ALLIANCE FOR INNOVATION
ON MATERNAL HEALTH

How Whole System Quality Can Improve the AIM for Safer Birth

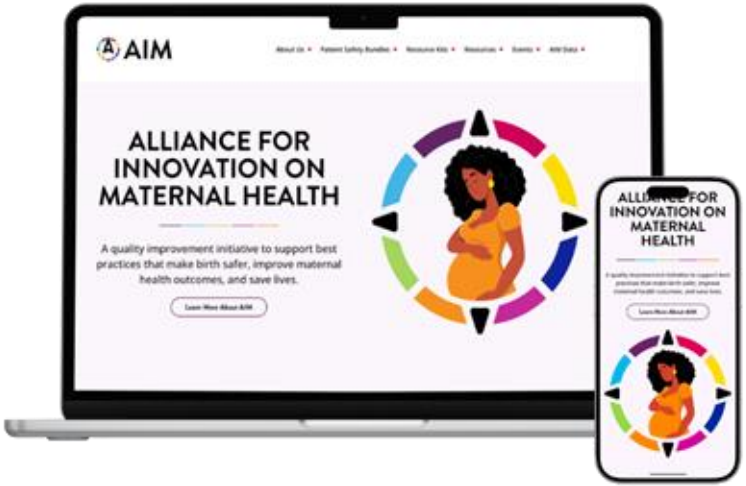
September 15, 2026

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TECHNICAL ASSISTANCE CENTER

The Alliance for Innovation on Maternal Health (AIM) is a quality improvement initiative to support best practices that **make birth safer**, **improve maternal health outcomes**, and **save lives**.



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Presenters



Jesse McCall, MBA
Senior Project Director and Improvement Advisor
Institute for Healthcare Improvement (IHI)



Debra Bingham, DrPH, RN, FAAN
Chief Executive Officer
Institute for Perinatal Quality Improvement (PQI)

Learning Objectives

By the end of this session participants will be able to:

1. Define Whole System Quality and the leadership principles required for healthcare leaders to support it
2. Describe how quality planning, quality control, and quality improvement work together within a Whole System Quality approach
3. Identify opportunities to apply Whole System Quality principles and practices to advance maternal health outcomes within their organizations



Whole System Quality

Management Practices

Pursue an integrated set of activities that support an infrastructure for learning across the organization to ensure alignment of quality efforts



Leadership Principles

Engage in the disciplines of a learning organization to foster a culture that promotes inquiry, reflection, systems thinking, and purpose

Whole System Quality

Planning for Quality

"Quality planning consists of developing the products and processes required to meet customer's needs."

Joseph M. Juran
JURAN'S QUALITY HANDBOOK (1999)

REACTIVE Quality

Piecemeal approach to quality projects

Absence of a deployment strategy

Learning from accidents and errors

Responding to customer feedback

Work disconnected from mission and values

Putting out "fires"

PROACTIVE Quality


Strategic and focused approach to quality efforts


Thoughtful, well-designed deployment


Anticipating and averting errors


Engaging customer in service design


Creating value-driven work


Preventing "fires"

Continuum of Variation in Health Care Quality

Strategic Variation

A result of expansive, unfocused, or misaligned organizational priorities



Operational Variation

Workarounds used to prop up old systems and structures that have failed to evolve to meet strategic goals



Clinical Variation

A product of disparate workflows and siloed teams, and a driver of poor care quality



“If I had to reduce my message for management to just a few words, I’d say it all had to do with reducing variation.”

—W. Edwards Deming

The WSQ Approach to Tackling Variation

	Strategic Variation	**Operational** Variation	**Clinical** Variation
Locus of variation and control	At the board and executive levels	In the systems and structures that support strategy deployment	At the point of care
Consequent Challenges/ Symptoms	Often results in too many priorities or priorities misaligned with strategic goals	Workarounds often emerge to prop up old structures and problems that should be addressed with system-level change	Usually gets the most attention from quality improvement teams
WSQ Approach	Engage leaders across the system using both quantitative and qualitative data to agree on strategic priorities through a **Quality Planning** process**.**	Embed **Quality Control** principles to standardize and simplify routine work, surface and solve problems appropriately.	Rigorous strategy to reduce clinical variation by engaging staff in aligned and supported **Quality Improvement.**

Maternal Hypertension Example

Strategic Variation – Quality Planning	Operational Variation – Surface and Solve Problems Proactively. Make system-level changes	Clinical Variation – Rigorous Strategy to Eliminate clinical variation, intentional planning to sustain improvements
National and State data have consistently (since about 2010) shown that delays in diagnosis and treatment of Hypertension are leading causes of preventable maternal morbidity and mortality	Inconsistent and delayed triage procedures during pregnancy and after giving birth Inconsistent referral procedures Lead to delays in diagnosis and treatment	Inconsistent clinical assessment and treatment practices lead to delays in diagnosis and treatment Clinicians do not consistently identify severe range and borderline range blood pressures to be a clinical emergency
Identify hypertension-related morbidity and mortality as a system-wide priority	For example: Implement Maternal-Fetal Triage Index in the ED and in L&D Create referral and transfer policies	Standardized assessment and treatment processes based on nationally recognized algorithms Monitor and track time arrival to treatment time, etc.

