The Role of Quality Improvement Initiatives in Healthcare

a medical and public health perspective

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Disclosures

- No financial interests or relationships to disclose

Outline

- Definitions- quality and quality Improvement
- Quality improvement models and tools
- Challenges and strategies in quality improvement initiatives
- Examples of quality improvement in Obstetrics
- Michigan Alliance for Innovation on Maternal Health (MI AIM)
- Key takeaways and future directions

How do we define quality in healthcare?

- The assessment of quality must rest on a conceptual and operationalized definition of what the “quality of medical care” means
- Remarkably difficult notion to define
- A reflection of values and goals in the medical care system and in the larger society
- The degree to which health services for individuals and populations are effective, safe and people-centered
- The dimensions and criteria for quality → will have profound influence on the approaches and methods in the assessment of medical care

- *Donabedian A. 2005*
- *Panteli D, Quentin W, Busse R. 2019*

Defining Quality Improvement (QI) in Healthcare

- “Tools that help us measure or quantify healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems that are associated with the ability to provide high-quality health care and/or that relate to one or more quality goals for health care”

- Centers for Medicare & Medicaid Services (CMS)

- “The framework used to systematically improve the ways care is delivered to patients. Processes have characteristics that can be measured, analyzed, improved, and controlled. Quality improvement entails continuous efforts to achieve stable and predictable process results, that is, to reduce process variation and improve the outcomes of these processes both for patients and the health care organization and system. Achieving sustained quality improvement requires commitment from the entire organization, particularly from top-level management”

- Agency for Healthcare Research and Quality (AHRQ)

Defining Quality Improvement (QI) in Healthcare

- Systematic, data-driven efforts to improve healthcare processes and outcomes
- The combined and unceasing efforts of everyone—healthcare professionals, patients and their families, researchers, payers, planners and educators—to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development (learning)

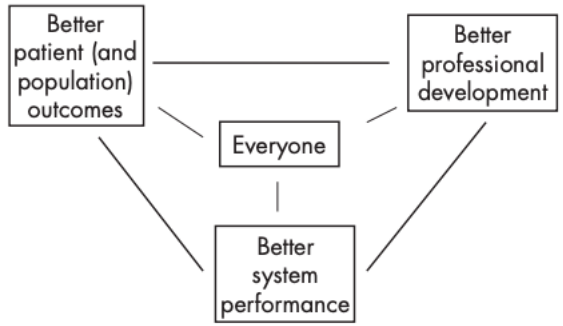


Figure 1 Linked aims of improvement.

- *Batalden and Davidoff. 2007*

Core Principles of Quality Improvement

- Effective
- Safe
- Timeliness
- Equity
- Patient- and population centered care
- Continuous improvement
- Use of real-world data
- Interdisciplinary collaboration
- Systems-based approach

PRINCIPLES

- *Institute of Medicine. 2001*
- *National Academies of Sciences, Engineering, and Medicine. 2022*

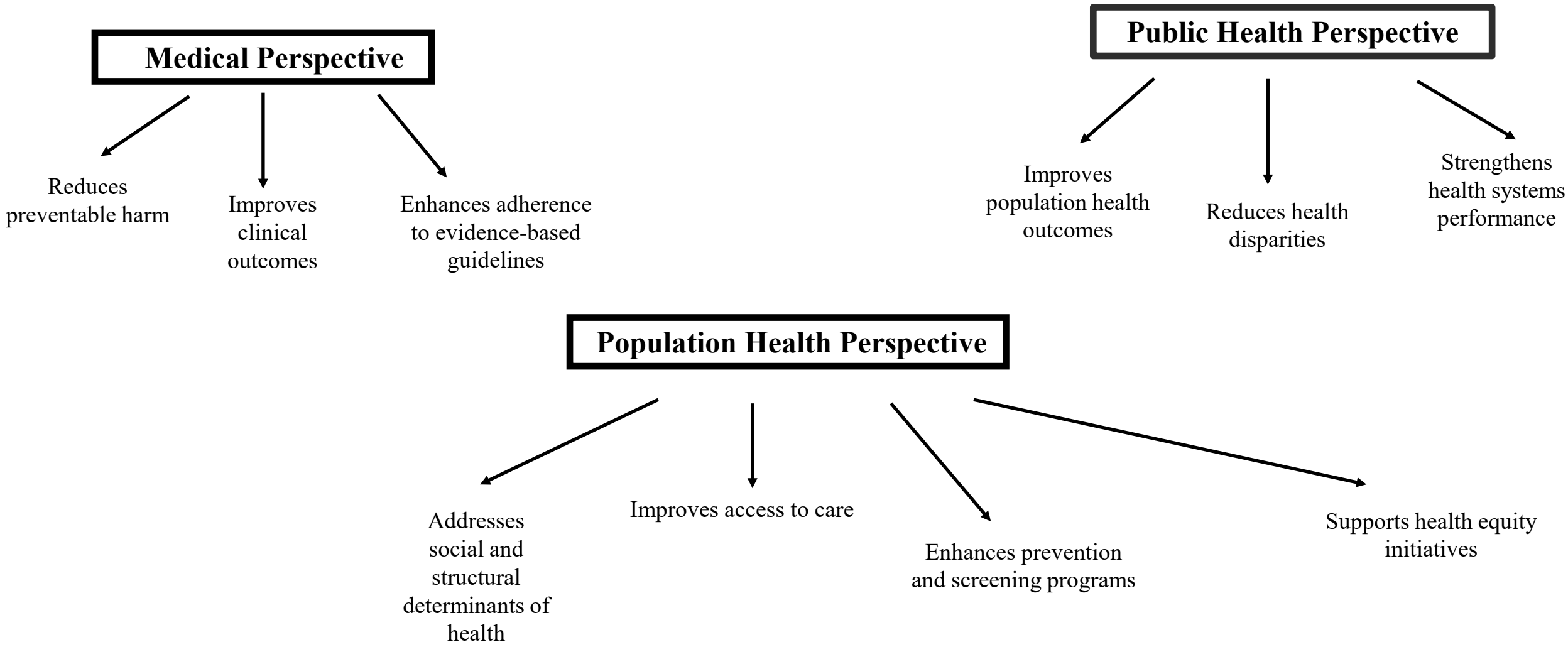
QI Differs from Clinical Research

Table 1. Contrasting QI and Research.

