



U.S. Department of Health and Human Services



Agency for Healthcare Research and Quality

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Health Care Safety: Progress and Opportunities

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Agency for Healthcare Research and Quality

NIH Inter-Society Coordinating Committee (ISCC)

for Practitioner Education in Genomics

Porter Neuroscience Research Center, NIH – May 21, 2015



Goals of Presentation

- Overview AHRQ Patient Safety Research Program
- Highlight progress and also persistent challenges of improving patient safety
- Share patient safety implementation experience and potential relevance to the integration of genomics in health care



AHRQ's Mission

Produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable

Work with HHS and other partners to make sure that the evidence is understood and used



AHRQ's Target Audiences

- Clinicians, health care professionals
- Health care facilities, organizations
- Patients and families
- Health service researchers, policymakers
- Purchasers and payers





AHRQ Patient Safety Programs

- Making care safer is a Departmental priority
- Patient safety is one of six priorities of the National Quality Strategy
- Producing evidence to make health care safer is an AHRQ priority
- Patient Safety is a long-standing area of research for AHRQ
- Focus on leveraging success and identifying patient safety research that will support future improvements



Patient Safety Research Topics

- Patient safety events
 - ▶ Hospital-Acquired Conditions (HACs)
 - ▶ Healthcare-Associated Infections (HAIs)
 - ▶ Adverse Drug Events (ADEs)
- Patient safety practices
 - ▶ Problem-specific (e.g., HAIs, falls, pressure ulcers, VTE, etc.)
 - ▶ Safe medication use
 - ▶ Teamwork in health care
 - ▶ Care coordination
- Patient and family engagement
- Human and environmental factors
 - ▶ Health care simulation
 - ▶ Diagnostic performance
 - ▶ Health care facility design
- Patient safety and medical liability
- Patient safety measurement (reporting, surveillance, data analysis)



Partnership for Patients: HHS Public-Private Initiative

GOALS:

- 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

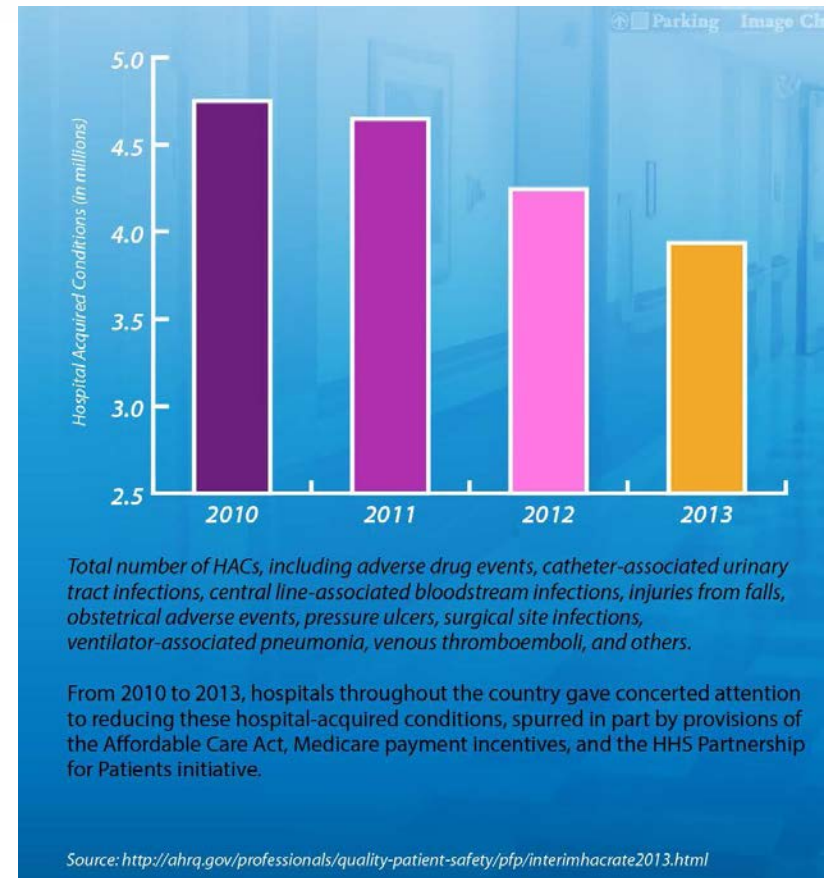


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Hospital-Acquired Conditions (HACs) Declined by 17 Percent