Shondra Johnson Flowchart



Patient's blood pressure in doctor's office is > 160/110 & signs of preeclampsia with severe features at 30 weeks

Patient transferred via ambulance to a maternal Level III or Level IV hospital with Level 3 NICU

Patient is triaged in L&D at Level III/IV B/P >160/110 & signs of preeclampsia with severe features

Patient's treatment is expanded. Neonatologist consult obtained

Patient is stabilized & remains on L&D under close observation

Patient transferred to the Maternal Level 1 hospital via ambulance & taken by stretcher to L&D

Patient is triaged in L&D at Level 1 B/P >160/110 & signs of preeclampsia with severe features

Patient treated within 20 min. with anti-hypertensives and magnesium sulfate started

The hospital team consults with a perinatologist and the decision is made for her to be transferred to a Maternal Level III or IV hospital with Neonatal Level III or IV

Maternal or neonatal transfer

Patient gives birth at the Level 1 facility, her newborn is transferred, she does not have access to high-risk perinatal services, her condition does not stabilize

Patient told to go to ED, unsure where to go, walks a few blocks from parking lot to ED

Arrives at ER and told to wait

Admin staff realizes she is pregnant, send her to L&D Level 1

Patient walks to L&D

Patient arrives in L&D Level 1 & is told to wait to be evaluated

RN tells patient to change clothes and get on stretcher

Patient complains of severe headache

Patient has a seizure

Dialogue/Chat

- Why is a systems-based approach important?
- What are the benefits?
- What are the challenges?

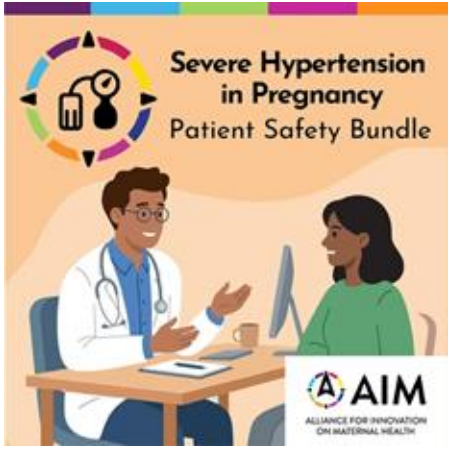


Shondra Johnson Case Summary

We can eliminate preventable morbidity and mortality by implementing pro-active, whole system quality initiatives!



WSQ saves lives!





Quality Planning

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Quality Planning

Quality planning (QP) is a process an organization undertakes to identify customer needs, define quality goals, and design and deploy a strategy to reliably meet prioritized needs.



Quality Planning Steps



- Gather and review needs across stakeholder groups (patients, staff, regulators, etc.)
- Collect existing data and assemble learnings on current state
- Assess capacity and capability to undertake improvement work
- Engage representative leaders
- Define the quality ambitions

- Develop a multi-modal communication strategy
- Communicate the ambition for quality
- Establish expectations and intended output of QP event
- Share relevant information about QP process and work to date with stakeholders

- Revisit & revise existing quality strategy
- Examine quality structure and resources to support quality
- Decide what strategies and/or initiatives to start, sunset, refine, or revisit
- Can include long- and short-term strategies

- Identify quality priorities aligned with vision for quality
- Identify training and development needs
- Allocate resources
- Develop system quality scorecards
- Define outcomes, measures, and accountability

Strategic priorities for the year

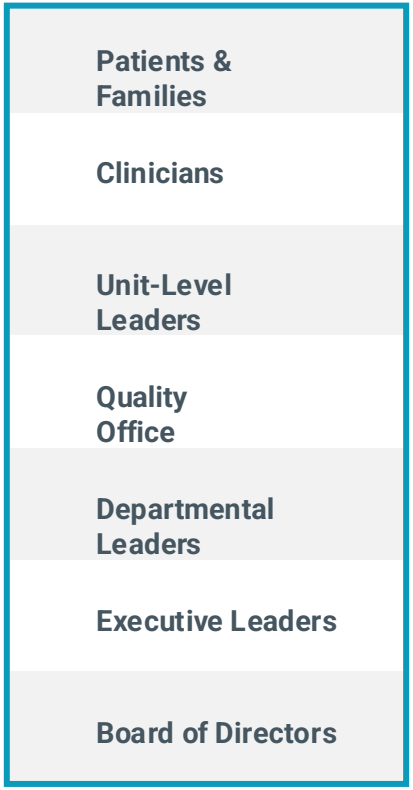
Quality Planning – Step 1

What Matters to your Stakeholders

Complaint Data
Patient experience
Population needs assessments
Annual Community health needs assessment
Security Reports

Staff satisfaction
Staff engagement survey
Security Reports
Patient Safety Culture Data

Patient Safety Reports and RCAs
Existing scorecards and dashboards
Benchmarking Reports
Ongoing improvement work
Accreditation reports



Quality Planning Step 2:

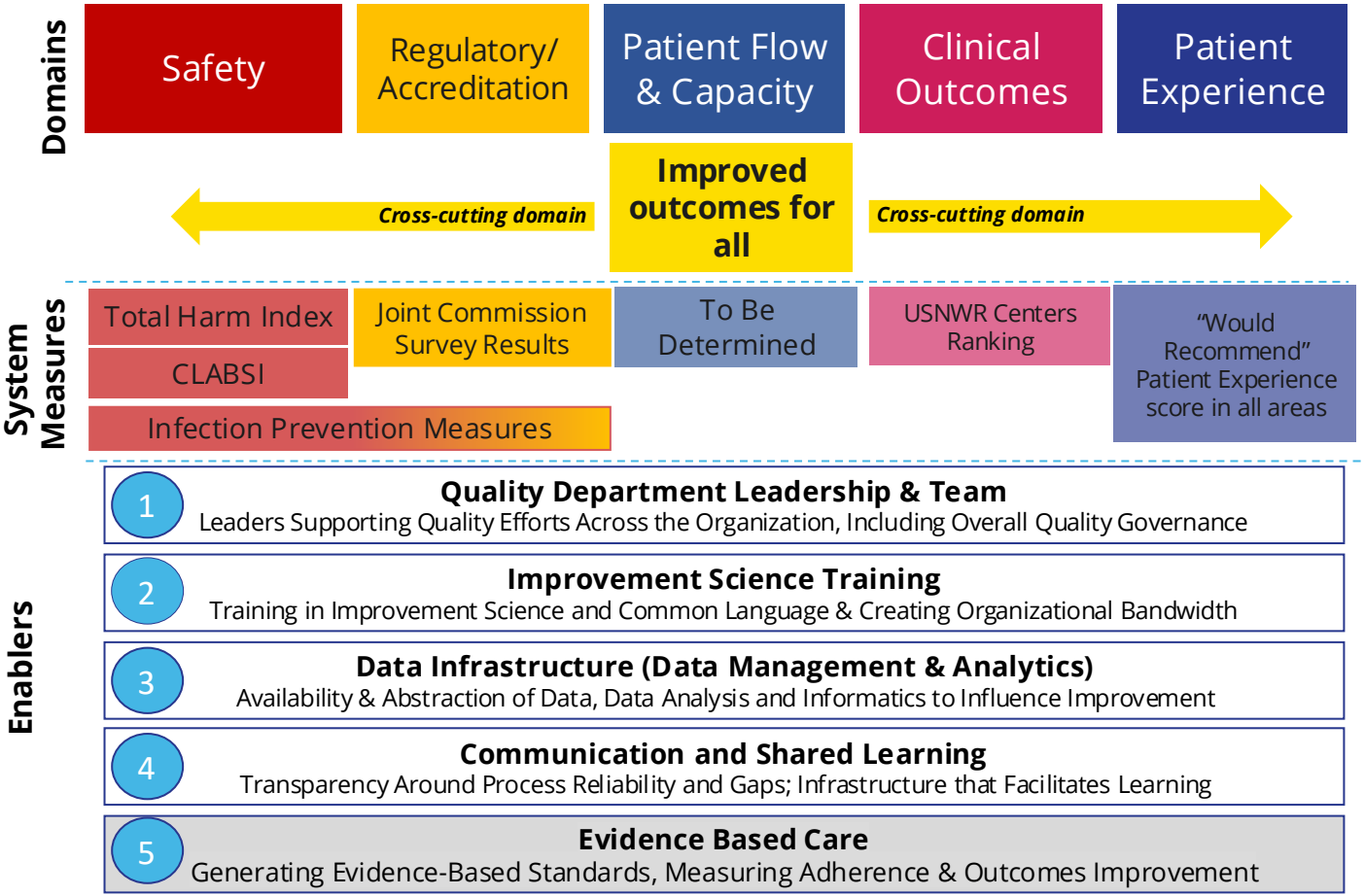
Communicate and Prepare the Team

To be successful, QP participants need some preparation:

- Organizational goals, unit goals
- Data
- Process and expected outputs



Quality Strategy Framework



Improvement Opportunity

Priority Recommendation:

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

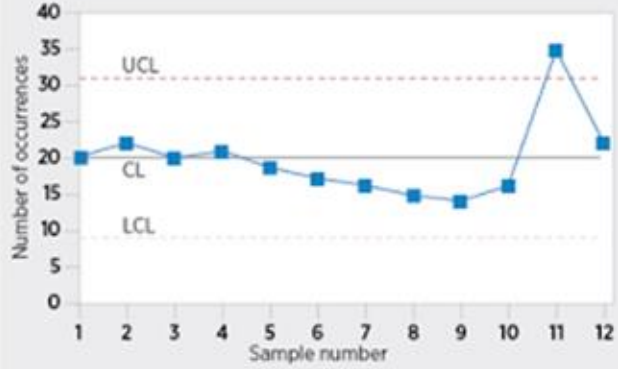
Barriers

Project History and Accomplishments (annotations on control chart below)

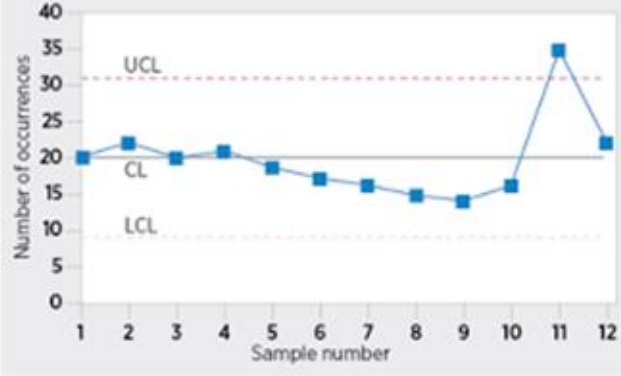
1.
2.
3.
4.
5.

Risk Rating

Performance Over Time and Against Benchmark



Process Measure Bundle Compliance



Improvement Opportunity

Priority Recommendation: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Measure Goal / Aim Improvement Duration	**Measure:** **Aim:** **Duration:**

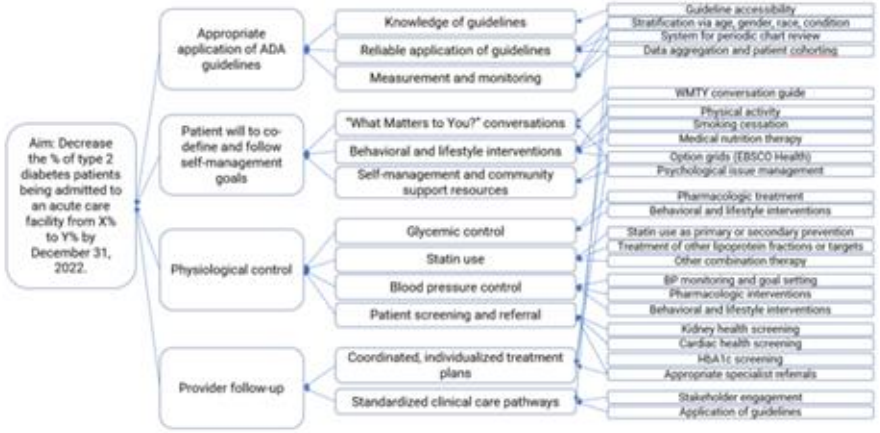
Operational Definition

Priority Summary

Click to add text

Resources Deployed / Team

Key Driver Diagram or Key Focus Areas / Processes



Quality Planning Step 3:
The Event and Prioritization

- Convene your stakeholders, minimum 3-4 hours
- Review each potential measure/opportunity for consideration, pause, ask questions, discuss and vote
- Define levels of priority for improvements
    1. System
    2. Local
    3. Quality control
    4. Delegate
    5. Defer