QI project	Clinical research
Intended for a specific group or program • Example: Decrease hospital readmissions in a cancer center	Intended for future groups or future patients • Example: A prospective trial to decrease post-op infections
Aligns with patient interest • Example: A process to decrease chemotherapy wait times	Benefit to patient is not known • Example: A study to determine the efficacy of subcutaneous vs. intravenous chemotherapy in a group of patients
All patients/participants are welcome to participate • Example: Every patient who visits the outpatient cancer center during a set period of time	Patients/participants can opt out (consent), sampling • Example: Patients with a specific tumor type who meet eligibility criteria are invited to participate of their own accord
Arises from responsibility to patients • Patients/caregivers deserve the best care, given in a timely manner	Can arise from history of scandal • Patients/caregivers invited to participate to answer a clinical question
Strategic processes derived from existing data	Systematic research generates new data

- *Faiman B. 2021*

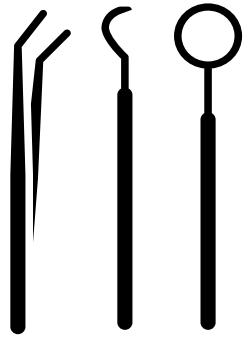
Why Quality Improvement Is Critical ?

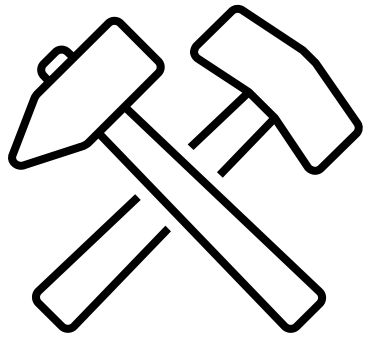


- *Bhat and McCammon. 2021*
- *O'Donnell and Gupta. 2023*
- *Endalamaw et al. 2024*

Quality Improvement Models and Tools

- Donabedian’s Structure-Process-Outcome (SPO) framework
- Plan-do-study-act (PDSA) cycle / (Plan-do-check-act (PDCA) cycle)
- Six Sigma (error reduction)
- Model for Improvement (from the Institute for Healthcare Improvement)





Donabedian's Structure-Process-Outcome (SPO) Framework

- Widely accepted and is possibly one of the very few points of consensus in the field
- Built on the concept of "input–process–output" used in industrial manufacturing
- "Structure" (or input) as the attributes of the setting in which care occurs

  example: material resources, intellectual resources and human resources
- "Process" denotes the components of care delivered

  example: patient-related processes and organizational aspects
- "Outcome" describes the effects of healthcare on the health status of patients and populations

- *Donabedian A. 2005*
- *Panteli D, Quentin W, Busse R. 2019*

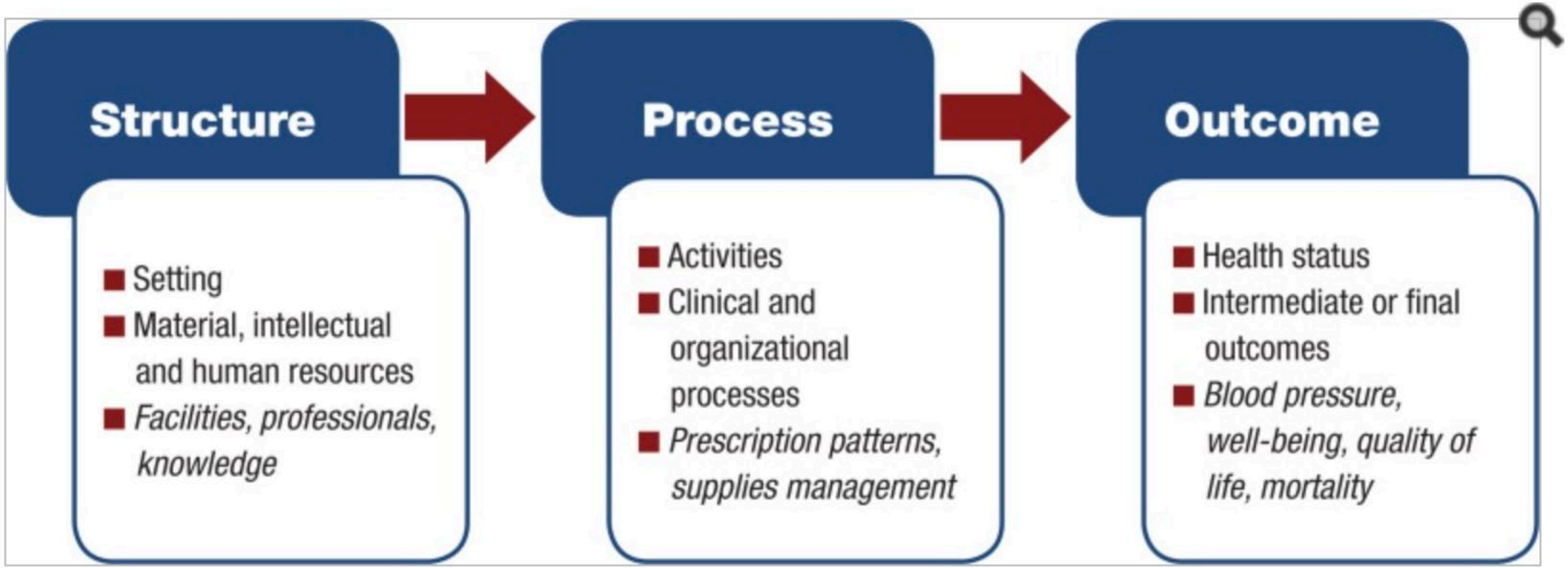


Fig. 2.4 Donabedian's Structure-Process-Outcome (SPO) framework for Quality Assessment

- *Panteli D, Quentin W, Busse R. 2019*

Plan-do-study-act (PDSA) Cycle

- A four-step model for implementing change
- Originated in industrial design
- Guides users through a prescribed four-stage learning approach to introduce, evaluate and progressively adapt changes aimed at improvement