- Concerted efforts by hospitals reduced adverse events:
 - ▶ 1.3 million fewer patient harms
 - ▶ 50,000 lives saved
 - ▶ \$12 billion in health spending avoided
- Most significant gains occurred in 2012 and 2013
- HACs declined by 17 percent over 3-year period





AHRQ Data Analysis Earns Geppetto Checkmark

The Washington Post

Fact Checker, by Glenn Kessler

Obama's claim the Affordable Care Act was a 'major reason' in preventing 50,000 patient deaths



The Geppetto Checkmark

"the truth, the whole truth, and nothing but the truth"



One Pinocchio

Some shading of facts



Two Pinocchios

Significant omissions



Three Pinocchios

Significant factual errors



Four Pinocchios

Whoppers

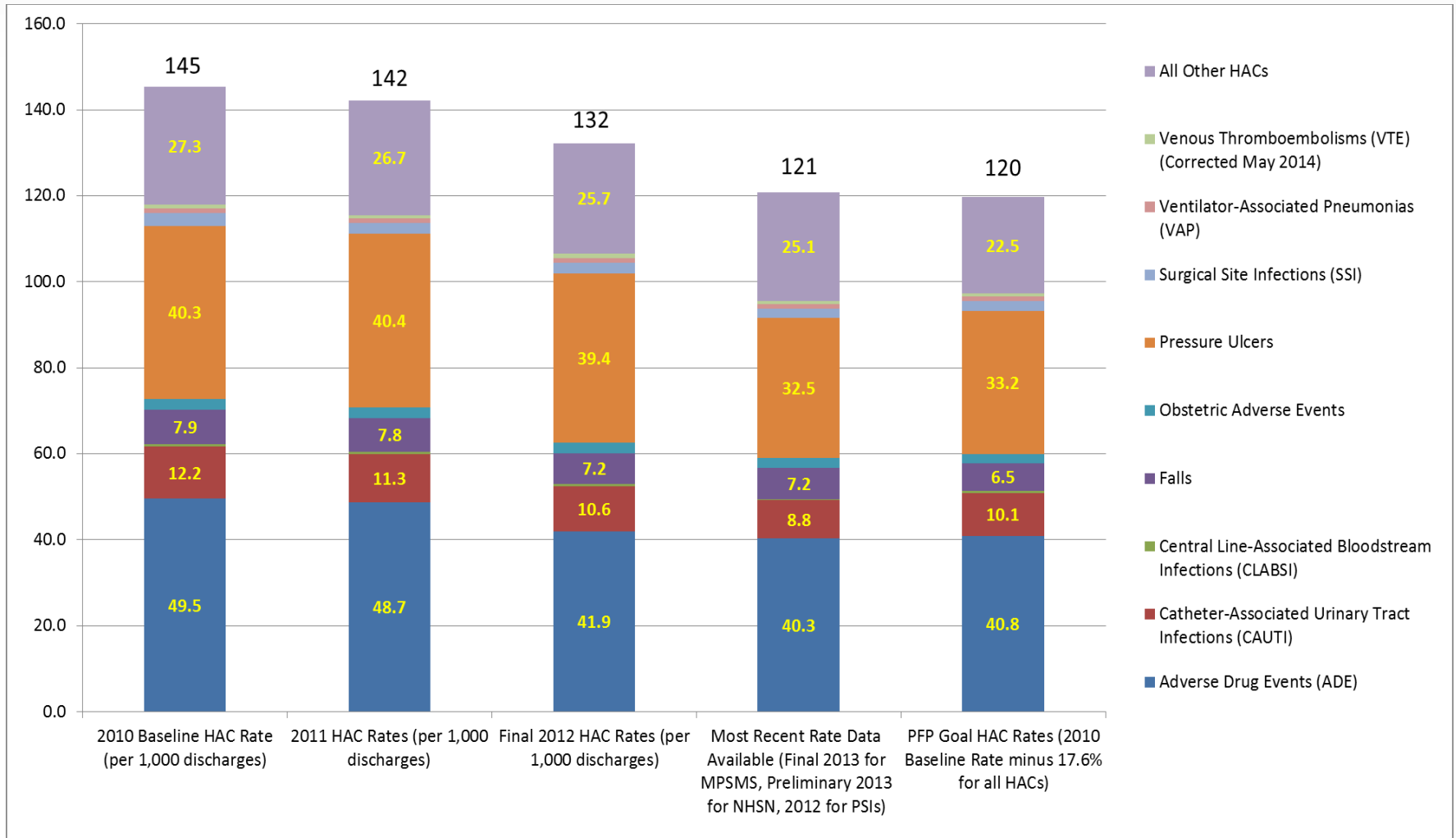
- President Obama uses **AHRQ analysis** in remarks on 5th anniversary of ACA
 - "Fact Checker" awards Geppetto Checkmark
 - One of three Geppettos awarded*
 - Most popular "Fact Check" for April 2015
- **AHRQ analysis** published in December 2014 on the impact of the Partnership for Patients

