# Using Quality Improvement Science to Improve Patient Care Outcomes

ADAA March 2014

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# Disclosure

- **UpToDate** clinical decision support resource
  - Wolters Kluwer Health
- UpToDate contributions within **Pediatrics**
  - *Depression in children and adolescents*
  - *Treatment of adolescent depression*
  - *Suicidal behavior in children and adolescents*

# Educational Objectives

Participants will be able to:

1. Describe key principles and processes of quality improvement
2. Describe the utility of the QI approach for improvement of clinical practice with anxiety & depressive disorders, including bridging the research-practice gap
3. Identify 3 metrics to improve the quality of their own clinical practice in keeping with the Institute of Medicine's aims for our nation's health care system

# “If you have to be naked, you had better be buff”

Tapscott & Ticoll
The Naked Corporation:  How the age of transparency will revolutionize business

# Overview/Agenda

- Overview Quality Improvement (QI)
  - Institute of Medicine (IOM) seminal reports
  - Introduction to QI Science principles & methods

- Illustrate QI's potential for improvement of patient care for anxiety & depressive disorders
  - Relate QI to clinical activities & mindset already familiar to CBT and behavior therapists

# History of QI movement

- Seminal IOM reports:
  - *To Err is Human: Building a Safer Health Care System* (1999)
    - Reframed medical error as a chronic threat to public health
  - *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001)
    - *"Between the healthcare we have and the healthcare we could have lies not just a gap, but a chasm"*
- Healthcare reform efforts / healthcare costs

# What is Quality?

- IOM: The degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge

# Quality Gap

- Evidence of quality problems
  - **Variation** in services
  - **Underuse** of services
    - Evidence-based practices
  - **Overuse** of services
    - Higher expenditures & more procedures are not related to better outcomes (Dartmouth Atlas Project – 2009)
  - **Misuse** (e.g., errors, negligence)
    - Adverse events, “never events”
  - **Disparities** in quality

# Institute of Medicine (IOM) Quality Dimensions

| Dimensions/Aims | Definition |
|---|---|
| Safe | Avoid injuries to patients from the care that is intended to help them |
| Effective | Provide services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit |
| Patient Centered | Provide care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions |
| Timely | Reduce waits and sometimes harmful delays for both those who receive and those who give care |
| Efficient | Avoid waste, including waste of equipment, supplies, ideas, and energy |
| Equitable | Provide care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status |

- Improving the patient experience of care
  - including both quality and satisfaction
- Improving the health of populations
- Reducing the per capita cost of health care

Quality/Cost = **Value**

# Recap

- Transparency / Data on outcomes
- What outcomes?  IOM & IHI aims
- Complex systems / human factors

# Quality Improvement (QI)

- CHANGE: Not *"more of the same"*
  - All improvement requires change, but not all change will result in an improvement
  - Use data to improve healthcare – in daily work
- SYSTEMS: Central law of improvement
  - *"Every system is perfectly designed to get the results it gets"*

- Paul Batalden, M.D.

Improvement depends on much more than having the right scientific evidence at hand – *it requires change at the level of systems of care* and *knowledge about how to make changes*

# Model of Improvement

Framework for Improvement Initiatives

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# The Model for Improvement

- Provides structure for diagnosing and treating systems of care

- Model for developing, testing, implementing and spreading change that yields improvement
  - Three Fundamental Questions define the endpoint
  - Plan-Do-Study-Act (PDSA) iterative cycles
  - Spread improvement / Implementation to foster adoption

# Model of Improvement: 3 Fundamental Questions

AIM

- WHAT ARE WE TRYING TO ACCOMPLISH?
  - Specific, Measureable, Achievable, Realistic, Time-bound (SMART)

MEASURES

- HOW WILL WE KNOW THAT CHANGE IS AN IMPROVEMENT?
  - Outcome, Process, & Balancing Measures

CHANGES

- WHAT CHANGES CAN WE MAKE THAT WILL RESULT IN IMPROVEMENT?

# Process Analysis / Planning Tools

- Harness power of teams (systems thinking)
  - Learn about processes of care (Where are we now?)
  - Build shared vision (Where do we want to go?)
- Tools
  - Brainstorming
  - Cause & Effect (aka Fishbone diagram)
  - Key Driver diagram*
  - Gap Analysis (aka Spider diagram)*
  - Benchmarking / learning from others

# Key Driver Diagram

IHI OPEN SCHOOL
for health professions

## KEY DRIVER DIAGRAM

Name: _____ University/Organization Name: _____

Project Title: _____ Health System Sponsor Name: _____

Team Members: _____

**Aim:**

**Primary Drivers**

**Secondary Drivers**

**Measures:**

Aim/Primary Driver-
Outcome Measure(s):

1.

