Why Is Patient Safety Important?

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American Medical Student Association
Patient Safety and Quality Symposium

Philadelphia PA – September 7, 2012

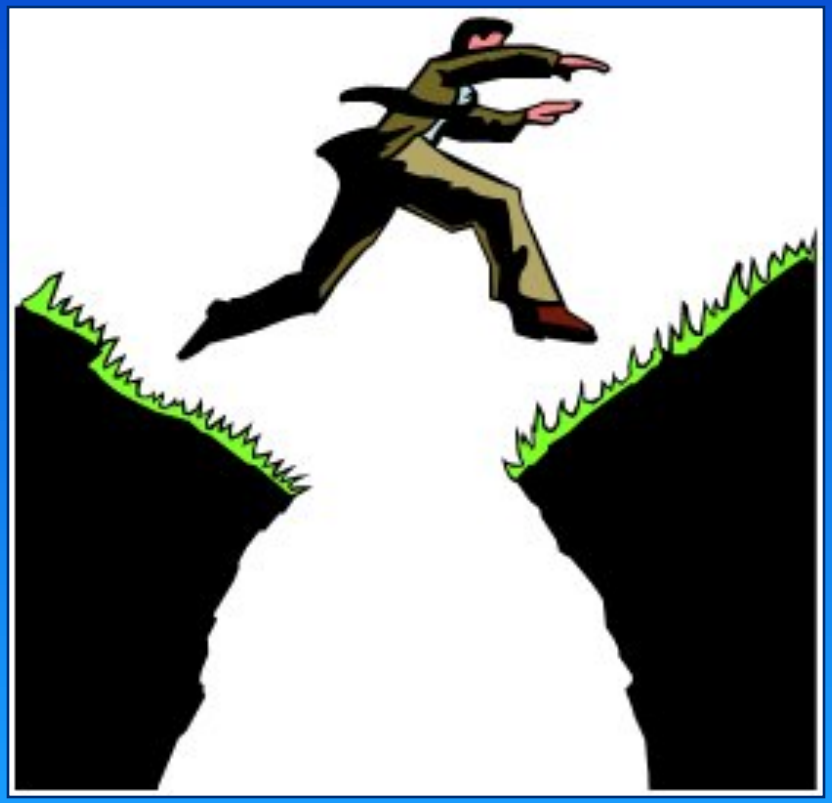
Diagnosing the Problem is One Challenge…

"The fundamental problem with the quality of American medicine is that we've failed to view delivery of health care as a science. … That's a mistake, a huge mistake."

Peter Pronovost, M.D., PhD,
Johns Hopkins Hospital

… Applying Evidence-Based Approaches to Patient Safety Issues is Another

Or, how do we get from here to there?