- *Panteli D, Quentin W, Busse R. 2019*

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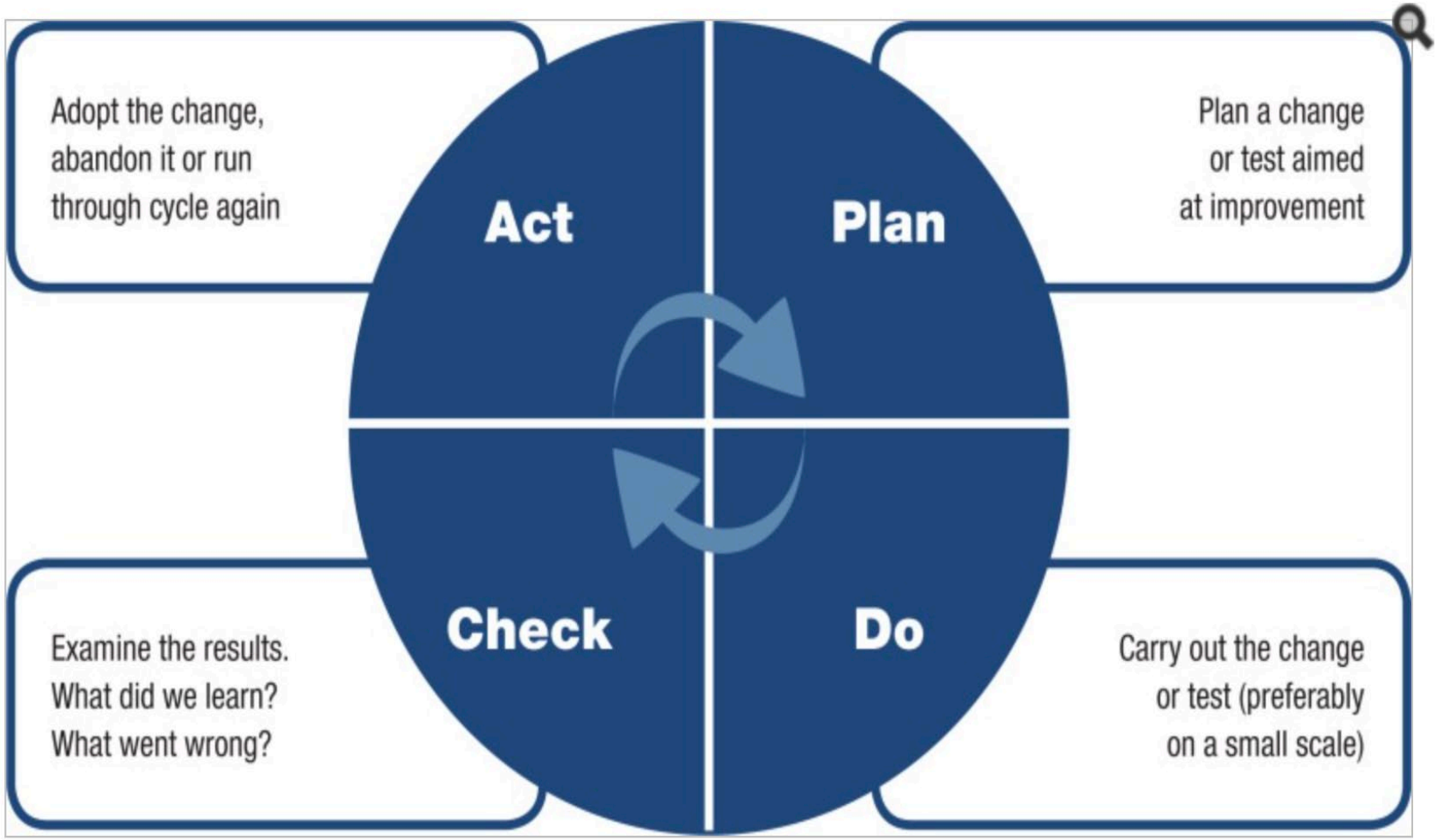


1

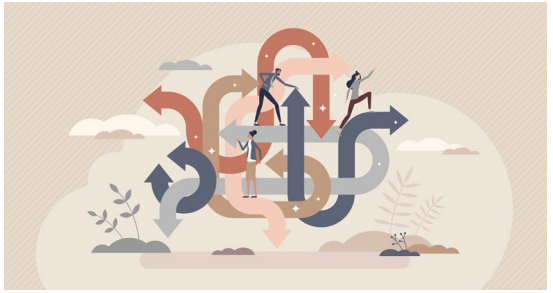
3

2

Fig. 2.2 The Plan-Do-Check-Act (PDCA) cycle

- *Panteli D, Quentin W, Busse R. 2019*

Six Sigma (error reduction)



- Identify flaws and reduce errors and discrepancies in production processes
- Initially introduced in 1987 at Motorola
- The methodology has been used in several manufacturing industries and later applied to healthcare
- To improve patient care by reducing costs, medical errors, and wait times

- 2 primary improvement methodologies used for a different purpose:

1. DMAIC (define, measure, analyze, improve, control) is used to correct/improve an existing process, product, or service
2. DMADV (define, measure, analyze, design, validate) is used to design a new process, product, or service

- *Ilin and Bohlen. 2023*

Model for Improvement *(from the Institute for Healthcare Improvement)*

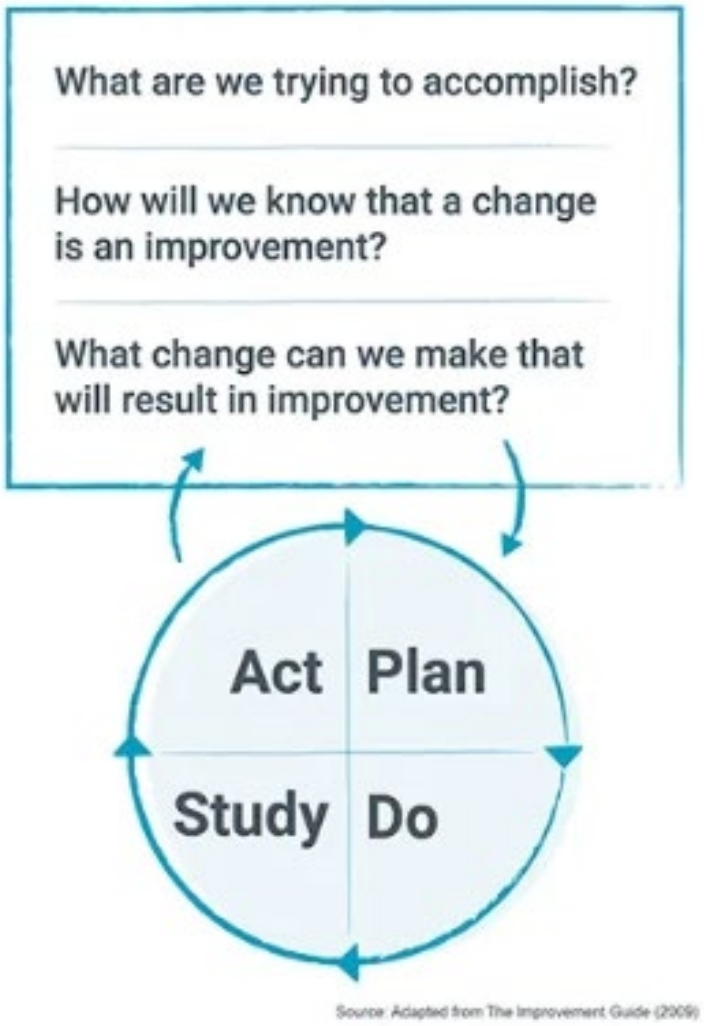
- Model for Improvement as the framework to guide and accelerate improvement work
- Compatible with any change models that organizations may already be using and can help to accelerate improvement

