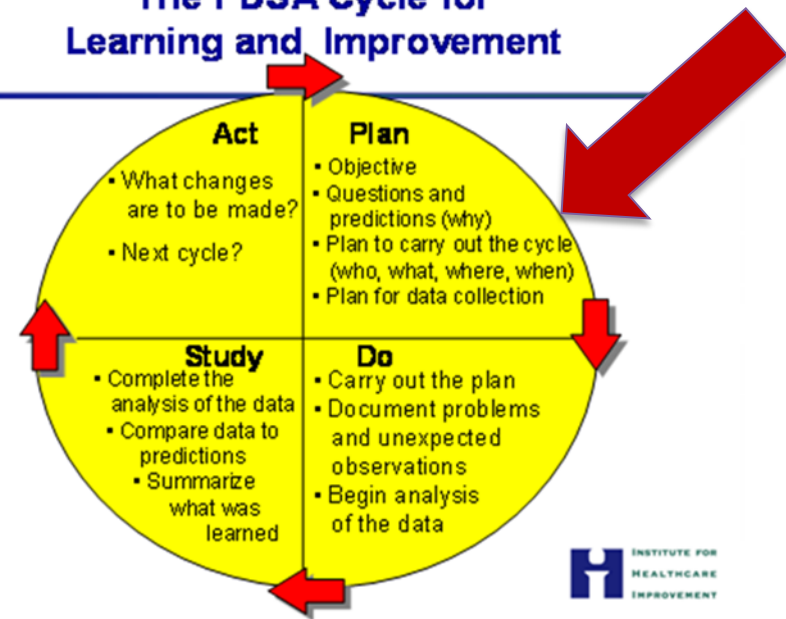
Measurement: Reduction in Warfarin Related ADEs