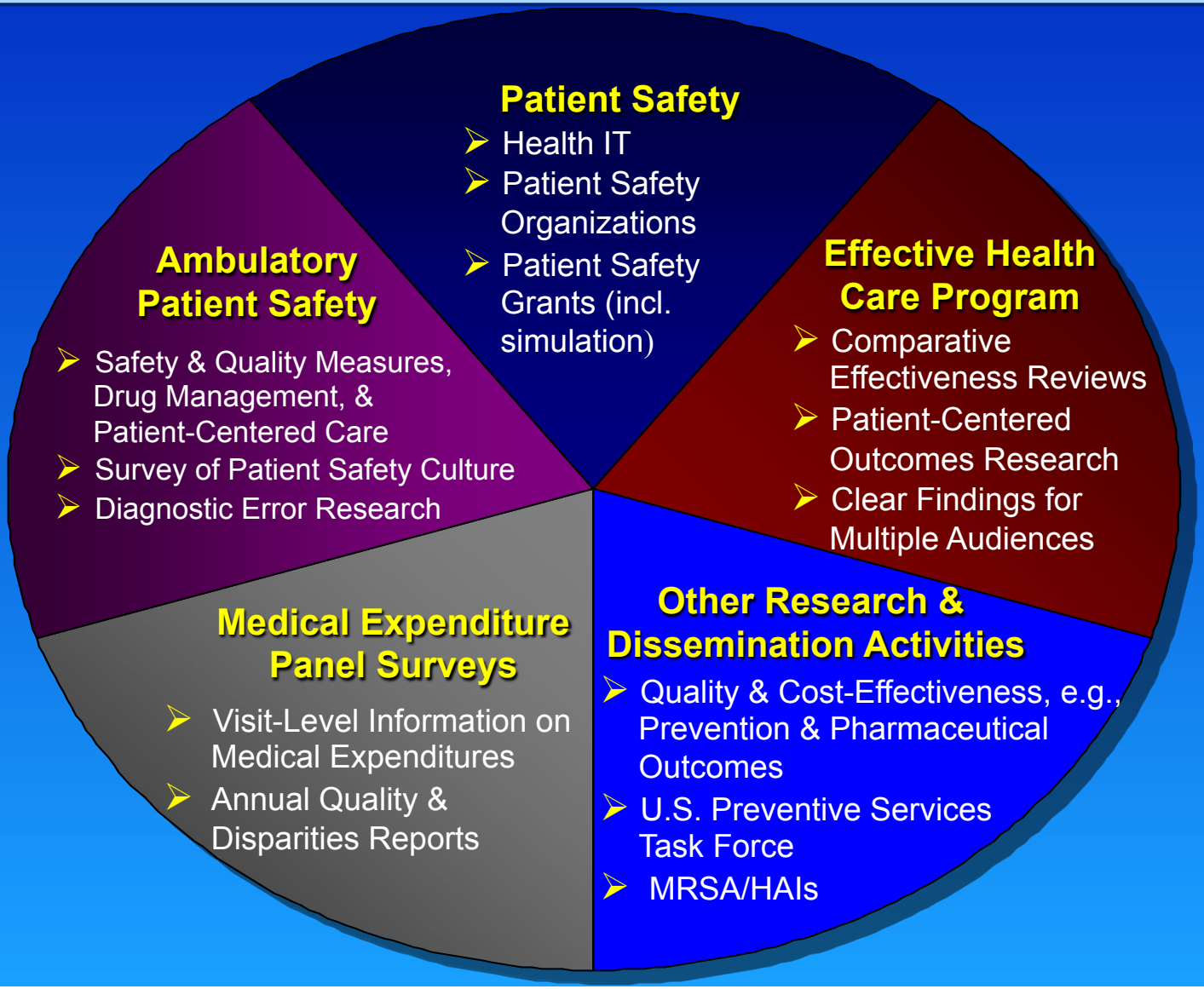
Evidence-Based Safety Practices Every Medical Student Should Know About

- AHRQ's Survey of Patient Safety Culture (SOPS)
- TeamSTEPPS™
- TeamSTEPPS ™ and Simulation Training
- Measures to improve performance and prevent prevent healthcare-acquired conditions (HACs)

Why is Patient Safety Important?

- Support for Patient Safety Research
- Evidence-Based Tools To Help You Recognize and Provide Safer Care
- Building a Safer, Patient-Centric Health Care System

AHRQ Priorities



AHRQ's Focus and Strategic Goals

- Quality: Deliver the right care at the right time to the right patient
- Safety: Reduce the risk of harm by promoting delivery of the best possible health care
- Efficiency: Enhance access to effective health care services and reduce unnecessary costs
- Effectiveness: Improve health care outcomes by encouraging the use of evidence to make more informed health care decisions

Patient-Centered Outcomes Research and the Recovery Act

- The American Recovery and Reinvestment Act of 2009 included $1.1 billion for patient-centered outcomes research:
  - To improve health outcomes by developing and disseminating evidence-based information to patients, providers and decision-makers
  - Investments in systems and infrastructure to inform everyday clinical decision-making
  - More opportunities to evaluate patient-centered outcomes research among diverse populations and patient subgroups