- The Model for Improvement has two parts:

    1. Three fundamental questions, which can be addressed in any order
    2. The Plan-Do-Study-Act (PDSA) cycle to test and adapt changes to ensure they result in the desired improvement

- *Langley et al. 2009*
- *Institute for Healthcare Improvement*

Model for Improvement *(from the Institute for Healthcare Improvement)*



- *Langley et al. 2009*
- *Institute for Healthcare Improvement*

The Quality of Data in Quality Improvement

- *DAMA UK Working Group. 2013*
- *Lighterness et al. 2024*

Examples of QI Initiatives

Clinical Medicine	Public Health
Reducing hospital-acquired infections	Improving vaccination uptake
Optimizing sepsis care protocols	Enhancing screening and early detection for breast cancer/colon cancer
Enhancing surgical safety checklists	Strengthening outbreak response systems
Standardizing clinical pathways	Improving maternal and child health programs

Outcome: Safer, more reliable patient care

Outcome: Healthier populations and reduced disparities

Health Equity and Quality Improvement

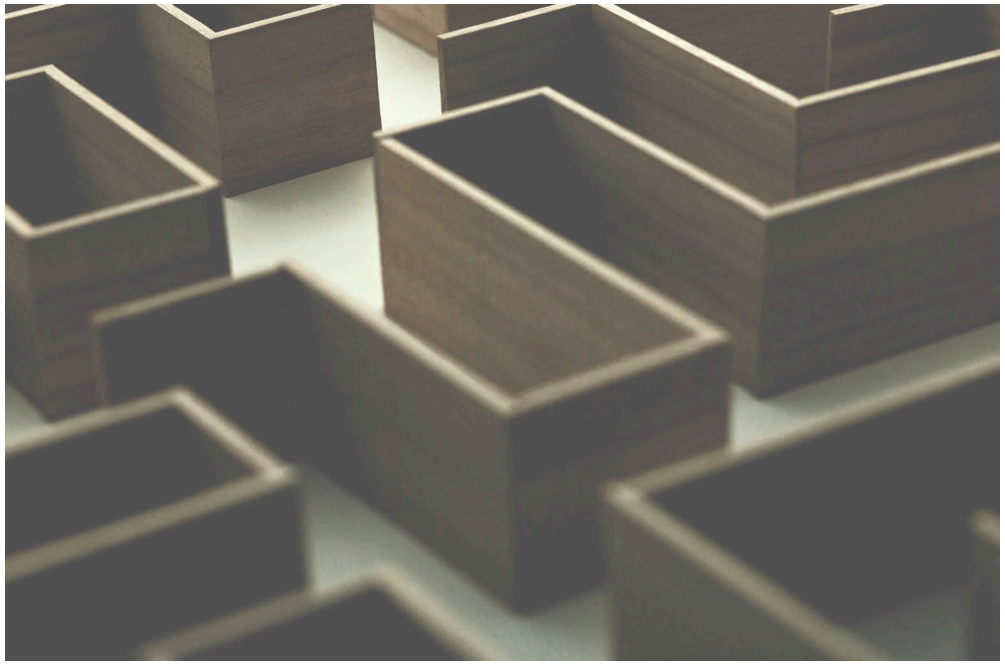
- Identifies inequities in care delivery
- Targets high-risk and underserved populations
- Improves access and quality across populations
- Supports value-based and equitable care models

Equity is a core dimension of healthcare quality

- *Lion et al. 2022*

Challenges in Quality Improvement

- Resistance to change
- Limited resources and workforce constraints
- Data gaps or poor data quality
- Sustainability of improvements
- Fragmentation between public health and clinical care



- *Shaller. 2004*
- *Dixon-Woods et al. 2012*
- *Carbonell et al. 2024*

Strategies for Successful Quality Improvement Initiatives

- Leadership engagement
- Clinician and community involvement
- Clear goals and measurable outcomes
- Continuous monitoring and feedback
- Integration across public health and healthcare systems

- *Benn et al. 2015*
- *Asif et al. 2019*
- *O'Donnell and Gupta. 2023*
- *Wong et al. 2024*

Examples of Quality Improvement Initiatives in Obstetrics

A State-Wide Obstetric Hemorrhage Quality Improvement Initiative

Debra Bingham [1], Audrey Lyndon [2], David Lagrew [3], Elliott K Main [4]

Anemia in Pregnancy Quality Improvement Initiative

A quality improvement intervention to optimize the management of severe hypertension during pregnancy and postpartum

Quality Improvement Project to Increase Postpartum Clinic Visits for Publicly Insured Women

Andrea Kuster · Kathryn A. Lee · Kristen Sligar

ACOG PUBLICATIONS

Quality-Improvement Strategies for Safe Reduction of Primary Cesarean Birth

ACOG Committee Statement No. 17:

Author Information

Obstetrics & Gynecology e145(5):p 542-552, May 17, 2025. | *DOI:* 10.1097/AOG.0000000000005888