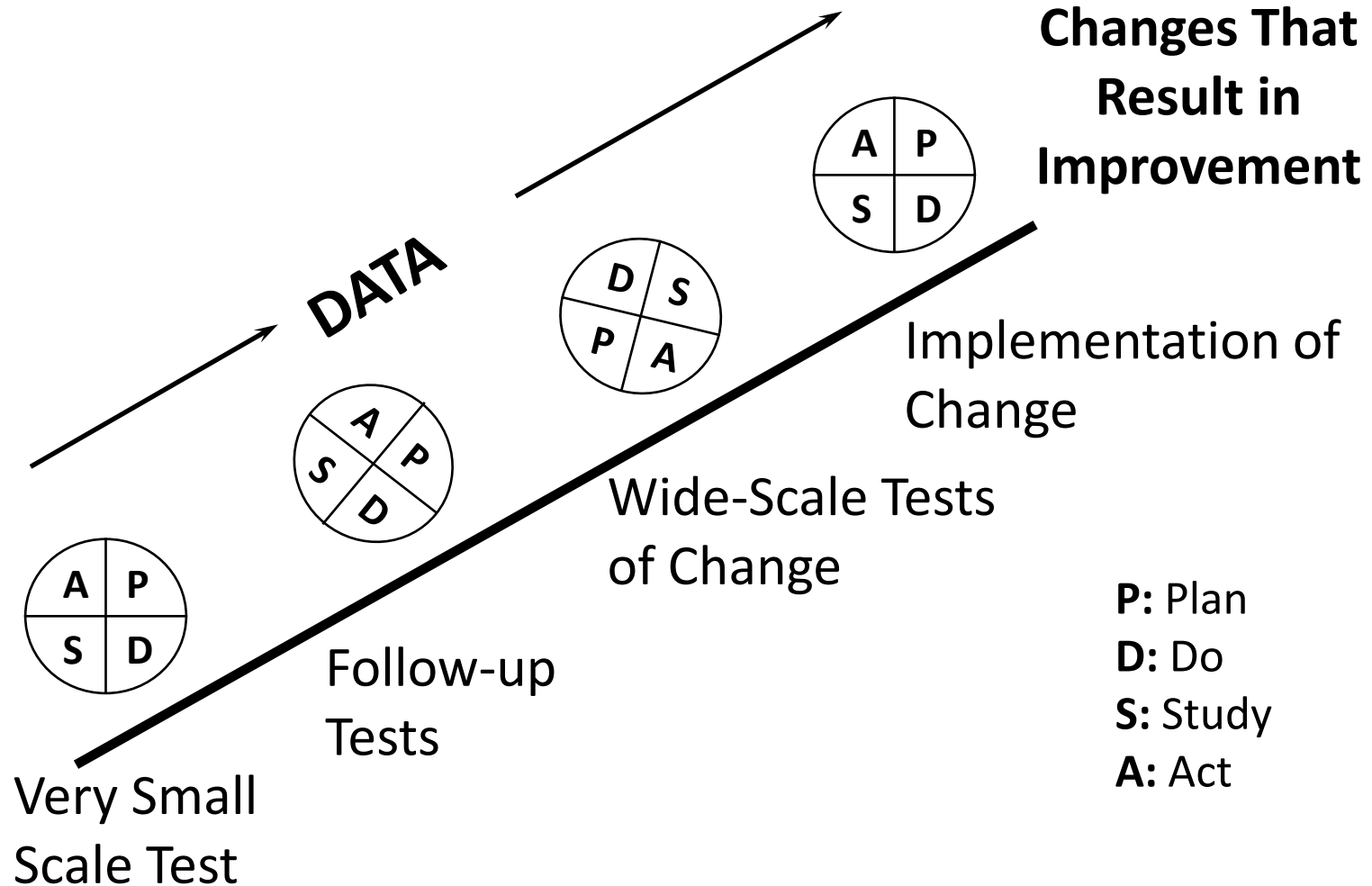
ADOPT – PDSA Model



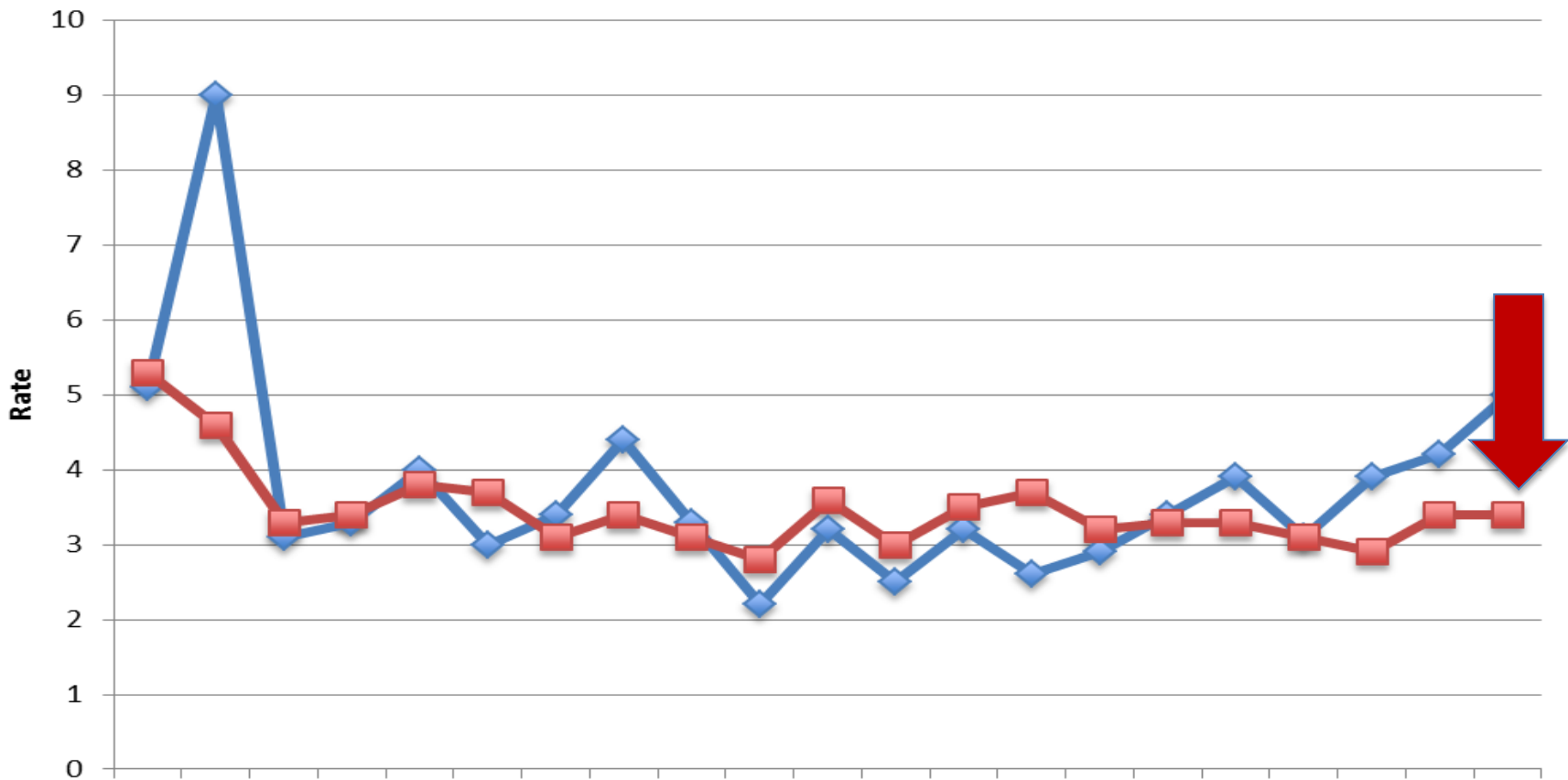
The PDSA Cycle for Learning and Improvement



