COOK COUNTY HEALTH & HOSPITALS SYSTEM

CCHHS Board of Directors

Quality and Patient Safety Committee

Quality and Reliability in Health Care

Krishna Das, MD, Chief Quality Officer

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Quality: A Definition

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

- Institute of Medicine, Crossing the Quality Chasm, 2002

Safety versus Quality

- Quality- addresses the intended results of the health care system
- Safety- is concerned with the many ways in which the system can fail to function
- Both are important in improving care

Vincent et al. NHS Safety Briefing

Quality from a Patient's Perspective

- 'Help me' — **Evidence based, high quality practice**
- 'Don't hurt me' — **Prevent medical errors & adverse events**
- 'Be nice to me' — **Treat me with respect and humanity**

Adapted from Don Berwick, MD

Dimensions of Quality

- What are the components of quality?
- IOM listed and defined the dimensions of quality in health care
- This process also summarized research findings in contributors to quality

Institute of Medicine (IOM): Crossing the Quality Chasm, 2002

Safe

- Patients should not be harmed by the care that is intended to help them

- Safe health care systems reduce risks and hazards attributable to the process of care

IOM: Crossing the Quality Chasm, 2002

Timely

- Waits and sometimes-harmful delays in care should be reduced both for those who receive care and those who give care

- In most industries timeliness is an important quality metric

IOM: Crossing the Quality Chasm, 2002

Effective

- Care should be based on scientific knowledge and offered to all who could benefit, and not to those not likely to benefit

- We match the science of medicine to the care we provide

IOM: Crossing the Quality Chasm, 2002

Efficient

- Care should be given without wasting equipment, supplies, ideas and energy

- Don’t allow ideas and suggestions from front line to go to waste

IOM: Crossing the Quality Chasm, 2002

Equitable

- Care should not vary in quality because of personal characteristics such as gender, ethnicity, geographic location or socioeconomic status

- Must close the gap in justice in health care

IOM: Crossing the Quality Chasm, 2002

Patient Centered

- Care should be respectful of and responsive to individual patient preferences, needs and values

- ‘Nothing about me without me’

IOM: Crossing the Quality Chasm, 2002

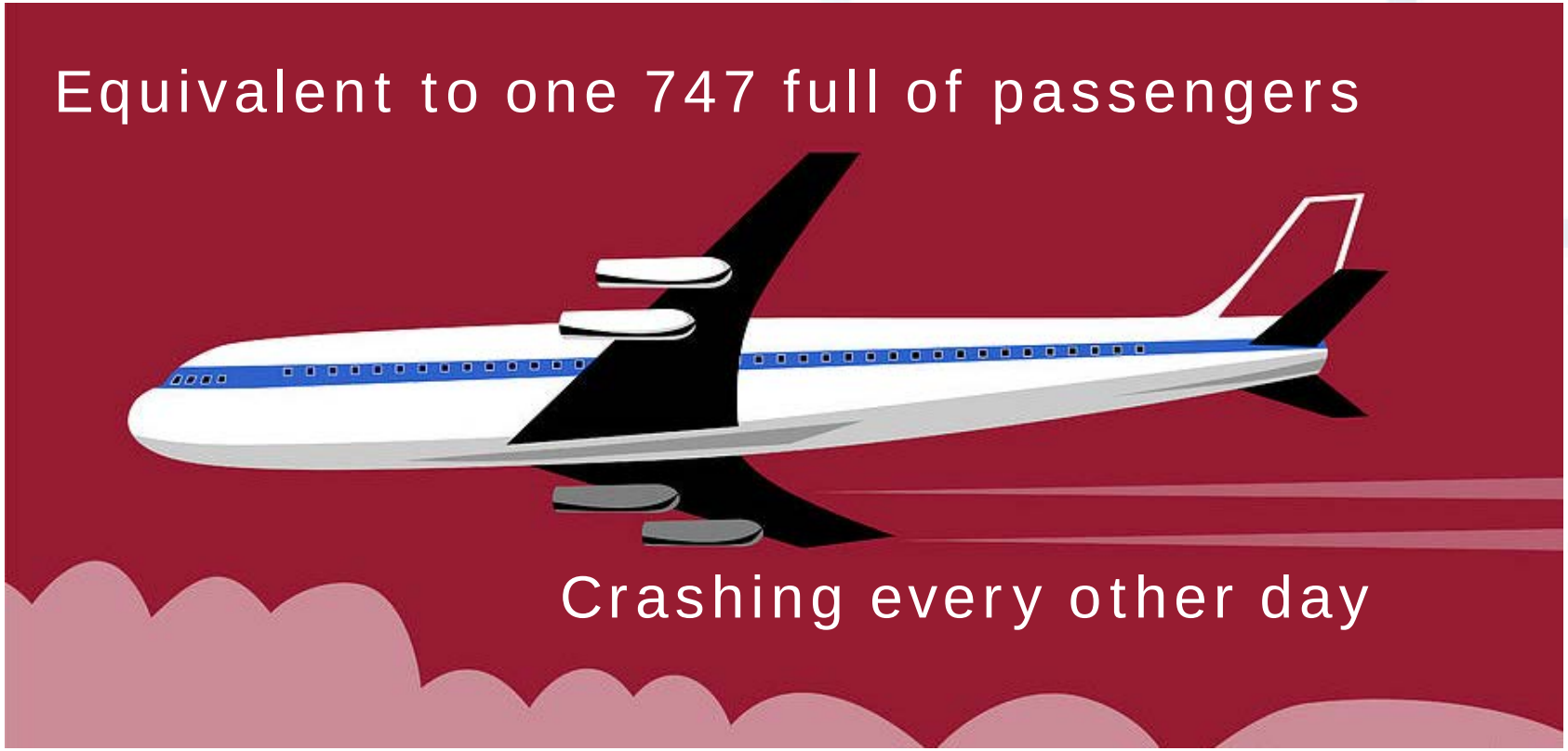
Six Dimensions of Quality (and care)