MI AIM

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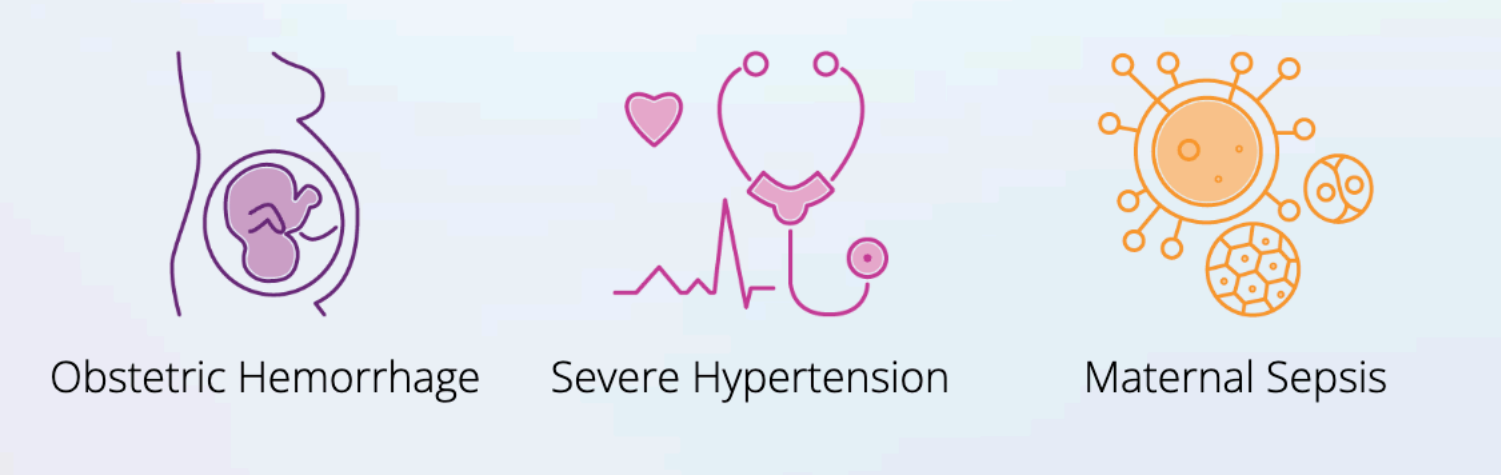
What is MI AIM?

- National AIM is a federally-funded maternal quality improvement program
- Michigan was the first of seven states to bring this collaborative to its state's hospitals and birthing mothers in 2016
- MI AIM focuses on decreasing maternal morbidity and preventable mortality
- Hemorrhage, hypertension and sepsis patient safety bundles with Michigan birthing hospitals



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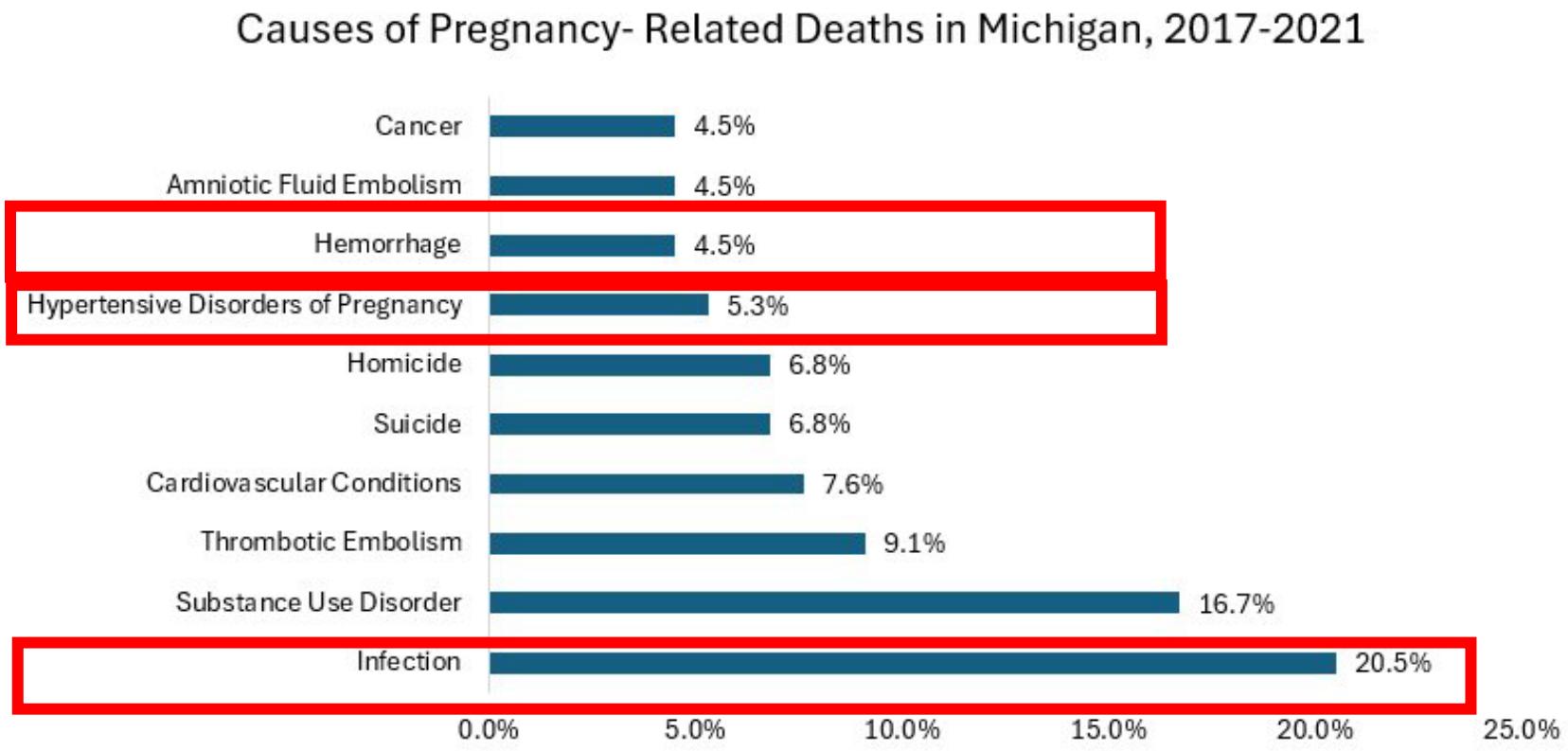
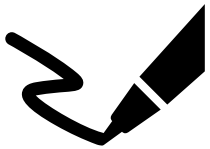
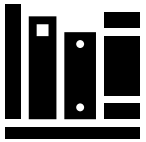
Pregnancy-Related Deaths in MI



Why does MI AIM exist?