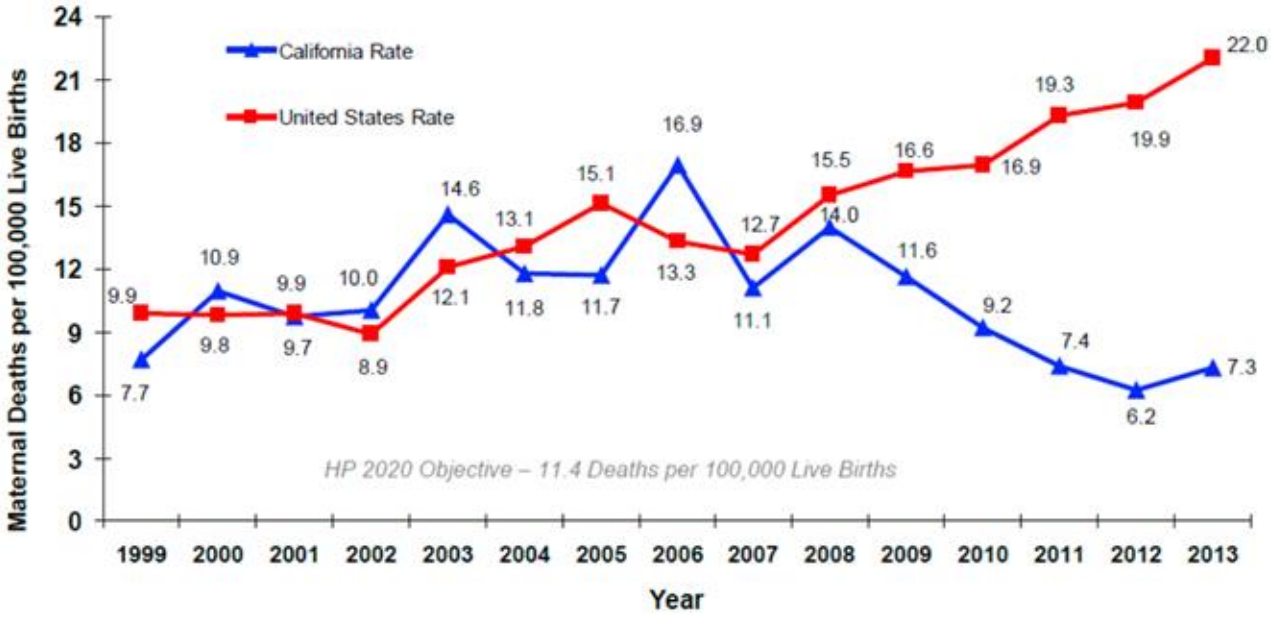
Quality Planning Step 4:

Post-Event Prioritization

- Resourcing and Training
- Sequencing of work
- Define teams and accountability



Maternal Mortality Rate, California and United States; 1999-2013



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2013. Maternal mortality for California (deaths ≤ 42 days postpartum) was calculated using ICD-10 cause of death classification (codes A34, O00-O95,O98-O99). United States data and HP2020 Objective use the same codes. U.S. maternal mortality data is published by the National Center for Health Statistics (NCHS) through 2007 only. U.S. maternal mortality rates from 2008 through 2013 were calculated using CDC Wonder Online Database, accessed at http://wonder.cdc.govon March 11, 2015. Produced by California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Division, May, 2015.

Reviewed Data

- Formed a State-Wide Pregnancy-Associated Maternal Mortality Review Committee:
  - Multiple causes of deaths were identified
  - The review process and data collection process was standardized
  - Categorized deaths by level of preventability
  - Identified opportunities for improvement related to each death
  - Identified themes and trends



Findings:

- Obstetric hemorrhage was identified to be one of the leading causes of death.
- **All** of the obstetric hemorrhage deaths were determined based on committee review to be preventable

Reviewed Data

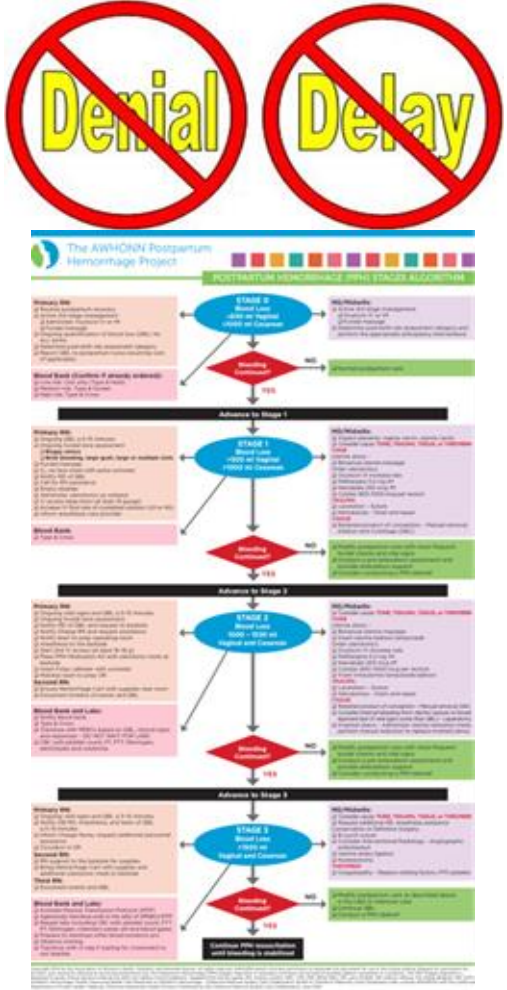
- The first thought was that we needed more interventional radiologist or other specialists
- Priorities for action were identified after further review of data and reviewing a composite case