- S: Safe
- T: Timely
- E: Effective
- E: Efficient
- E: Equitable
- P: Patient Centered

IOM: Crossing the Quality Chasm, 2002

Over 15 Years Later…

We still see 100,000 deaths annually due to medical care



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High Reliability

- The ‘consistent performance at high levels of safety over long periods of time’
- Ability of organizations to avoid preventable adverse events which might be expected due to hazardous or complex environments
- Examples of high reliability organizations (HROs): nuclear industry, aircraft carriers, airlines, amusement parks

Reliability – the Challenge

Application of evidence (effective treatments)

- Evidence is known but not consistently applied
- Over 7,000 patients studied by RAND*
- 55% received recommended care:
  - Preventive care
  - Acute care
  - Care for chronic conditions

* McGlynn et al. The Quality of Healthcare Delivered to Adults in the US. NEJM 2003

Reliability – the Challenge

<u>Complexity of health care</u>

- 99% error free – sounds good?

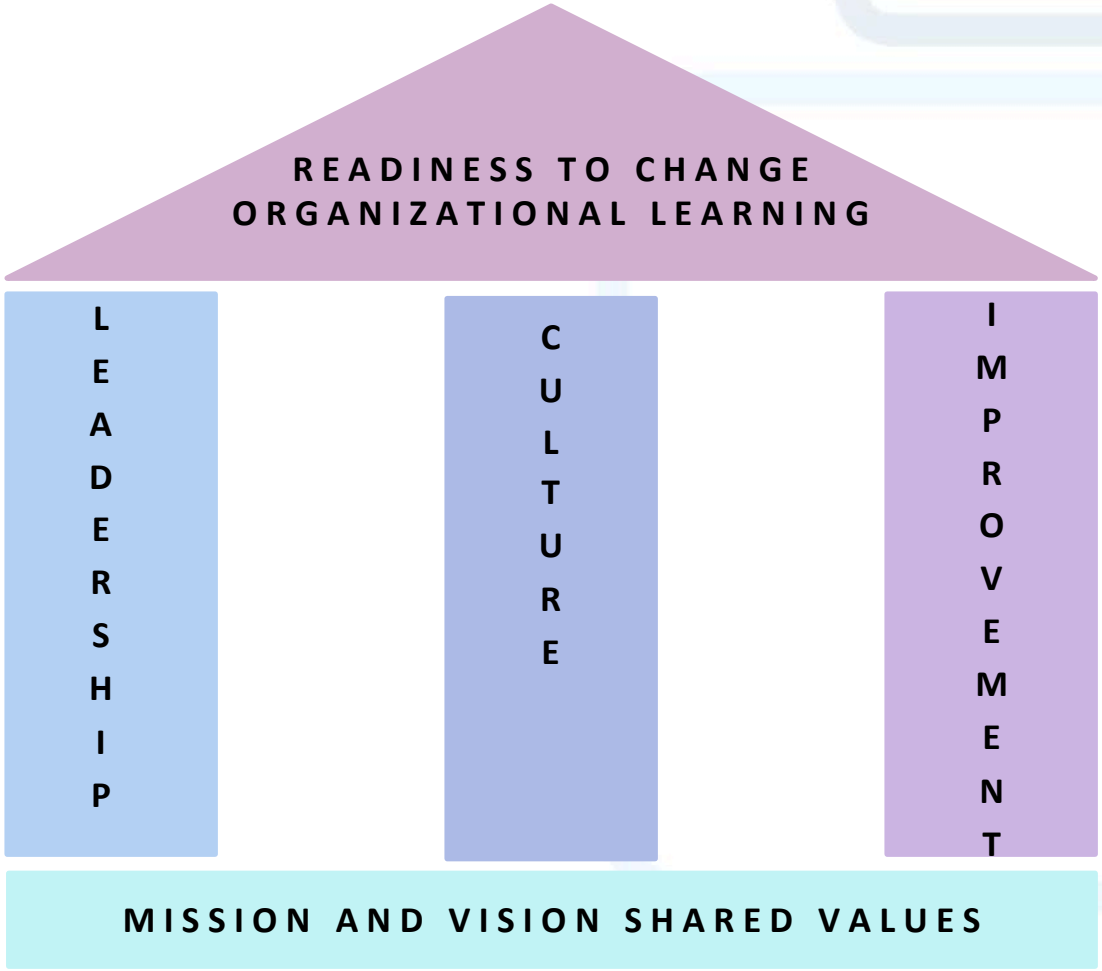
- If ‘only’ 1% of 1,000,000 surgical procedures contain an error → 100,000 procedures will be performed with an error
- If ‘only’ 1% of 35,760,000 hospitalized patients experience an error in their care → that is 357,607 medical errors

Reliability – the Challenge

<u>Complexity of health care, cont'd</u>

- Medication administration → 10 steps from writing orders to administering medications
- Assume each step is 99% accurate
- To perform all 10 steps = 90% accurate

Building Reliability



Chassin & Loeb. The Ongoing Quality Improvement Journey. Health Aff. 2011

Reliability – Leadership

- Commitment to the process
  - Board of Directors
  - Senior Leadership
  - Physician Leadership
- Prioritize quality and reliability
- Recognize it is a long term process
- Commit to organizational learning

Chassin & Loeb. The Ongoing Quality Improvement Journey. Health Aff. 2011

The Path to High Reliability

Characteristic	Early	Developing	Approaching
Leadership	Focus on regulatory Little IT support MDs not engaged	CEO leads quality Measurable QI targets set	Commitment to high reliability Goal of zero harm
Safety Culture	Culture not assessed RCAs limited to sentinel events	Initial safety culture measures done Safety culture is given a high priority	Safety culture established Near misses reported
Process Improvement	No formal QI/PI process PI focused on regulatory	Adoption of QI strategy PI expanded to all adverse events	'Robust' PI with staff training Patients engaged in QI/PI