- 80% of all maternal deaths and a majority of severe maternal morbidity (SMM) events are **preventable**
- Moving forward with plans to ensure **zero preventable deaths** and **zero health disparities** among moms in Michigan
- Building more partnerships, furthering Safety Bundle implementation and supporting initiatives to improve the health of moms in Michigan.
- Working to promote and support **education**, **outreach** and **advocacy** for moms, babies and families

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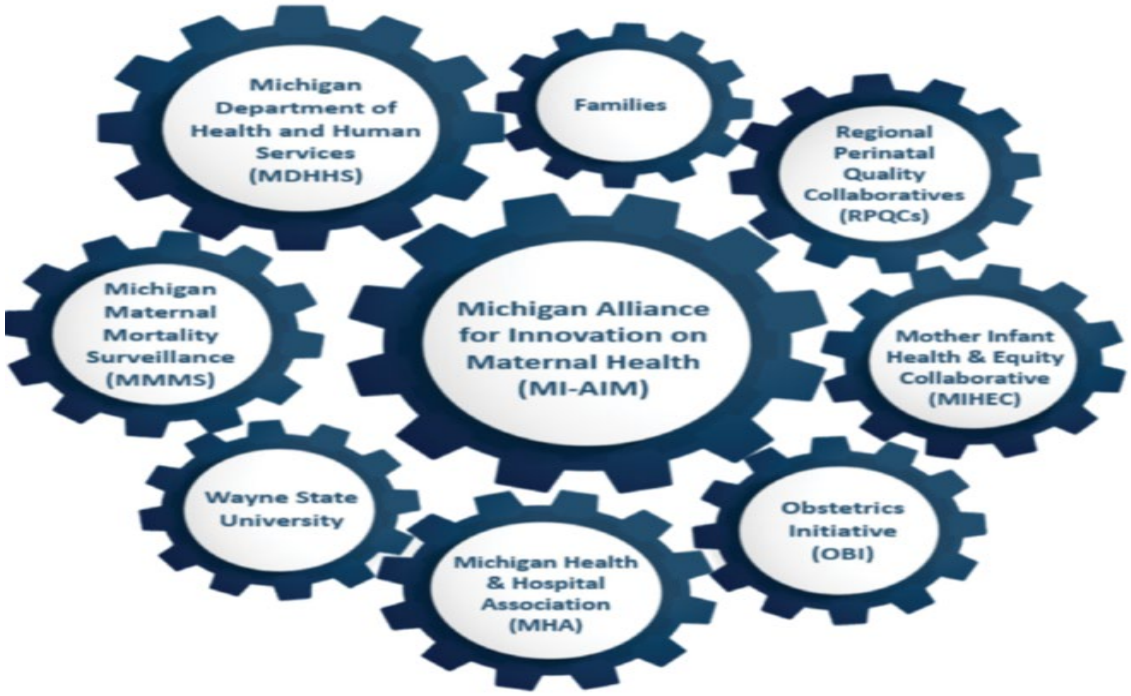
Who Supports this Improvement Work?

- Engages with a community of multidisciplinary healthcare providers, public health professionals and cross-sector stakeholders committed to improving maternal outcomes within Michigan
- Community partners in the various prosperity regions across the state
- Partners with the Michigan Regional Perinatal Quality Collaboratives (RPQC) to support Michigan birthing hospitals based on their region's specific needs



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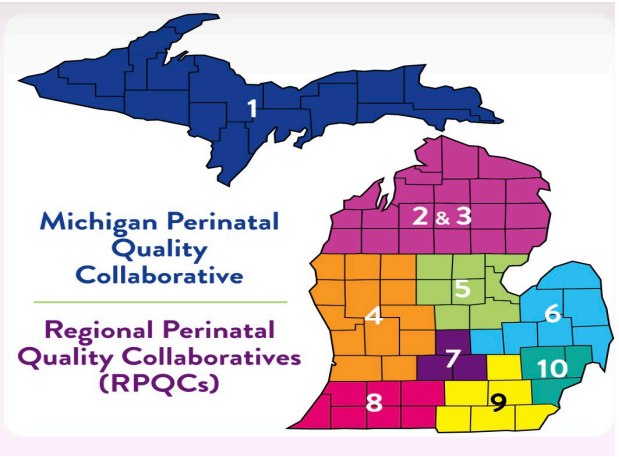
MDHHS
Michigan Department of Health & Human Services

MHA
Michigan Health & Hospital Association



What is a Patient Safety Bundle?

- Evidence-based set of guidelines offering clinical and non-clinical staff resources aimed at improving clinical care processes and patient outcomes
- Help fully equip hospitals with actionable protocols, necessary equipment, staff education and staff drills to prevent and adequately treat these severe maternal events

MI AIM Bundle Priorities

MI AIM is supporting hospitals to reduce

maternal morbidity,

preventable mortality

and **health disparity.**

Obstetric Hemorrhage

Severe Hypertension

Maternal Sepsis

*Safe Reduction of Primary Caesarean Sections (2019) work is ongoing through the Obstetrics Initiative (OBI)

OBSTETRICS INITIATIVE

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What Information is MI AIM Collecting?

AIM Datatypes

- Data collection is an important component
- The team monitors several datatypes:

1. bundle components implemented
2. hospital is remaining compliant
3. improvement outcomes are achieved

- **Structure Measures:** used to assess if standardized, evidence-based systems, protocols and materials have been implemented for the various patient safety bundles
- **Process Measures:** used to monitor the compliance with evidence-based practices during bedside patient care
- **Outcome Measures (Administrative Claims):** used to examine changes that occur in the health of an individual, group of people or population that can be attributed to the adoption of evidence-based clinical best practices

OBSTETRIC HEMORRHAGE

- Between 2012-2016, obstetric hemorrhage was one of the most common causes of pregnancy-related death in Michigan
- Between January 2018 and December 2025, the percentage of birthing hospitals in Michigan participating in this bundle increased from 15.9% to 84.7%
- The prepartum hemorrhage risk assessment rate has been maintained steady at 94-96%, although Michigan has grown in the number of hospitals implementing the Obstetric Hemorrhage safety bundle
- Quantitative blood loss, another element of the patient safety bundle, has shown similar improvements with participating Michigan birthing hospitals reporting an increased compliance from 79% in 2019 to 97% in 2023

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Structure, Process and Outcome Measures for Obstetrics Hemorrhage

HEM Structure Measures
S1-ALL: Patient Event Debriefs
S2-ALL: Clinical Team Debriefs
S3-ALL: Multidisciplinary Case Reviews
S4-ALL: Patient Education Materials on Urgent Postpartum Warning Signs
S5-ALL: Emergency Department Screening for Current or Recent Pregnancy
S1-HEM: Hemorrhage Cart
S2-HEM: Unit Policy and Procedure
S2b-HEM: Emergency Management Plan
S2c-HEM: Massive Transfusion Protocols
S2d-HEM: Alternative Approaches to Blood Products
S3-HEM: Quantitative Blood Loss