Patient Safety and the Affordable Care Act

- Quality Improvement for Hospitals with High Readmission Rates
  - New Federal policy reduces hospital payment for high readmission rates for AMI, heart failure, pneumonia
  - Hospitals to work with Patient Safety Organizations, other community-based groups to learn/ address readmissions
  - Project RED, Project BOOST shown to reduce readmissions

AHRQ Medical Liability and Patient Safety Initiative

- $25 million initiative to help States and health care systems to test models that:
  - Put patient safety first and work to reduce preventable injuries;
  - Foster better communication between doctors and their patients;
  - Ensure that patients are compensated in a fair and timely manner for medical injuries, while also reducing the incidence of frivolous lawsuits; and
  - Reduce liability premiums.
- Makes critical link between reducing harm to reduce medical liability

Partnership for Patients: HHS Public-Private Initiative

By end of 2013:

- 40% decrease in instances of hospital patients acquiring preventable conditions, including:
  - Central line-associated bloodstream infections
  - Catheter-associated urinary tract infections
  - Surgical site infections
  - Ventilator-associated pneumonia
  - Pressure ulcers
  - Adverse drug events
  - Venous thromboembolisms
  - Injuries from falls
  - Injuries from obstetrical adverse events
- 20% decrease in preventable readmissions due to complications during a transition from one care setting to another

Funded by the Affordable Care Act

www.healthcare.gov/center/programs/partnership/index.html

National Quality Strategy: Three Broad Aims

Created Under the Affordable Care Act

Better Care

Improve the overall quality, by making health care more patient-centered, reliable, accessible and safe

Healthy People/ Healthy Communities

Improve the health of the U.S. population by supporting proven interventions to address behavioral, social and environmental determinants of health, in addition to delivering higher-quality care

Affordable Care

Reduce the cost of quality health care for individuals, families, employers and government