Principles of High Reliability

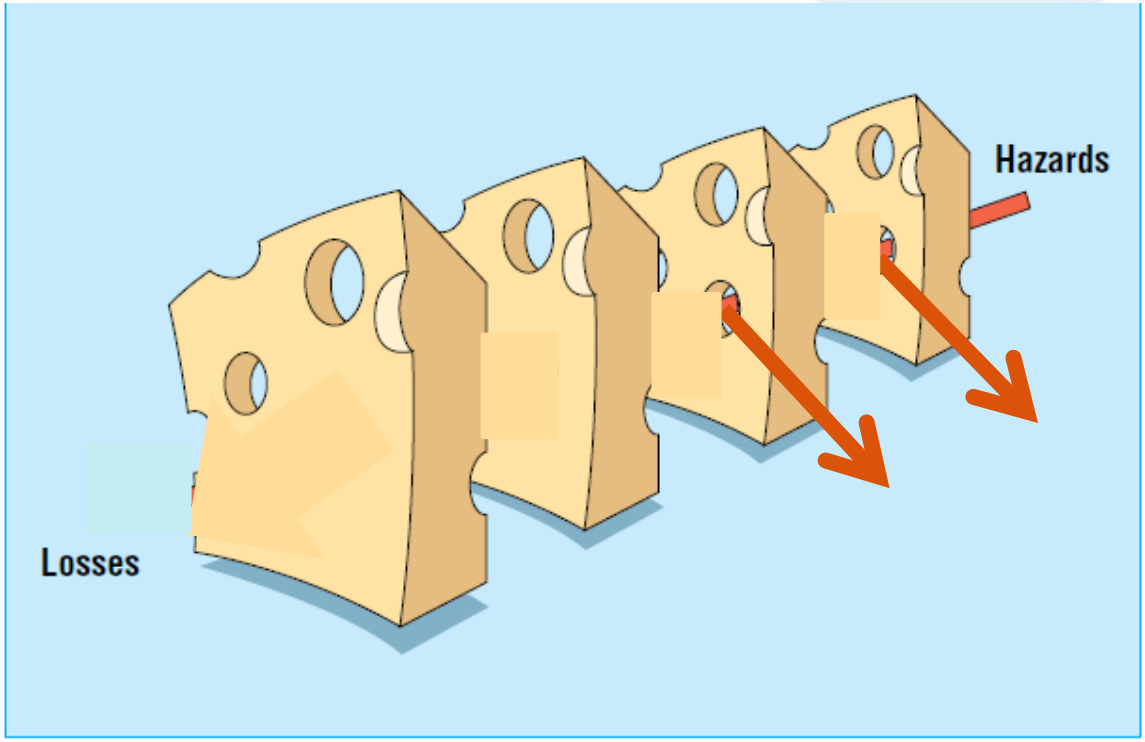
- Preoccupation with failure
  - Attentiveness to possibility of an error
- Reluctance to simplify
  - Processes are complex, always ‘dig deeper’
- Sensitivity to operations
  - Awareness of what’s working, or not
- Commitment to resilience
  - Ability to handle, learn from adverse events
- Deference to expertise
  - Who <u>really</u> knows the work? (front line staff)

Reliability – Culture

- Safety culture required to maintain reliability
- **Trust** – front line workers must trust each other to report safety issues
- **Report** – must occur without negative feedback
- **Improve** – management must help fix the problems reported