*97 "Fact Checker" articles published January 2015 through April 15, 2015



AHRQ National Scorecard for Healthcare

Acquired Conditions (HACs): 2010 to Interim 2013

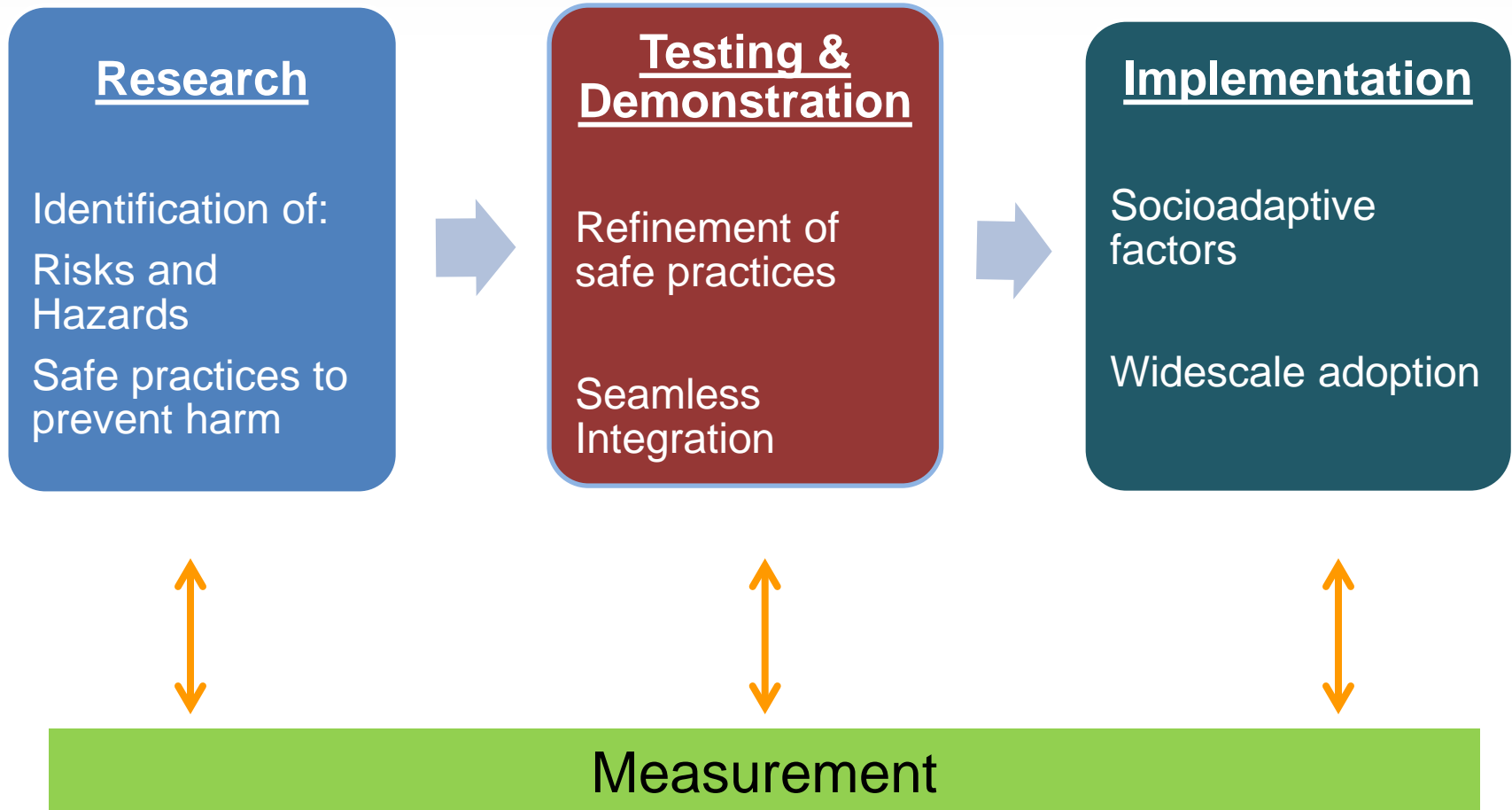




Why is it so hard to make health care safer?