www.healthcare.gov/center/reports/quality03212011a.html

AHRQ's Surveys of Patient Safety Culture

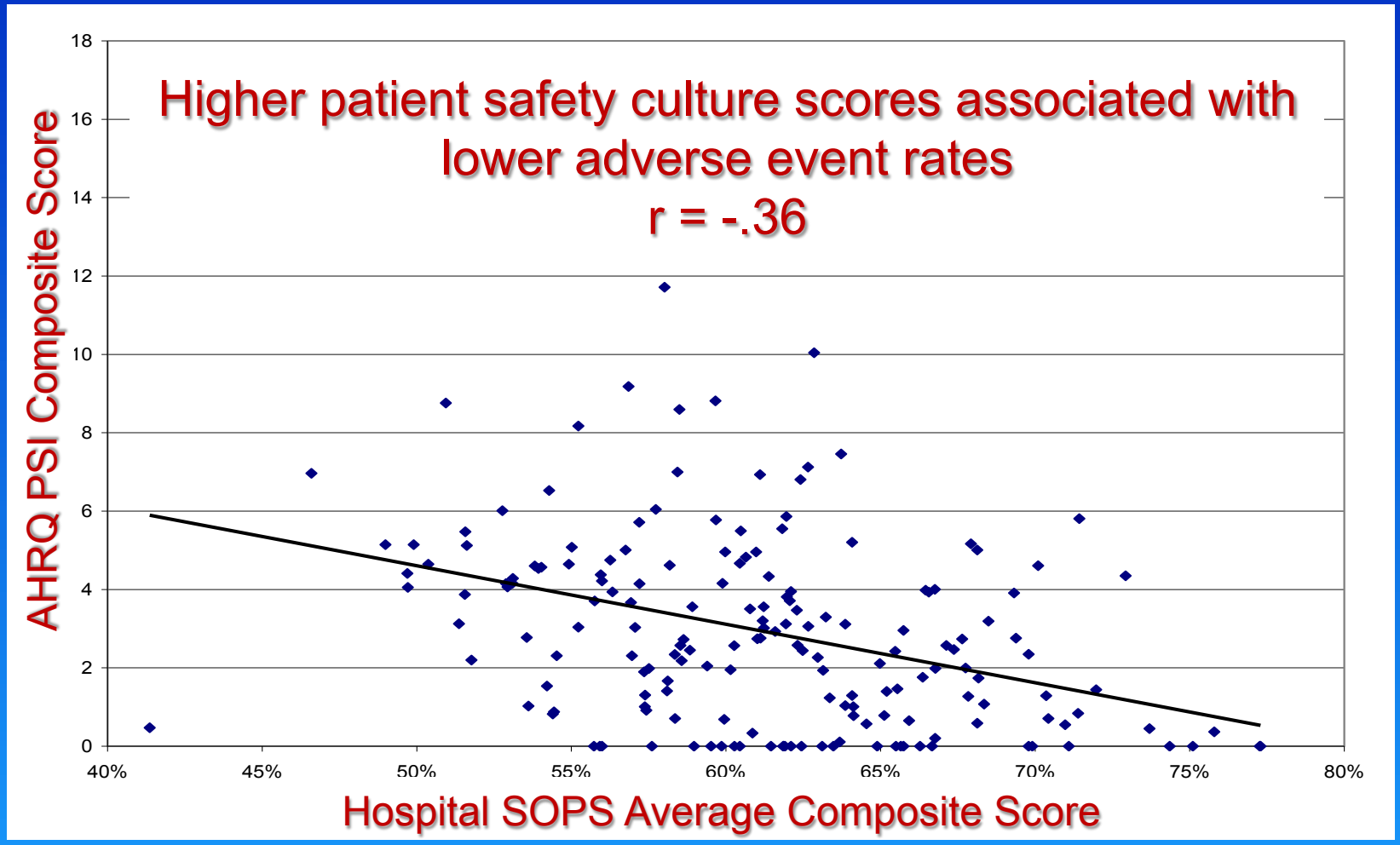
- **What:** Surveys to assess safety culture in hospitals, nursing homes, ambulatory medical offices (Pharmacy service survey in development)
- **Why?**
  - Raise staff awareness about patient safety
  - Diagnose and assess current status of patient safety culture; identify strengths and weaknesses
  - Examine trends in patient safety culture over time
  - Evaluate impact of patient safety initiatives and interventions
- **Findings:** The 2012 hospital comparative report shows change over time for 650 of the 1,128 hospitals that have submitted data more than once

Surveys on Patient Culture Survey: Questions

- **Outcome Measures:**
  - When a mistake is made but is caught and corrected before affecting the patient, how often is this reported?
  - Please give your unit in this hospital an overall grade on patient safety
  - In the past 12 months, how many event reports have you filled out and submitted?

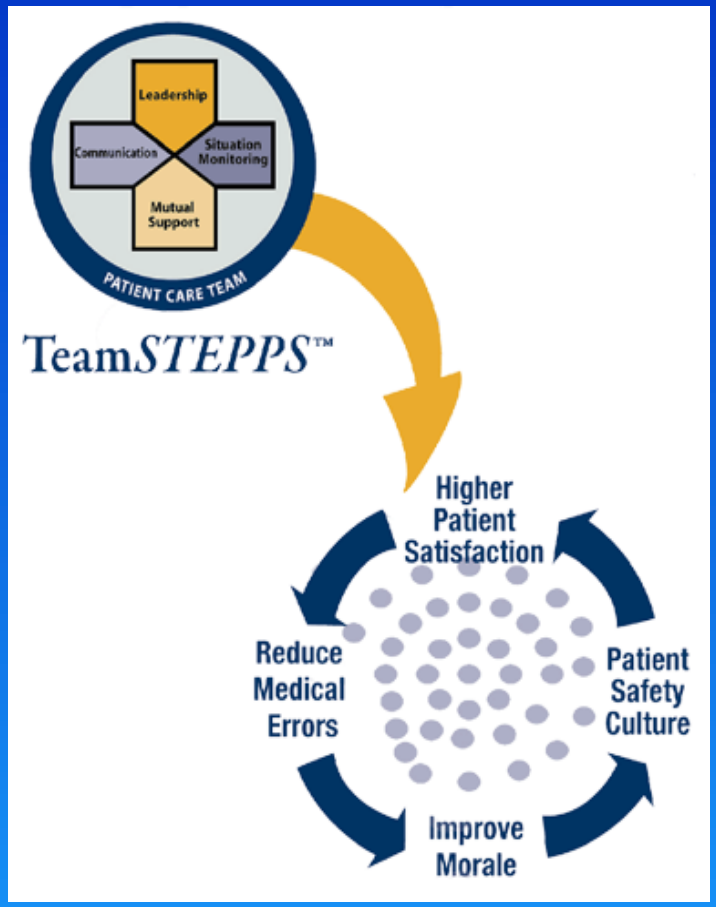
www.ahrq.gov/qual/patientsafetyculture/hospdim/htm