Learn and Improve



Excessive Anticoagulation With Warfarin - Inpatients



Results

- 68/98 hospitals either show a 40% reduction;

Or

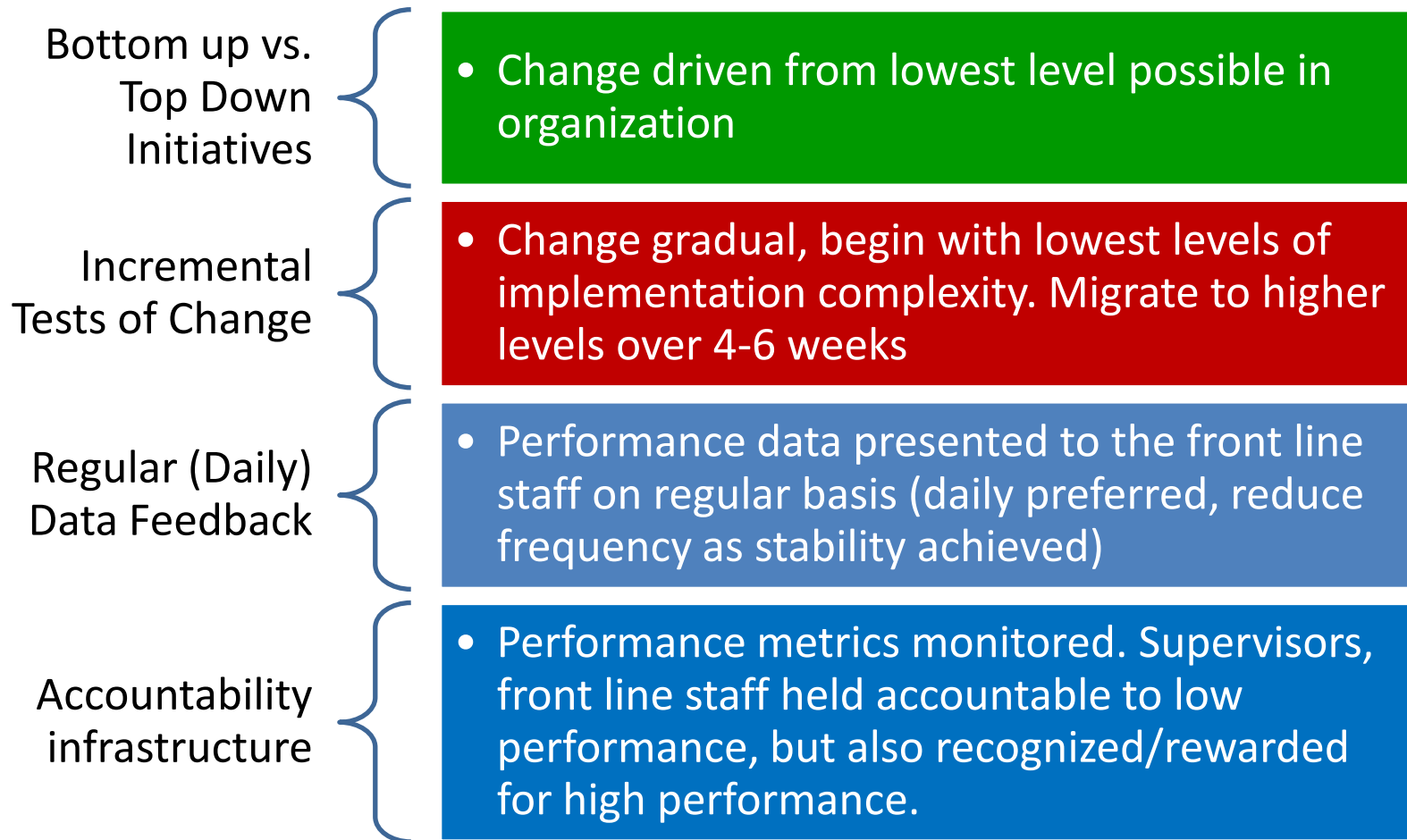
- Sustained a zero rate for at least 6 months