HEM Process Measures
P1a-HEM: Prepartum Risk Assessment
P1b-HEM: Postpartum Risk Assessment
P2-HEM: QBL
P3-HEM: Patient Support After Obstetric Hemorrhage
P4a-HEM: # OB Physician/Midwives Complete Education on Hemorrhage
P4b-HEM: # OB Physician/Midwives Complete Education on Respectful Care
P5a-HEM: # OB Nurses Complete Education on Hemorrhage
P5b-HEM: # OB Nurses Complete Education on Respectful Care
P6-HEM: Hemorrhage OB Drills Performed

HEM Outcome Measures

1. Severe Maternal Morbidity
   (excluding transfusion codes alone)

2. Severe Maternal Morbidity among People who Experienced an Obstetric Hemorrhage
   (excluding transfusion codes alone)

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SEVERE HYPERTENSION

Severe Hypertension in Pregnancy

- From November 2015 to December 2025, 84.7% of birthing hospitals participated in the Severe Hypertension in Pregnancy patient safety bundle
- Consistent focus on timely treatment of severe hypertension
- In 2018, 47 birthing hospitals in Michigan reported 52% compliance with the timely treatment of severe hypertension process measure increasing to 84% (60 hospitals) in 2023

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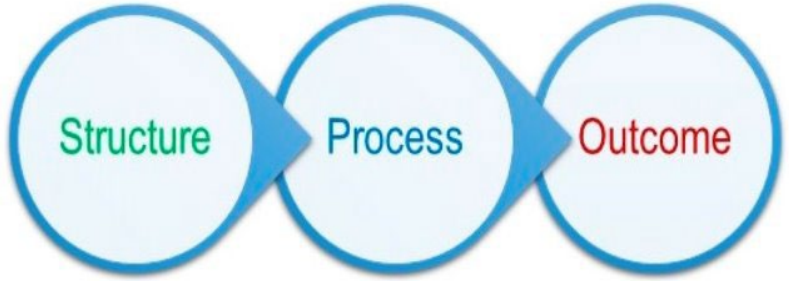
Structure, Process and Outcome Measures for Severe Hypertension

HTN Structure Measures
S1-ALL: Patient Event Debriefs
S2-ALL: Clinical Team Debriefs
S3-ALL: Multidisciplinary Case Reviews
S4-ALL: Patient Education Materials on Urgent Postpartum Warning Signs
S5-ALL: Emergency Department Screening for Current or Recent Pregnancy
S1-HTN: Unit Policy and Procedure
S1a-HTN: Measuring Blood Pressure
S1b-HTN: Treatment of Severe Hypertension
S1c-HTN: Seizure Prophylaxis

HTN Process Measures
P1-HTN: Severe Hypertension Timely Treatment with Medication
P2a-HTN: Scheduling of Postpartum Blood Pressure and Symptoms Check – Severe HTN – 3 Day Follow-up
P2b-HTN: Scheduling of Postpartum Blood Pressure and Symptoms Check – History of HTN – 7 Day Follow-up
P3a-HTN: # OB Physician/Midwives Complete Education on Hypertension
P4a-HTN: # OB Nurses Complete Education on Hypertension
P4b-HTN: # OB Nurses Complete Education on Respectful Care
P5-HTN: # of ED Providers & Nurses Educated on Hypertension and Pregnancy
P6-HTN: Hypertension OB Drills Performed



HTN Outcome Measures

1. Severe Maternal Morbidity
   (excluding transfusion codes alone)

2. Severe Maternal Morbidity among People with Preeclampsia, Eclampsia, or HELLP Syndrome
   (excluding transfusion codes alone)

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SEPSIS

- Implementation began in November 2023, with the start of the Sepsis Collaborative
- Of the 66 birthing hospitals participating in MI AIM, 57 (86%) have fully implemented the sepsis bundle
- Of these, 53 have submitted sepsis-related data to MI AIM by October 2025 (still awaiting final data for 2025 to be submitted by March 2026)
- Since 2024, MI AIM participating birthing hospitals have increased sepsis bundle implementation by 6 birthing hospitals.
- Successes included hospitals creating protocols, order sets, and processes to improve maternal sepsis care
- The biggest challenge is that implementation and improvement take time

Sepsis in Obstetric Care

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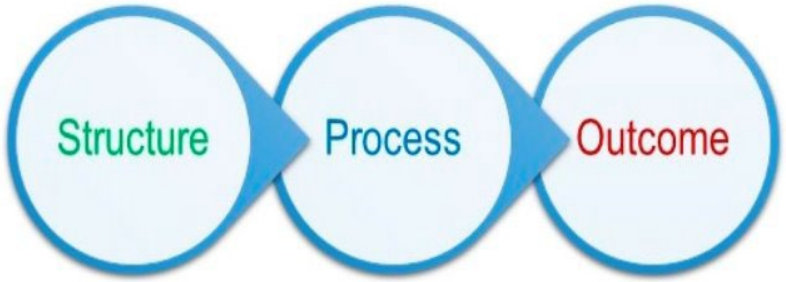
Structure, Process and Outcome Measures for Sepsis

Sepsis Structure Measures

1. Patient Event Debriefs
2. Clinical Team Debriefs
3. Patient Education Materials on Urgent Postpartum Warning Signs
4. Emergency Department (ED) Screening for Current or Recent Pregnancy
5. Multidisciplinary Case Reviews for Obstetric Sepsis
6. Obstetric Sepsis Screening & Diagnosis System
7. Protocols for Management of Suspected and Confirmed Obstetric Sepsis
8. Emergency Department (ED) Education Program on Recognition of Obstetric Emergencies
9. Identification of Post-Obstetric Sepsis Resources and Referral Pathways

Sepsis Process Measures

1. Provider and Nursing Education on Respectful and Equitable Care
2. OB Provider and Nursing Education on Obstetric Sepsis
3. Multidisciplinary Case Reviews for Obstetric Patients with Sepsis