Composite Representative Case:
24 yr old, G2, P1 at 38 weeks was induced because she was "tired of being pregnant"

- Active Phase: 8 hours, 2nd Stage – 2 hours, Spontaneous vaginal birth, infant 8 pound, 6 ounces
- Uterine atony after birth that firmed with massage
- 2nd episode of atony responded to IM Methergine, Physician goes home (1am)
- 30 min. Later: Nurse calls the MD - reports more bleeding, more Methergine was given.
- 60 min. Later: MD performs D&C, minimal return of tissue, more Methergine is given
- 45 min. Later: 2nd D&C, minimal return estimated blood loss >2,000 mL
- Blood ordered – but there are delays in transfusing blood due to inability to find proper blood administration tubing
- Anesthesia delayed and 2nd IV started
- Abnormal vital signs HR=144 beats/min, B/P= 80/30
- Another dose of Methergine is given, 3rd D&C, 2 units of packed RBC
- Cardiac arrest from hypovolemia and hypoxia
- Taken to the ICU, died 3 hours later

Priorities for Action

- Risk assessment on admission, pre- and post-birth
- Implement objective ways to measure the amount of blood lost – vital signs are late signs in healthy people, e.g., calibrated under buttocks drapes, measuring saturated items and deducting dry weights
- Teach MD's additional treatment options, e.g., Uterine compression - B-Lynch suturing, uterine tamponade, etc.
- Create an algorithm outlining stages of hemorrhage and actions needed at each state
- Create sample policy & procedures that outline medication options
- Enhance blood product administration protocols and resuscitation procedures
- Implement team debriefs
- Continue to track hospital-level and state-level data, share data and insights among clinicians and hospital-based teams, create implementation aids and education materials (a tool-kit) that everyone can utilize



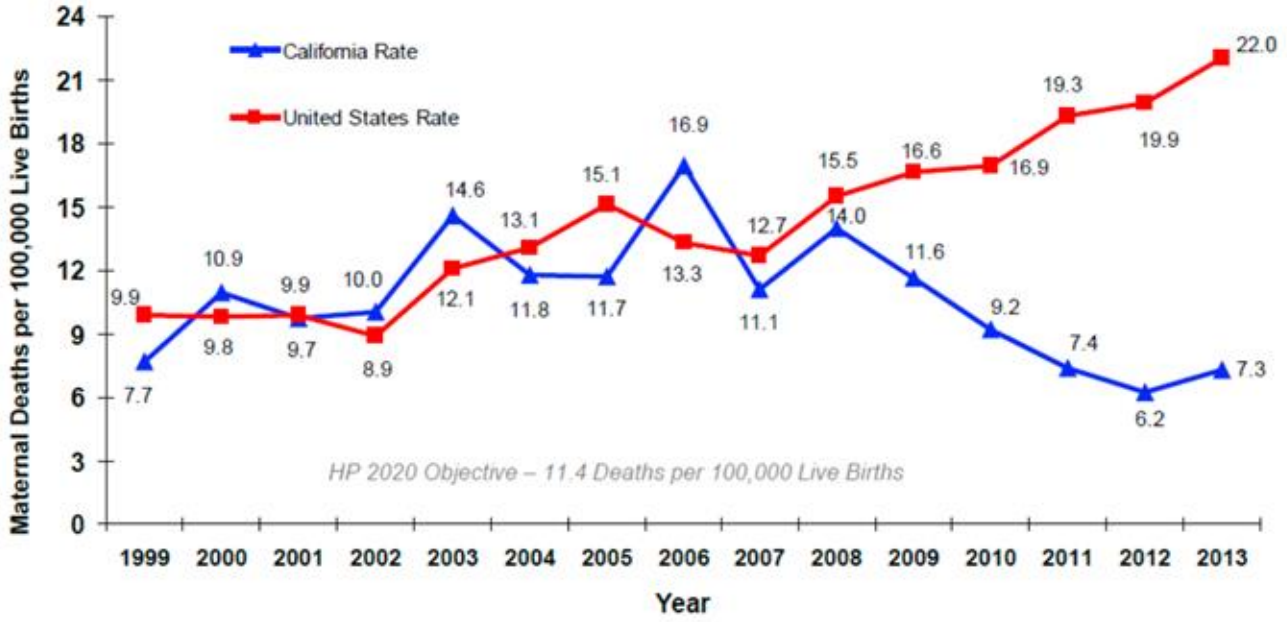
Bingham, D., et al. (2011). A state-wide obstetric hemorrhage quality improvement initiative, MCN Am J. Matern Child Nurs., pp 297-304

Interventions

- B-Lynch Suturing
- Quantification of Blood Loss
- Calibrated under buttocks drape