Secondary Drivers-
Process measure (s)

1.

2.

# Gap Analysis (AHRQ toolkit – www. ahrq.gov)

| Best Practice | Best Practice Strategies | How Your Practices Differ From Best Practices | Barriers to Best Practice Implementation | Implement? Y or N & Why |
|---|---|---|---|---|
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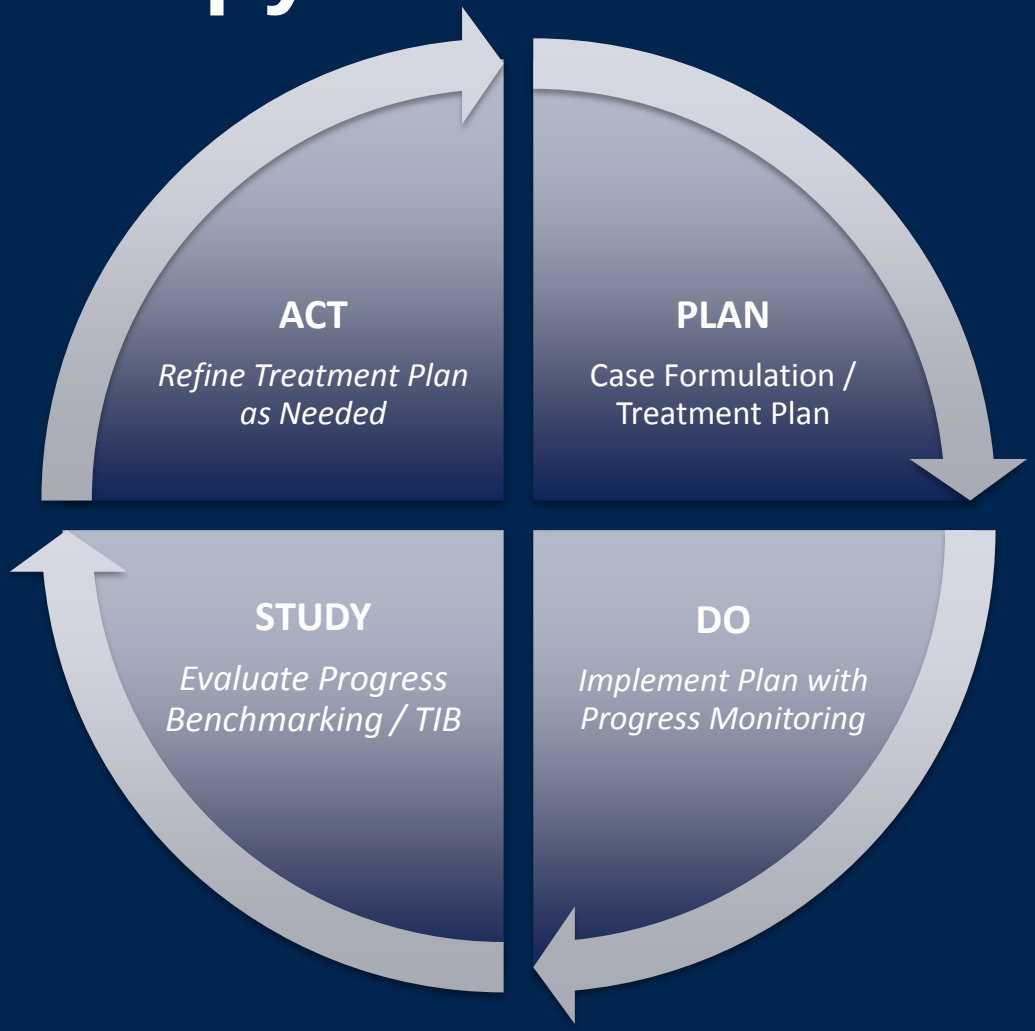
# PDSA Cycle

ACT
• Refine/change
• Next cycle
PLAN
• Objectives
• Questions/Predictions
• Plan for test/cycle
STUDY
• Review data
• Compare to prediction
• Summarize learning
DO
• Carry out plan
• Document your observations / data collection