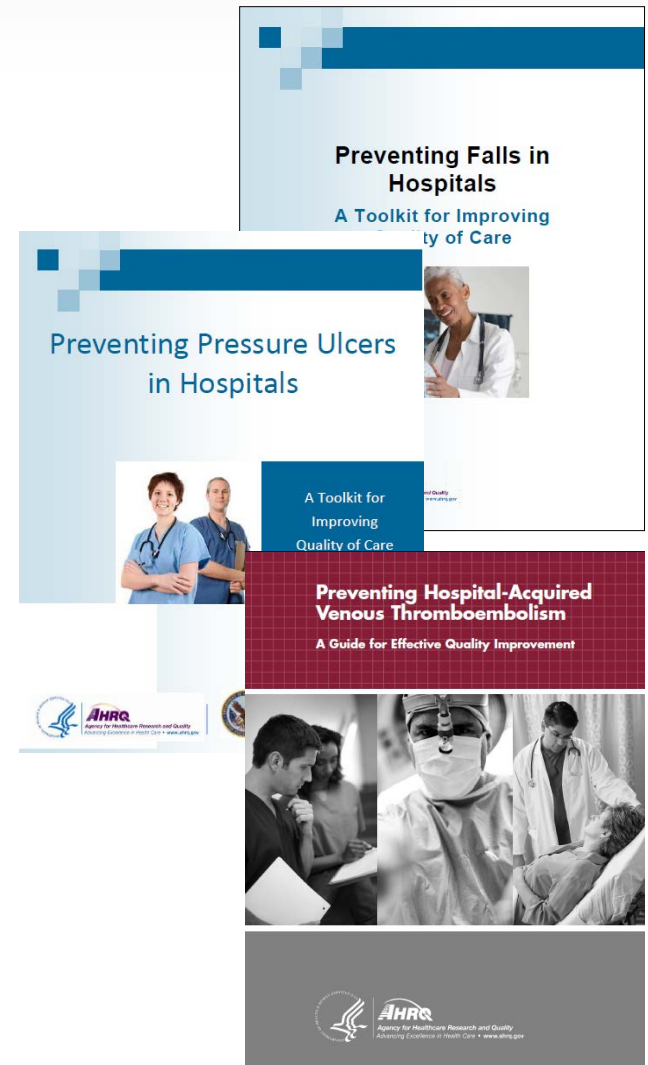
- **COMPLEXITY**
 - ▶ Health care delivery is complex (technical, organizational, administrative, etc.)
- **FLAWED SYSTEMS**
 - ▶ Health care systems (at all levels) are not designed to optimize safety or to address systems-based problems
- **INEFFECTIVE COMMUNICATION**
 - ▶ Poor Communication is a common contributor to patient harm
- **WEAK INCENTIVES**
 - ▶ The business case for patient safety is inadequate (but improving)

The Research Continuum: Discovery to Implementation



Accelerating Patient Safety Improvement in Hospitals

- Falls prevention toolkit
 - ▶ Helps hospitals overcome challenges associated with developing, implementing, and sustaining a fall prevention program
- Pressure ulcer toolkit
 - ▶ Assists hospital staff in implementing effective pressure ulcer prevention practices through an interdisciplinary approach to care
- VTE prevention guide
 - ▶ Provides a framework to help quality improvement practitioners achieve important milestones in improving performance



Examples of Successful Impact and Progress



- Implemented in more than 1,000 hospital intensive care units, where CLABSIs have been reduced by 41 percent
- Frontline caregivers in 100 neonatal intensive care units reduced central line-associated bloodstream infections in 8,400 newborns by 58 percent



TeamSTEPPS®

- More than 1,500 hospitals have implemented the training
- More than 5,000 master trainers have trained more than 300,000 frontline health care professionals



CUSP

Comprehensive Unit-Based Safety Program

The CUSP element addressed creating a safety program for the unit involved. The 5 steps of CUSP are:

- (1) educating staff on the science of safety,
- (2) staff identification of defects,
- (3) senior executive partnership,
- (4) learning from defects, and
- (5) implementing teamwork tools.



The key components of a successful HAI (CAUTI) prevention project

1. Centralized coordination of the effort and dissemination of information to SHAs and hospitals,
2. Data collection based on established definitions and approaches,
3. Focused guidance on the technical practices that will prevent CAUTI,
4. Emphasis on understanding the socioadaptive aspects (both the general, unit-wide issues and CAUTI-specific challenges), and
5. Partnering with specialty organizations and governmental agencies who have expertise in the relevant subject area.

“The socioadaptive component – both general and CAUTI specific – is central to the success of the CAUTI prevention efforts, because the interventions that are being promoted are largely behavioral.”