Maternal Mortality Rate, California and United States; 1999-2013

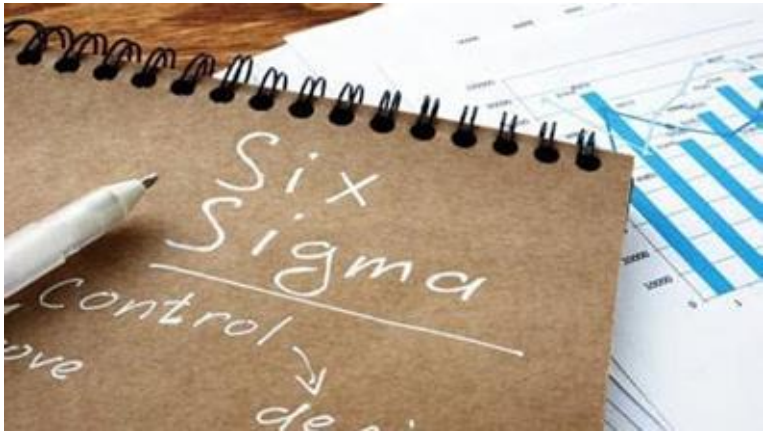


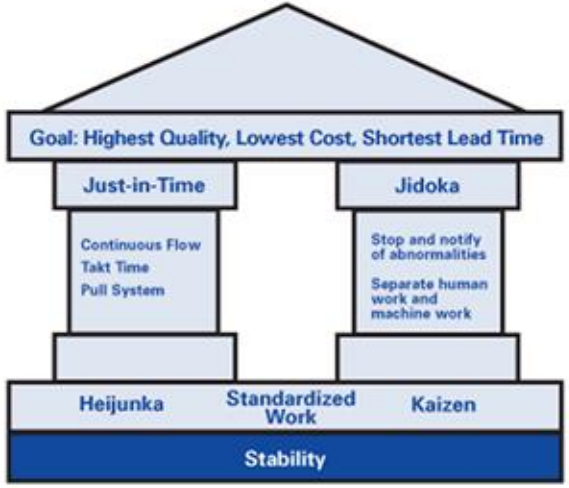
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Quality Improvement

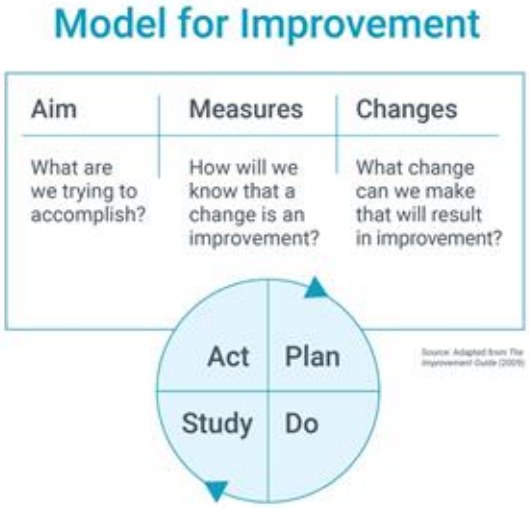
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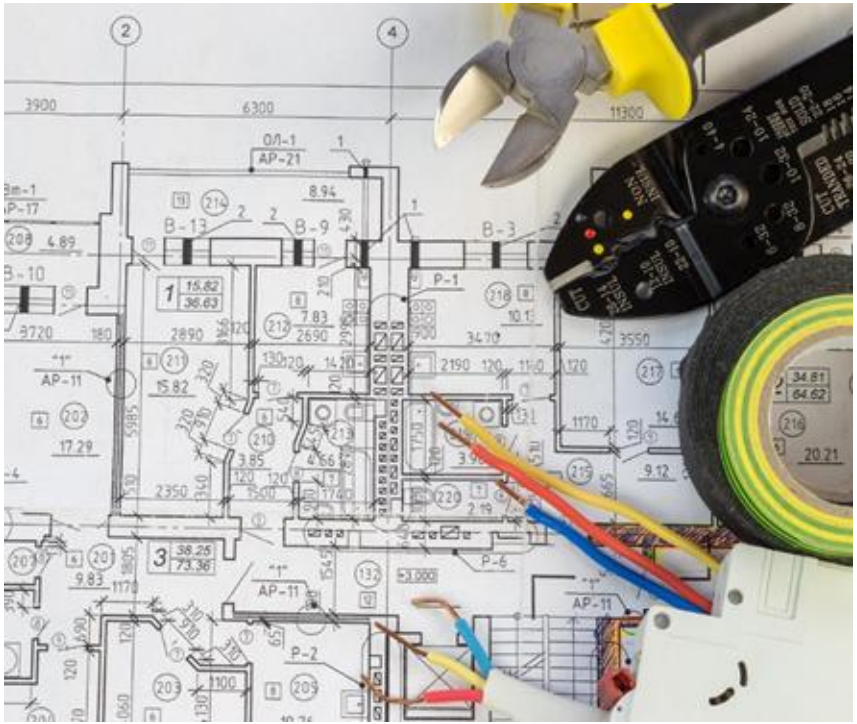


Toyota Production System "House."



Six Core Components of Effective QI

1. System Understanding
2. Improvement Aim
3. Measurement, Evaluation, and Learning
4. Content Theory
5. Execution Theory
6. Dissemination and Communication



Howard P, Arrieta J, Leruth C, Bones K, Steinfield R, Figueroa J, Olaya SP and Barker P (2026) Integrating theory and practice: the core components guide for rigorous quality improvement design. Front. Health Serv. 6:1751580. doi: 10.3389/frhs.2026.1751580

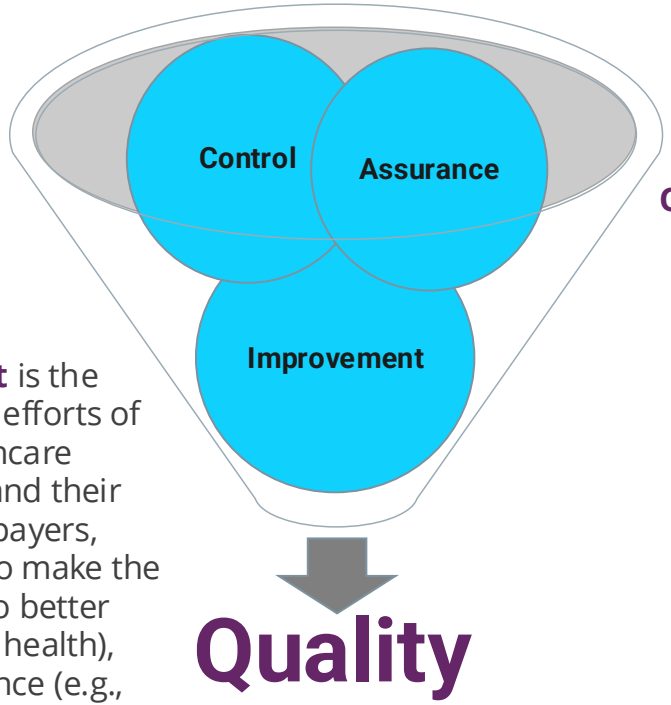
Quality Control

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The Quality Funnel

Quality Control is a process by which procedures and methods are established to review and standardize the reliability and quality of all factors involved in the production of products or services.