Chassin & Loeb. The Ongoing Quality Improvement Journey. Health Aff. 2011

Errors: Role of Serial Defenses

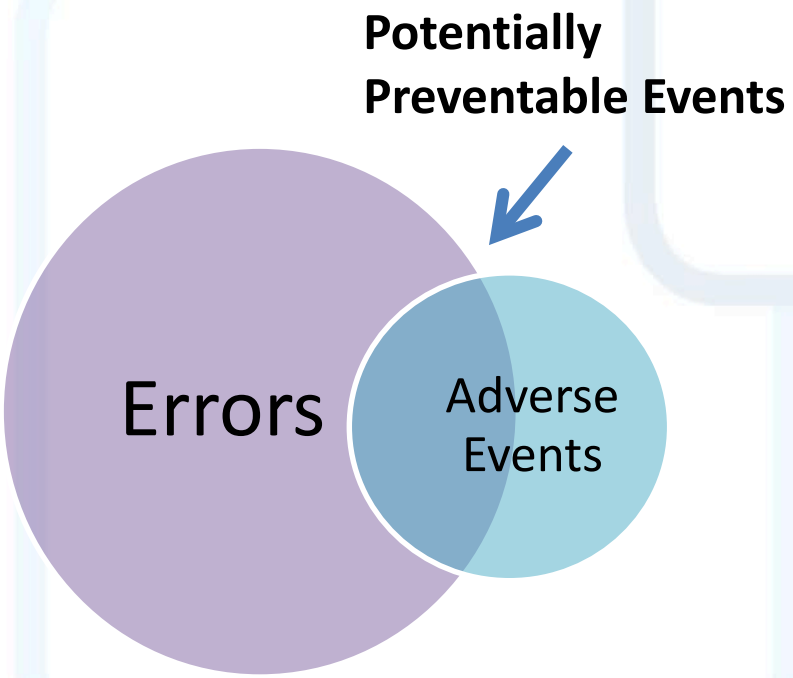


The Swiss cheese model of how defences, barriers, and safeguards may be penetrated by an accident trajectory

Reason, J. 2000 BMJ

Errors versus Adverse Events

- Adverse event – final outcome in chain of events
- Error *may* play a causal role in an adverse event
- Adverse events which result from errors are *potentially* preventable



Concept of Latent Errors

Patient Safety Events