Fakih, et al; Implementing a National Program to Reduce Catheter-Associated Urinary Tract Infection: A Quality Improvement Collaboration of State Hospital Associations, Academic Medical Centers, Professional Societies, and Governmental Agencies. *Infect Control Hosp Epidemiol* 2013;34:1-7.



Local Solutions → National Goals

Daily Goals Worksheet

Patient Name _____ Room Number _____ Date ____/____/____

---Initial as goals are reviewed ---

GOAL	NOTES	0700-1500	1500-2300	2300-0700
What needs to be done for the patient to be discharged from the ICU?				
What is this patient's greatest safety risk?				
Pulmonary/Ventilator: HOB 30 degrees or greater				
Sedation Vacation and Assessment of Readiness to Extubate				
PUD Prophylaxis				
DVT Prophylaxis				
Oral care with chlorhexidine				
Cardiac Rhythm, Hemodynamics				
Volume Status, net goal for 12 MN				
Neuro/Pain Mgt/Sedation				
GI/ Nutrition/Bowel Regimen				
Mobilization/OOB				
ID, Cultures, Drug levels				
Medication changes (Can any be discontinued?)				
Tests/Procedures Today				
Review scheduled labs. Can any be discontinued?				
Morning labs and PCXR				
Consultations				
Can central lines or other catheters/tubes be DC'd?				
Attending up to date?				
Family Updated?				
Any social issues to address?				
Emotional/spiritual issues addressed?				
Skin Care Addressed?				
Code Status Addressed?				
Advanced Directive in place?				
Parameters for calling MD				

**40% reduction
in preventable
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Mobiliz				
ID, Cult				
Medicat				
be disc				
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Parameters for calling MD				

40% reduction in preventable hospital-acquired conditions

DAILY GOALS WORKSHEET

What is the Patient's greatest safety risk?

What needs to be done for the patient to be discharged from the ICU?



Extending Safety Improvements to Patients in All Settings

FY 2015 Budget:

Focus on primary care and nursing homes

- Development of strong evidence about risks and hazards and which prevention strategies are successful
- Creation of evidence-based tools to facilitate implementation of these strategies
- Piloting, evaluation, testing, and refinement of these strategies and tools
- Identification of enablers
(e.g. aligned financial incentives, culture of safety, process redesign, robust IT systems)
- Useful data and measures to track success