Quality Improvement is the combined and unceasing efforts of everyone (e.g., healthcare professionals, patients and their families, researchers, payers, planners, and educators) to make the changes that will lead to better patient outcomes (e.g., health), better system performance (e.g., care) and better professional development.



Quality Assurance is any systematic process of checking or auditing periodically to see if a product or service being developed is meeting specified requirements, targets or goals.

Lloyd, R. *Quality Health Care: A Guide to the Development and Use of Indicators, 2nd edition,* Jones and Bartlett Publishing, 2017: 19-20..

Quality Control



Standardization



Visual management



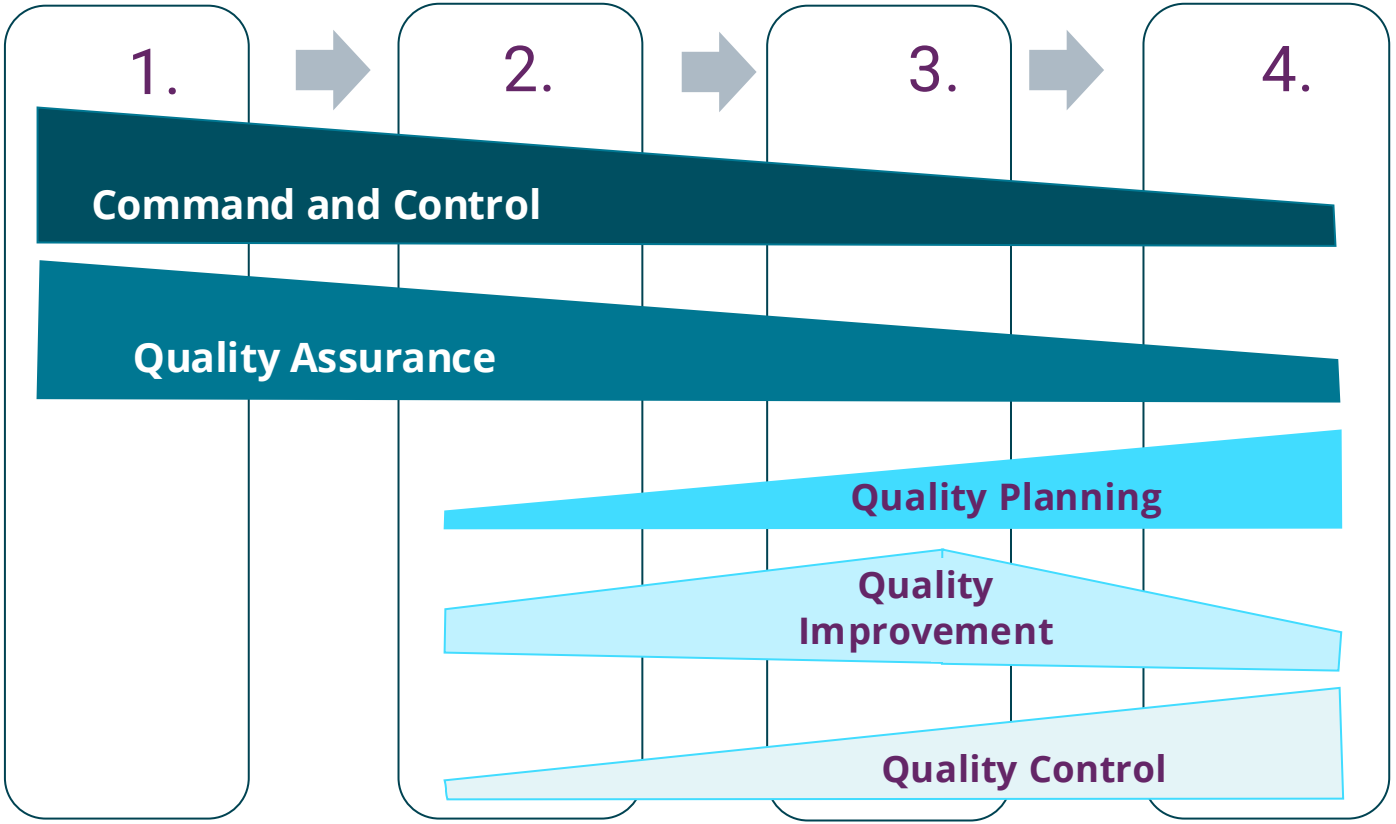
Problem solving and escalation

Key Elements of Debriefs

- Identify what went well at the strategic, operational, and clinical levels
- Identify areas for improvement at the strategic, operational, and clinical levels
- Have a checklist that makes it easy to debrief quickly and track positive and negative trends
- Discuss both human and non-human factors
- Get insights from the patient and the family
- Be open to learn and grow
- Share what was learned during the debrief at the strategic, operational, and clinical levels
- Identify the problems that need to be solved and who is best situated to solve each problem



4-step Organizational Journey to WSQ



Whole System Quality

Management Practices

Pursue an integrated set of activities that support an infrastructure for learning across the organization to ensure alignment of quality efforts



Leadership Principles

Engage in the disciplines of a learning organization to foster a culture that promotes inquiry, reflection, systems thinking, and purpose

IHI's Existing Writing on Leadership

Will, Ideas, and Execution (2007)