# PDSA - Therapy



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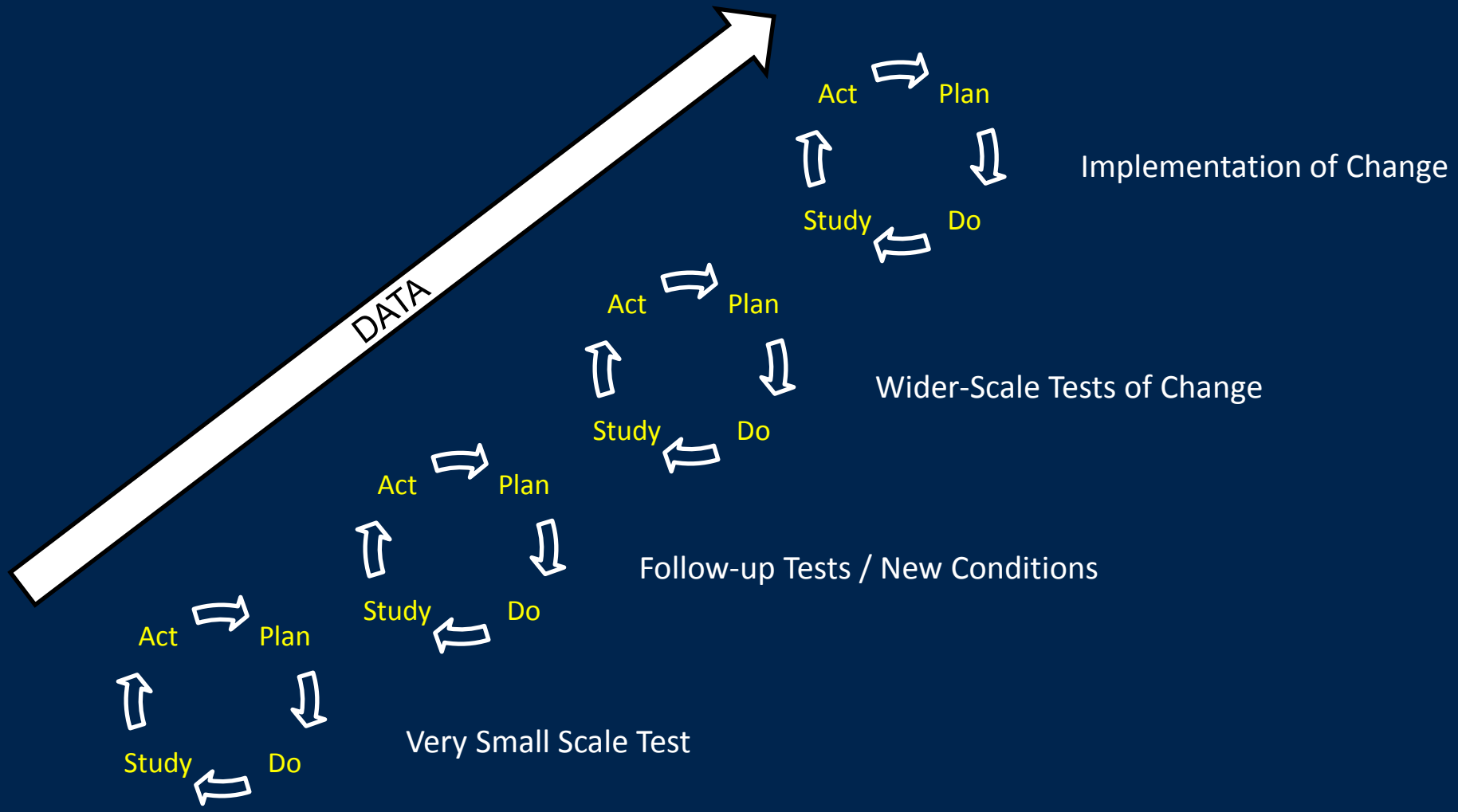
# A Series of PDSA Cycles



# Improvement of Practice: Anxiety & Depression

- Evaluate practice with IOM dimensions & IHI aims in mind
- Consider the complex systems of care
  - Integrated health care / population health
  - Take into account:
    - Power of teams / systems thinking
    - Realities of human factors (*To Err is Human* - IOM 1999)
- Hardwire systems to support quality
  - Refine processes to set up for success
    - Guidelines / treatment algorithms (decision-support)
    - Flow of daily work (technology, environment structure, communication)
    - Systematic / data driven problem solving (rapid /iterative PDSA cycles)

# For more information about QI

- Institute *for* Healthcare Improvement
  - www.IHI.org / IHI's Open School
- Agency for Healthcare Research & Quality
  - www.ahrq.gov
- *The improvement guide: A practical approach to enhancing organizational performance*
  - Langley, Moen, Nolan, Nolan, Norman, Provost
  - Based on Model for Improvement framework
  - Other frameworks: Lean Improvement, Six-Sigma

# Thanks!