Adverse Drug Event (ADE) National Action Plan

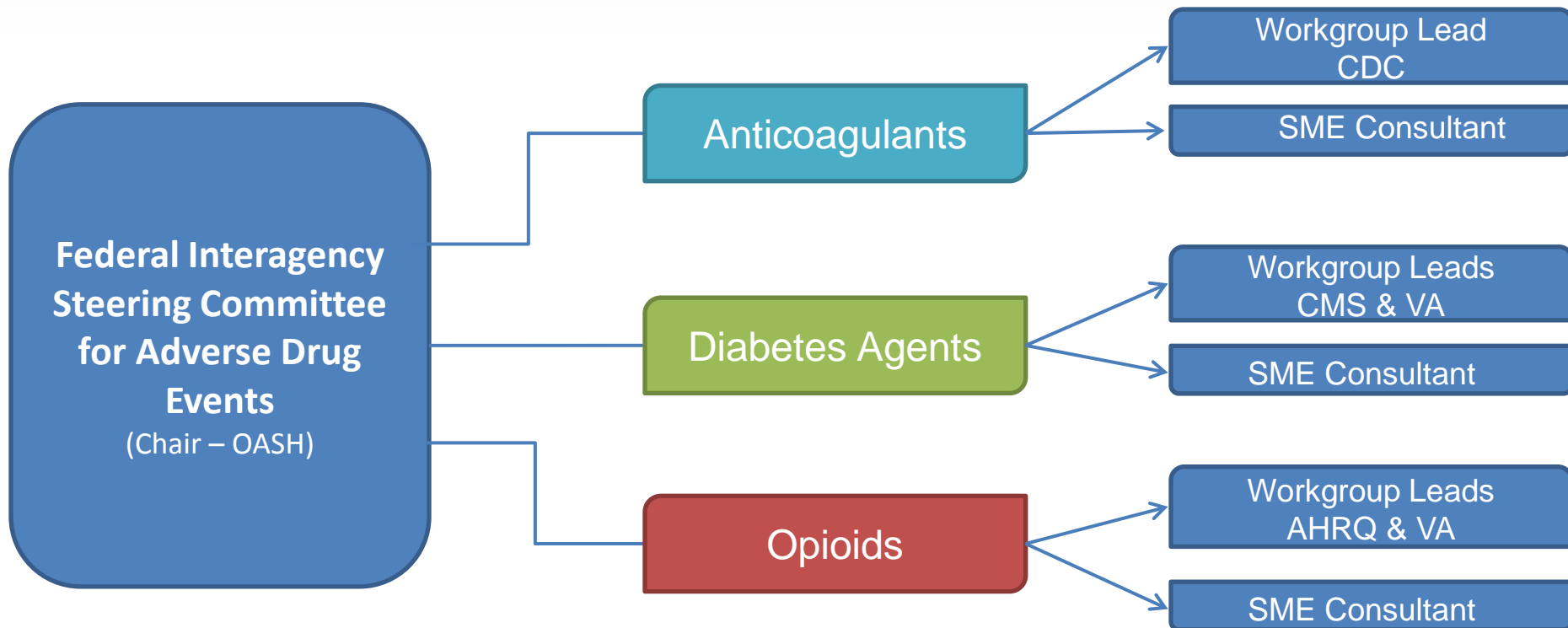
October 30, 2014, Stakeholder meeting

Hosted by HHS Office of Disease Prevention and Health Promotion

- Engage leaders at the federal, state, and local levels to implement evidence-based guidelines and engage in strategies that will help to prevent ADEs.
- Provides federal agencies and external stakeholders with a framework to identify strategies and select specific actions to take.
- Expected results are safer and higher quality health care services, reduced health care costs, informed and engaged consumers, and, ultimately, improved health outcomes.



Adverse Drug Event (ADE) Prevention Federal Advisory Group





Safe Medication Use Grant Funding Opportunity

AHRQ funding announcement:

“Advancing Patient Safety Implementation through Safe Medication Use”

Published in November 2013

- References the ADE National Action Plan
- Investigative research demonstration projects that examine the effective implementation of processes, policies, and behaviors that support safe use of medication as well as its sustainment and dissemination (R18 grant mechanism)
- All settings of health care; emphasis on outpatient and care transitions
- Relies on the Medication Use Process continuum* as a primary research framework to guide the processes around safe medication use.

* The [Medication Use Process](#) continuum includes prescribing, transcribing, dispensing, administration, and monitoring.



AHRQ Healthcare-Associated Infections (HAIs) Program

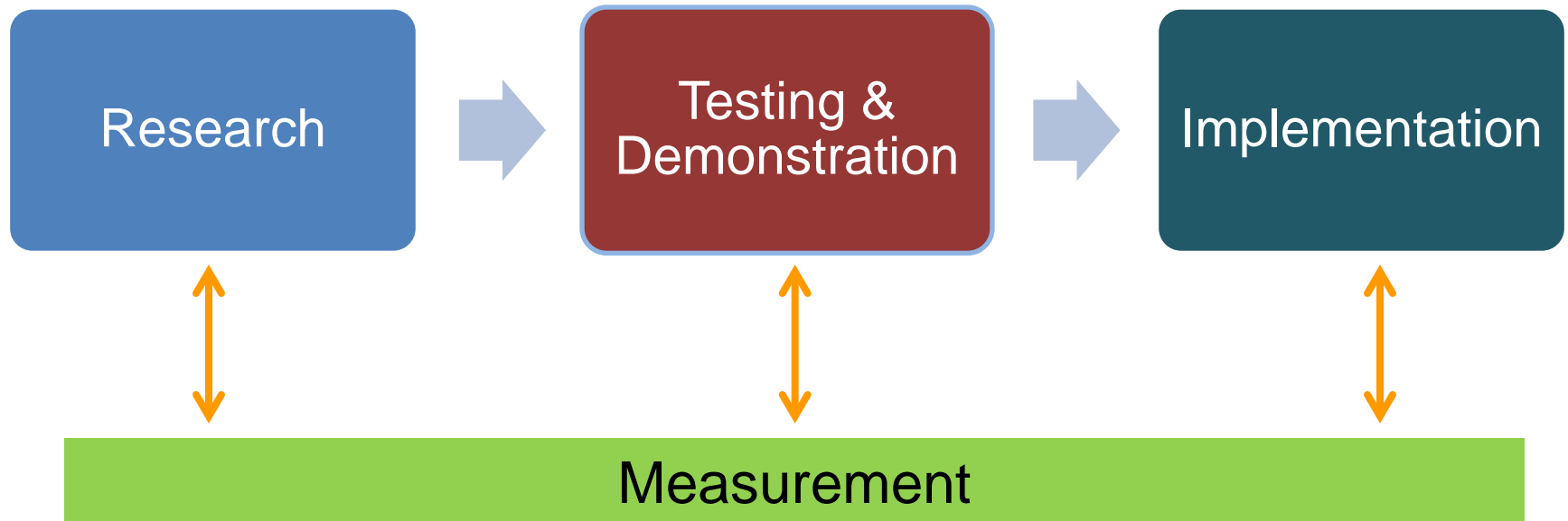
AHRQ supports research and promotes wide-scale implementation of proven methods for preventing HAIs