Relationship Between Patient Culture Survey and Patient Safety Indicator Composite Score



Mardon, Khanna, Sorra, et al. Dec. 2010. Exploring Relationships Between Hospital Patient Safety Culture and Adverse Events. *Jrnl of Pt Safety*, Vol 6 (4), pp. 226-232.

TeamSTEPPS™: A Patient Safety Improvement Tool



- Evidence-based system to improve communication and teamwork among health care professionals
- Rooted in more than 20 years of research and lessons from application of teamwork principles
- Developed by Department of Defense's Patient Safety Program in collaboration with AHRQ

TeamSTEPPS™ National Implementation Plan

Texas Center for Quality and Patient Safety

- AHRQ and DoD have teamed with American Institutes for Research to build national training and support network
- Five resource centers: Duke Medical Center (NC), Carillion Clinic (VA), U-Minn-Fairview Medical Center (MN), Creighton University Medical Center (NE) and U-Wash-Seattle (WA)

Team Training and Improved Surgical Outcomes

- The best outcomes data so far come from the Veterans Health Administration (VHA) Medical Team Training Program
- VHA training is 2 months of preparation, a 1-day conference, 1 year of quarterly coaching
- 74 sites experienced an 18% reduction in annual surgical mortality compared with a 7% decrease among the 34 non-training sites
- Dose-response relationship demonstrated: for every quarter of team training, reduction of 0.5 deaths per 1000 procedures occurred

Neily J, Mills PD, Young-Xu Y, et al. *Association between implementation of a medical team training program and surgical mortality*. JAMA. 2010; 304:1693-1700

Simulation and Teamwork: A Powerful Combination

- Provides instruction using simulation-based training when teaching TeamSTEPPS™
- Guide integrates critical teamwork, interpersonal and communication skills into simulation-based training.
- Intended as "train-the-trainer" program; key personnel train other local health care teams

www.ahrq.gov/teamsteppstools/simulation/index.html

Simulation Training in CVC Insertion: Impact on Resident Performance

- **Purpose:** To determine whether simulation training of ultrasound (US)-guided central venous catheter (CVC) insertion on partial task trainer improves cannulation and insertion success rates
- **Methods:** Randomized controlled study of first- and second-year residents at Yale University School of Medicine. Intervention group received training course in US-guided CVC insertion. Control group received traditional bedside apprenticeship training
- **Outcomes:** Success at first cannulation and successful CVC insertion (primary); reduction in technical errors and decreased mechanical complication (secondary)

Evans LV et al. "*Simulation Training in Central Venous Catheter Insertion: Improved Performance in Clinical Practice.*" Acad Med. 2010:

Simulation Training in CVC Insertion: Results

- **Results:** 495 CVC insertions by 115 residents over 21-month period. Successful first cannulation in 51% of intervention group vs. 37% of control group. CVC insertion success for 78% of intervention v. 67% of control group
- **Conclusion:** Simulation training associated with improved performance of CVC insertion; improved residents' skills; more effective than traditional training