High-Impact Leadership (2013)

Safe, Reliable, and Effective Care (2017)

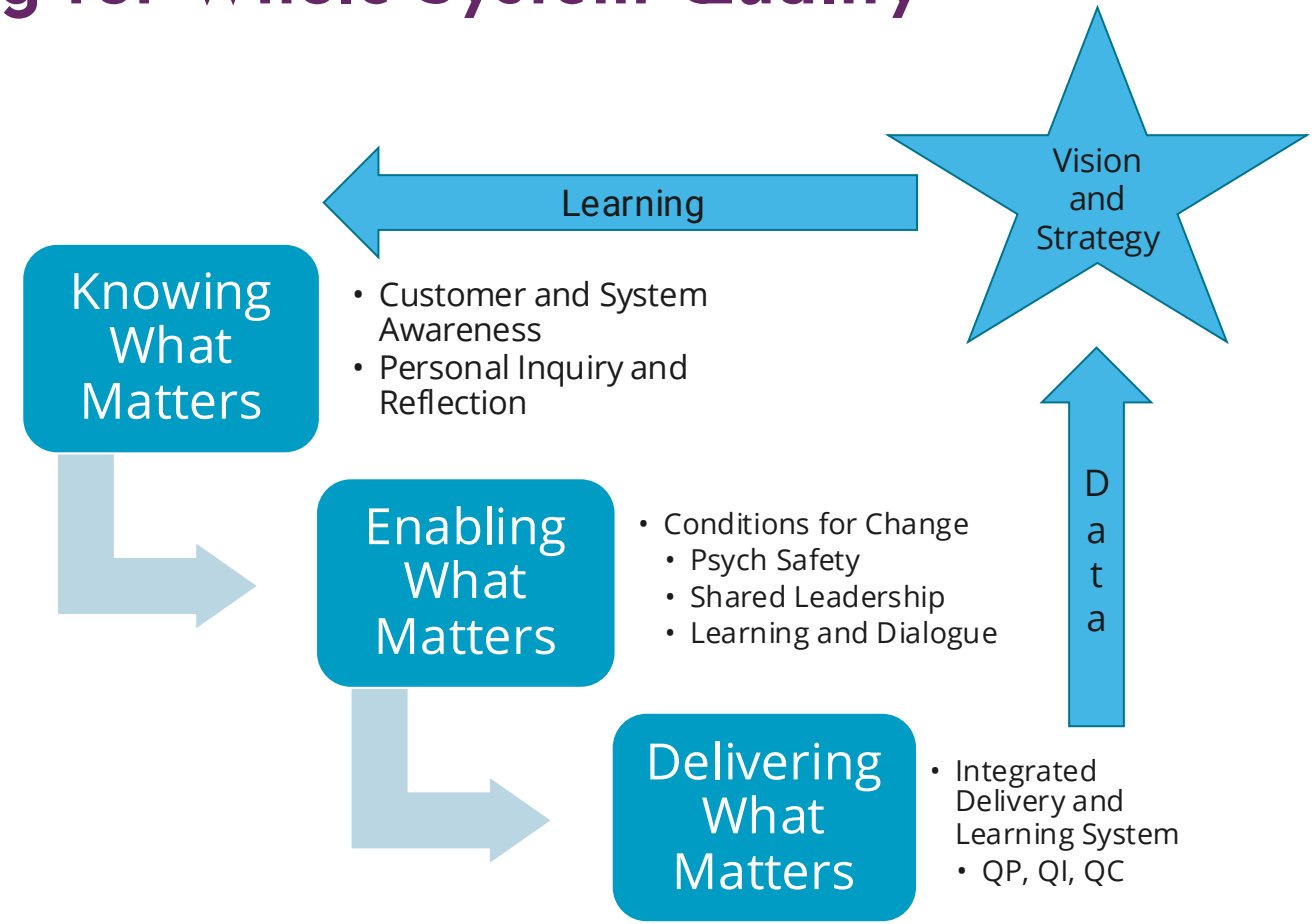
Joy in Work (2017)

Board Governance of Health System Quality (2018)

Whole System Quality (2021)

Quality Planning white paper (2022)

Leading for Whole System Quality

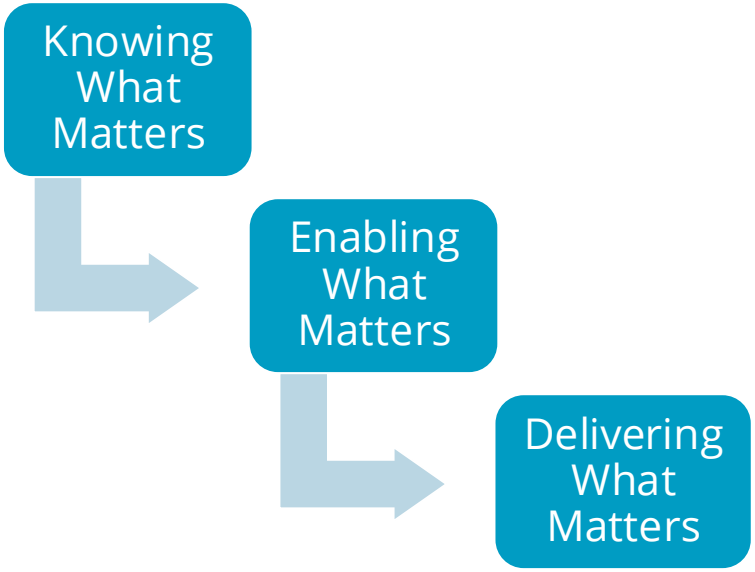


Chatterfall



What elements work well in your system?

What elements do you struggle with?



Please send your message to ***Everyone***

Thank you!

AIM Email: info@saferbirth.org

Visit saferbirth.org

Jesse McCall, MBA
jmccall@ihi.org

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