Spread/Sustain Planning

- Improvement must be specifically designed to encourage sustainability and spread
 - Ongoing frequent measurement and reporting
 - Positive reinforcement for high performance
 - Accountability for low performance
- Strong leadership commitment and support

What Factors Impact Sustainability?



Sustainability and Spread Strategies

- Ensure your work continues on
- Make the process as intuitive as possible
- The natural default is the right action
- The path of least resistance leads to the right action

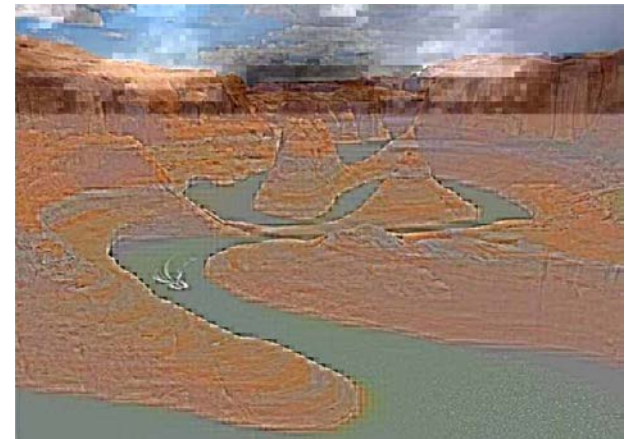
Consider Human Factors Principles

- Factors exist that influence people and their actions
 - Humans have limitations
- Concepts:
 - Standardization
 - Reduce reliance on memory
 - Forcing functions
 - Error-proofing
 - Communication
 - Intuitive design (simplification)
 - Structured training and design (simulation)
 - Culture
 - **Make the easy way the right way!**



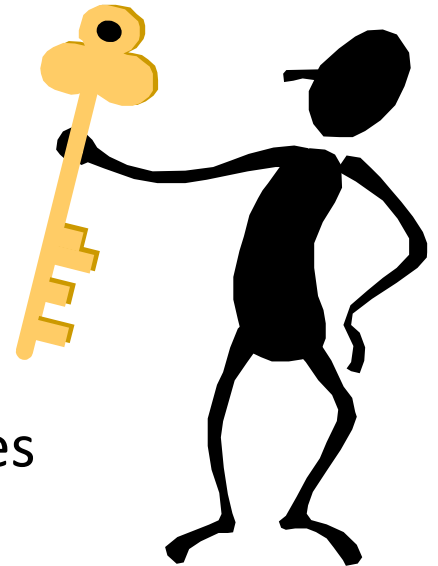
Other Considerations...

- Variance reporting
 - Why the performance gap exists?
 - What will be done about it?
 - Who is responsible?
 - When improvement will occur?
- Measure trends over time
 - Avoid erosion



Summary – Keys to Success

- Strategy first!
 - Stakeholder involvement
 - Infrastructure
- “ADOPT” a team-based, “Plan, Do, Study, Act” approach
 - Align with national standards and initiatives
- Keep the momentum!
 - Share with others...make it transparent!
 - End ADE-related harm



Final Thought

“So long as it involves humans, health care will never be free of errors...but it can be free of injury.”

--Donald Berwick





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