Latent Errors

10%

90%

Reporting Latent Errors → Patient Safety

Culture of Safety

- Reporters must feel safe
- Leaders must commit to correct latent errors
- Increases reporting
- Increases staff satisfaction and retention
- Improves safety and reliability

Reliability – Process Improvement

- Reliability = Number of actions that achieve the desired result / Total number of actions taken

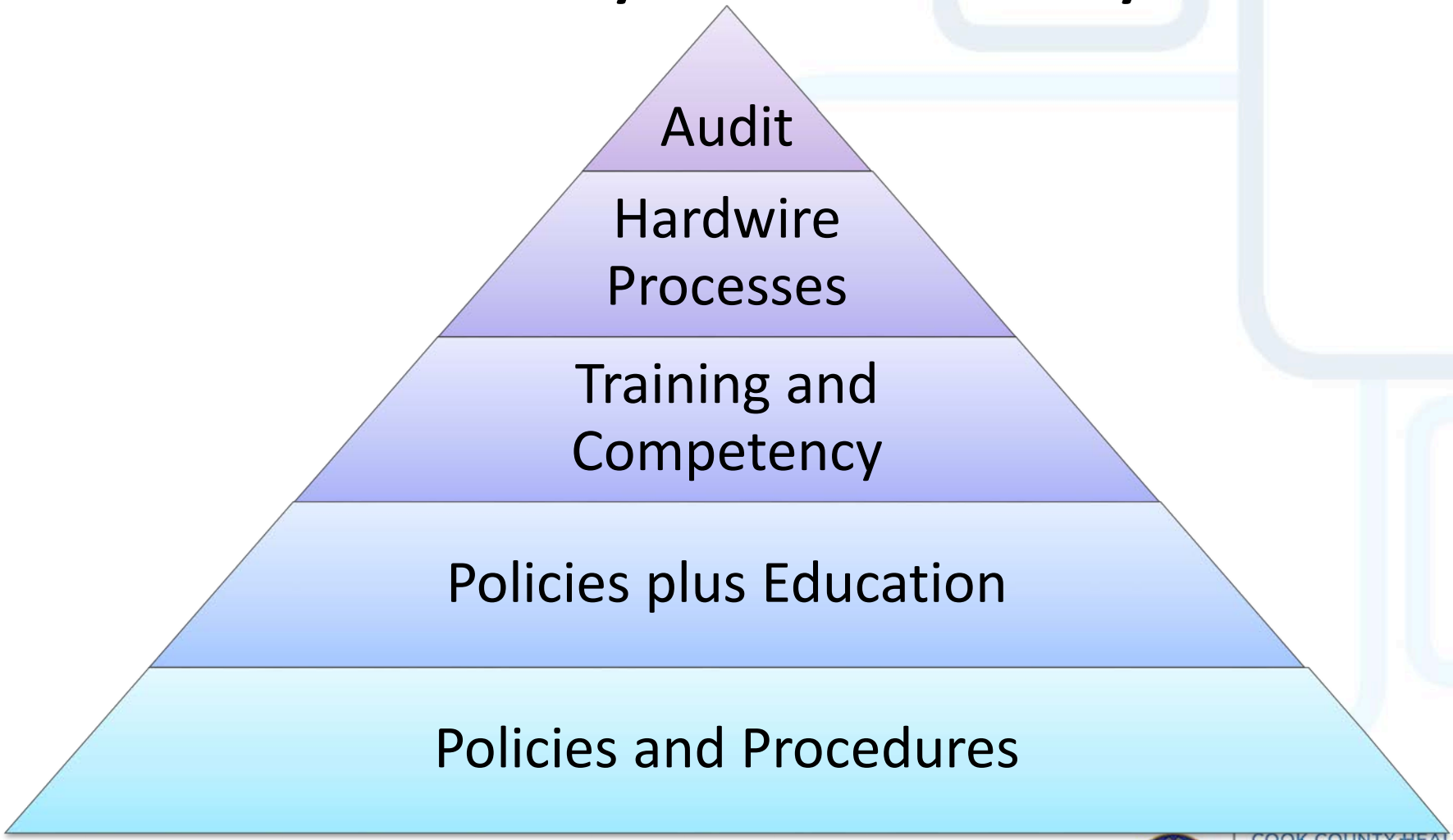
- 10^{-1} = one defect in 10 attempts
- 10^{-2} = one defect in 100 attempts and so on