Simulation Training for AMI Management for Rural Providers

- On-site training with physicians from University of Colorado-Denver
- Formal curricula using simulation, guideline-based treatment of AMI
- Use of SimMan™, with 4 AMI scenarios
- Team training with 3-5 staff/ (MD, RN, EMS)
- Pre- and post-training assessment

University of Colorado at Denver
Health Sciences Center

Performance on Case-Based Questions

AMI Scenarios	Overall Percent Correct	Range
Case 1	95%	75-100
Case 2	79%	40-100
Case 3	90%	50-100
Case 4	100%	100

Scores from 18 groups at 5 hospitals. Following each clinical scenario, 4 or 5 multiple choice questions were posed. Teams could answer as a group.

Simulation Training to Improve Heart Attack Care for Rural Hospitals. John C. Messenger, M.D., F.A.C.C. Associate Professor of Medicine, Division of Cardiology, Director, Cardiac Catheterization Laboratories, University of Colorado Denver. 2008 AHRQ Annual Meeting

Challenges and Conclusions

Challenges

- Development time longer than expected, even with commercially available simulator
- Chart abstraction component of project limited due to staff resources
- Tailoring evidence-based guidelines to all levels more difficult than expected

Conclusions

- Use of simulation-based training for AMI care in rural hospitals was realistic/engaging, required critical thinking skills, useful for on-site training
- Easily delivered to large number of participants
- Evaluation of impact of simulation on guideline-based AMI care is ongoing

Messenger, J. Presentation at 2008 AHRQ Annual Meeting

Evidence-Based Tools to Reduce Healthcare-Acquired Infections

- Majority of ICUs stopped central line-associated bloodstream infections (CLABSI) for up to 2 years after using AHRQ-funded quality initiative
- Comprehensive Unit-based Safety Program (CUSP) implemented through Keystone ICU project in Michigan hospitals (large and small)
- 60% of 80 ICUs evaluated went 1 year w/o infection; 26% went 2 years or longer
- Keystone tools include:
  - Promoting a culture of safety
  - Improving communications among ICU staff
  - Using checklist to promote practice of CDC guidelines

Lipitz-Snyderman A, Needham DM, Colantuoni E, et al. "*The Ability of Intensive Care Units to Maintain Zero Central Line-Associated Bloodstream Infections.*" Arch Intern Med 2011; 171(9): 856-858.

Nationwide Implementation of CUSP for CLABSI

- Following on Michigan Keystone success, an AHRQ project with AHA's Hospital Research & Educational Trust and Johns Hopkins University has recruited:
  - 46 State hospital associations
  - 1,055 hospitals
  - 1,775 hospital units
- First-year results – 750 hospitals

  Average CLABSI rate/1000 central line days:
  - Baseline 1.87
  - CUSP for CLABSI 1.25

  } ↓ 33%

Putting Knowledge into Practice

- **Takeaways:**
  - HACs are not an ‘unfortunate consequence of care’
  - They can be prevented (and even eliminated) with training, protocols and teamwork
  - New AHRQ toolkit to debut on 9/10/12

www.onthecuspstophai.org

Project MATCH for Medication Reconciliation

- Effective process can detect and avert most medication discrepancies
- Developed at Northwestern, supported by AHRQ and Joint Commission
- Toolkit incorporates experiences of facilities that have used MATCH

www.ahrq.gov/qual/match

Patient Safety Web Sites

AHRQ's PSNet

Patient Safety Network

Powerful searching and browsing capability and MY PSNet features

AHRQ's Web M&M

Morbidity & mortality rounds on the Web

Interactive learning modules and CME and CEU credit

A Patient-Centric Vision of a Safer Health Care System

When evidence-based quality improvements become the standard of care …

… a patient-centric health care system can flourish

Thank You

AHRQ Mission

To improve the quality, safety, efficiency, and effectiveness of health care for all Americans

AHRQ Vision

As a result of AHRQ's efforts, American health care will provide services of the highest quality, with the best possible outcomes, at the lowest cost

www.ahrq.gov