- Research projects focused on HAI prevention
- Adaptation and Implementation of CUSP to reduce:
 - ▶ CLABSI in ICUs (completed)
 - ▶ CAUTI in hospitals
 - ▶ CAUTI in long-term care and nursing homes
 - ▶ SSI and other surgical complications in inpatient surgery
 - ▶ SSI and other surgical complications in ambulatory surgery
 - ▶ VAP / VAE / VAC (MVP complications)



The Research Continuum: Discovery to Implementation

HAI Prevention:
CLABSI, CAUTI, SSI, VAP,
MRSA, *C. difficile*, Multi-Drug Resistant Organisms





Combating Antimicrobial Resistant Bacteria (CARB)

- Components of CARB –
 - ▶ Executive Order signed September 18, 2014
 - ▶ *National Strategy on Combating Antibiotic-Resistant Bacteria*
 - ▶ President's Council of Advisors on Science and Technology (PCAST) Report
- National Strategy (has five goals)
 - ▶ Goal 1: Slow the emergence and prevent the spread of resistant bacteria
 - AHRQ and CDC will expand focus on research and evaluation to develop improved methods for combating AR and conducting antimicrobial stewardship.



Nature of the Problem

(from a patient safety perspective)

- Medical training & education is a lifelong process; not just for residents
- Past emphasis has been on knowledge acquisition to the neglect of performance competency.
- A lot of medical & surgical procedures are potentially dangerous and very difficult to learn and teach
- Patients are harmed as steep learning curves are climbed by residents and practitioners
- Halstedian apprenticeship model of “see one, do one, teach one” is seriously deficient.

Would anyone get on a plane where the pilot was trained by “see one, do one, teach one?”



Challenge Issued from a Simulation Pioneer in Healthcare

We would not get on an airplane unless the pilot had been trained in a flight simulator and certified to use the jet's instruments, yet we put ourselves in the hands of doctors who have not proven their competency or been certified on a simulator. *David Gaba, 2005*





Converging Trends Supporting Strong Interest in Simulation

- Advances in healthcare simulation
- Progressive lowering of costs
- National focus on patient safety
- Shorter hours for residents; less exposure to challenging conditions
- Belief that performance competency is just as important as acquisition of knowledge
- Willingness to incorporate lessons learned from high-risk industries
- ACGME heightened interest
- Rapid expansion of sim. centers in schools of medicine and nursing
- New Society for Simulation in Healthcare with its own journal
- Growth of IMSH Conferences (2002 < 150; 2013 > 3,000 attendees)
- AHRQ funding





Funding Announcement: Patient Safety Learning Labs—FY15

- Patient Safety Learning Laboratories: Places and professional networks where closely related threats to patient safety can be identified
- Multidisciplinary teams generate new ways of thinking with respect to the threats
- Environments are established conducive to brainstorming and rapid prototyping techniques that stimulate further thinking
- AHRQ will fund \$5 million in new grants in FY 2015
- AHRQ funded \$5 million in Learning Lab grants in FY2014



Institute of Medicine: Diagnostic Errors in Medicine

Activity Description

- An IOM committee will evaluate the existing knowledge about diagnostic error as a quality of care challenge.
- The committee will examine current definitions of diagnostic error and illustrative examples; the epidemiology, burden of harm, and costs associated with diagnostic error; and current efforts to improve diagnosis.
- The committee will develop recommendations to reduce diagnostic error in health care. Action items for key stakeholders may focus on education, the culture of health care, information technology, systems engineering, measurement approaches, changes in payment, and further research.

Report is anticipated in the Fall of 2015.

Patient Safety Curriculum Guide

The Multi-professional **Patient Safety Curriculum Guide** is a comprehensive guide for patient safety education.

It is designed to be used for educating students of **all health-care professions** about patient safety.

It comes complete with a section dedicated to **assist educators** when teaching the curriculum and **11 ready-to-teach** patient safety topics. It builds a foundation of knowledge and skills that will better **prepare** students to practice **safer health care**.