Reliability – Process Improvement

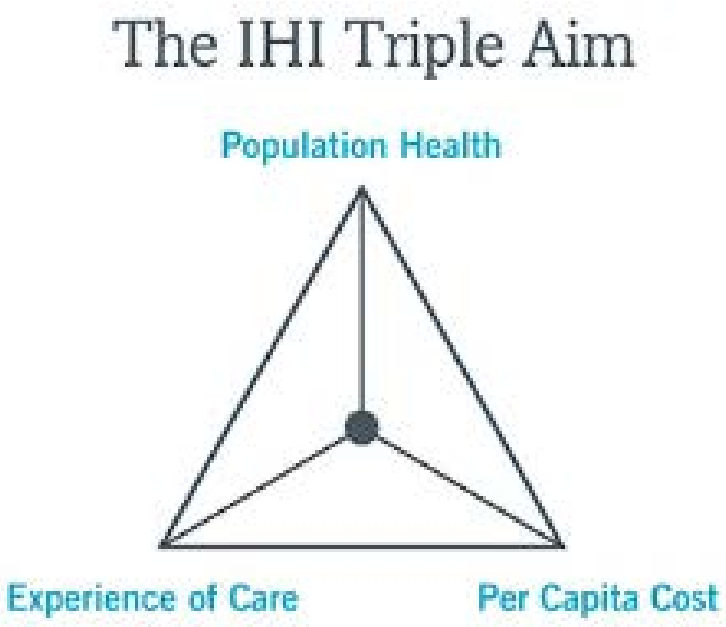
- Industrial approaches to quality improvement
- Lean approach
- Six sigma
- 'Robust process improvement (RPI)'
  - Reliable measurement
  - Ascertain root causes
  - Sustain improvement

Chassin & Loeb. The Ongoing Quality Improvement Journey. Health Aff. 2011

Hierarchy of Reliability



IHI Triple Aim



- Experience of care – quality and safety, ‘STEEEP’
- Population health – SES, behavioral factors, prevention, access
- Cost of care – PMPM or equivalent

National Quality Strategy - 2011

- Builds on the Triple Aim
- Patient experience of care – improve overall quality by making health care more patient-centered, reliable, accessible and safe
- Population health – improve the health of the US population by supporting proven interventions to address behavioral, social and environmental determinants of health in addition to delivering higher quality care
- Cost and value – reduce the cost of quality health care for individuals, families, employers and government

Summary

- Goals of quality are enunciated in the IOM reports, the Triple Aim and the National Quality Strategy
- Patient experience of care may be summarized in STEEEP
- Reliability strategies are based on leadership, culture of safety and robust process improvement
- Shared values and organizational learning are drivers of quality