Patient Safety

A World Alliance for Safer Health Care

Contact us at
<http://www.who.int/patientsafety/education/curriculum/en>

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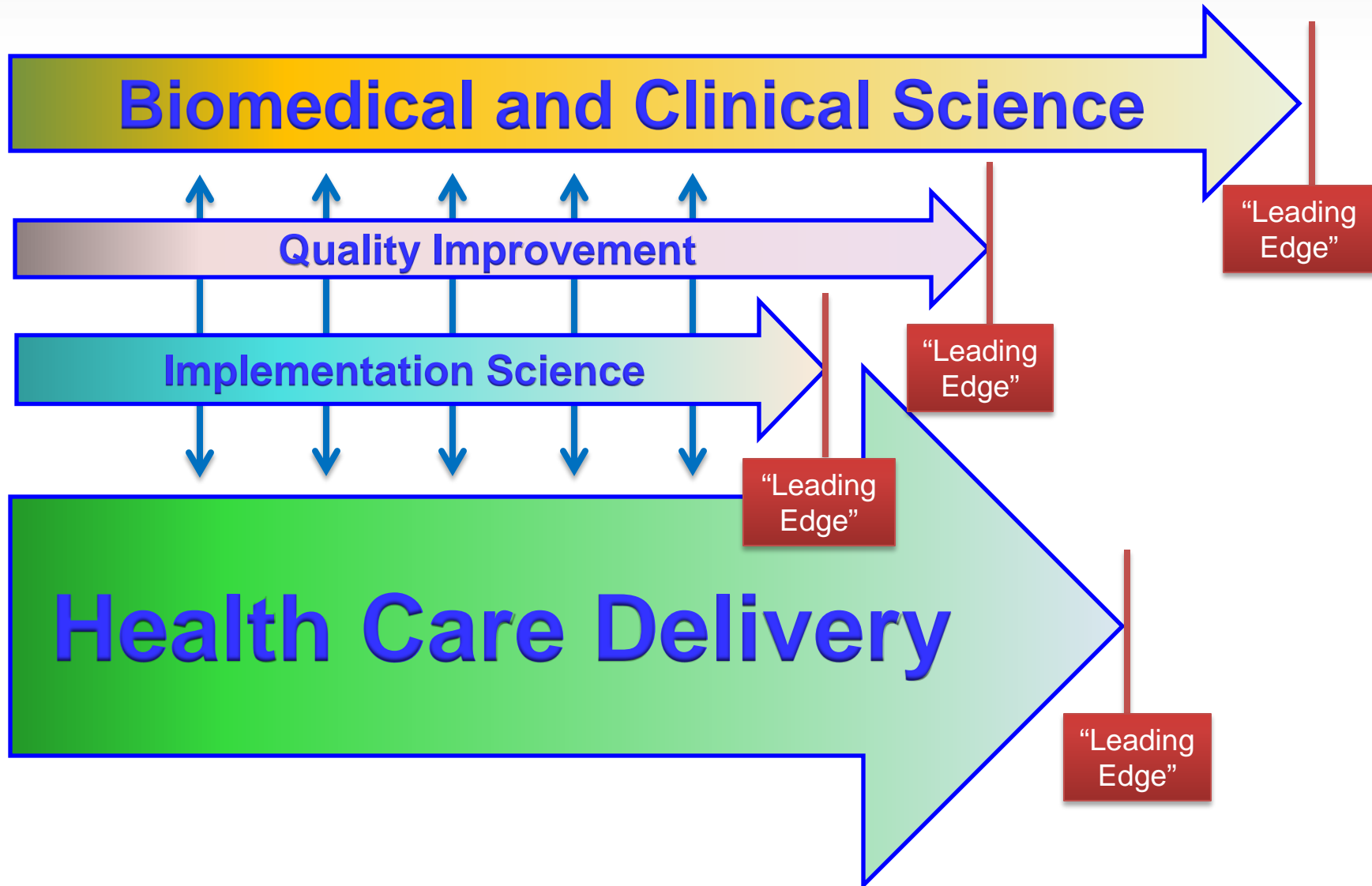


Patient Safety Trends

- National Patient Safety Planning & Coordination
 - ▶ HAI National Action Plan – 2009
 - ▶ Partnership for Patients – 2011
 - ▶ Combating Antibiotic Resistant (CARB) – 2014
 - ▶ ADE National Action Plan – 2014
- National **and local** capacity focused on patient safety
- Prevalence of patient safety topics and principles in professional education and training
- National improvements in patient safety
- Improvement opportunities on the near horizon



“Lanes” of Activity Relevant to Diffusion of Health Care Innovations





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