Sepsis Outcome Measures

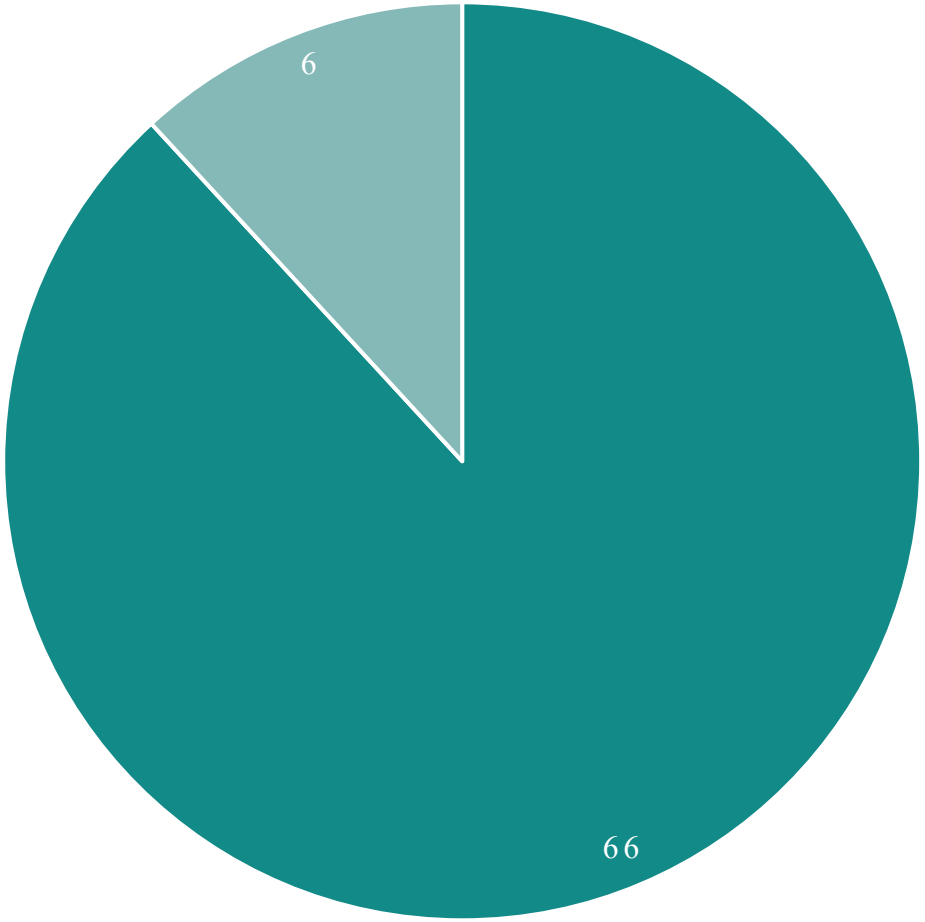
1. Severe Maternal Morbidity
   (excluding transfusion codes alone)

Moving Forward with Sepsis Safety Bundle

- It is important to continue to incorporate the bedside evaluation/confirmatory laboratory evaluation in patients with suspected sepsis
- Need to rule out/rule in end organ damage- mental status, urine output, vitals
- Failure to recognize

EARLY RECOGNITION IS KEY !

Michigan Birthing Hospitals Participating in MI AIM



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What Improvements has MI AIM made since its Inception?

- MI AIM has achieved improvement in hemorrhage-related SMM, hypertension-related SMM and overall SMM since the adoption of the MI AIM collaborative in 2016

Measure	2011-2015 (Pre-MI AIM)	2016-2023 (Post-MI AIM)	Improvement
Hemorrhage	7.36%	5.23%	28.93%
Hypertension	6.87%	6.47%	5.83%
All	0.83%	0.82%	.92%

MI AIM Program: Improvement in Severe Maternal Morbidity (SMM) in Michigan

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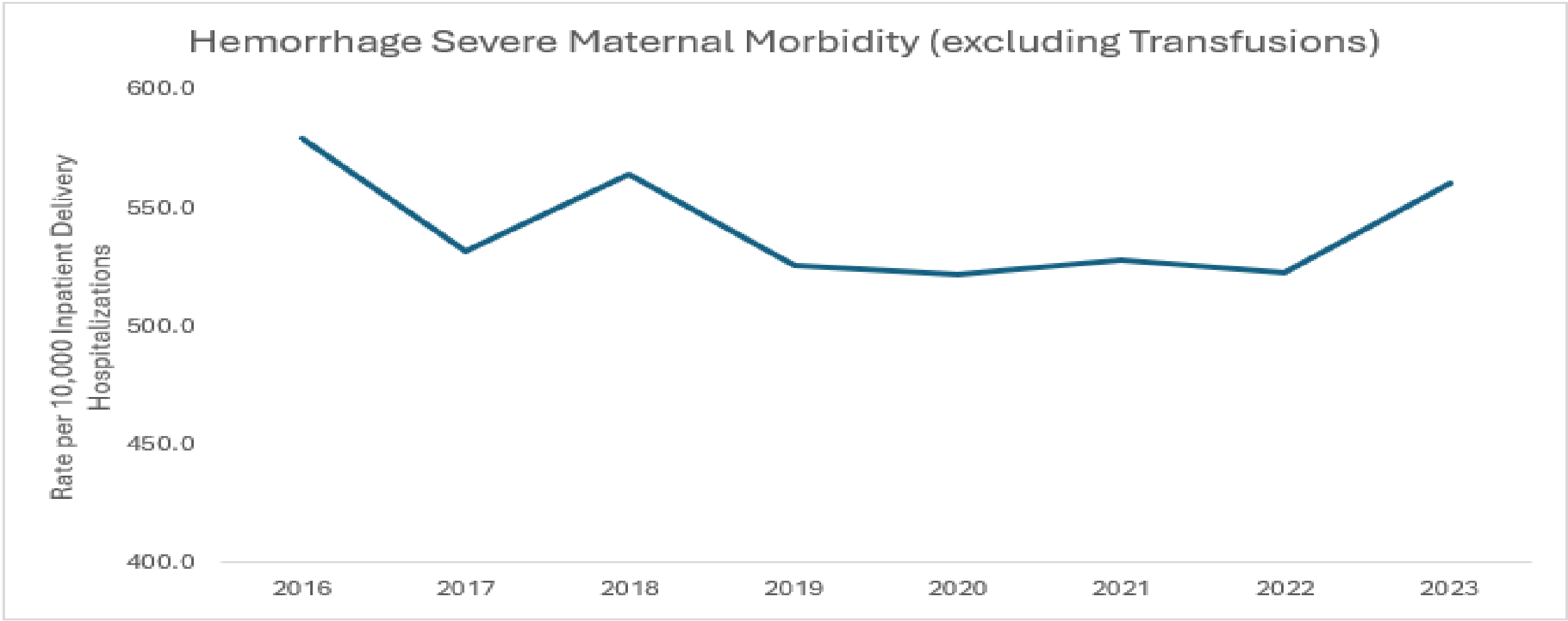
Obstetric Hemorrhage



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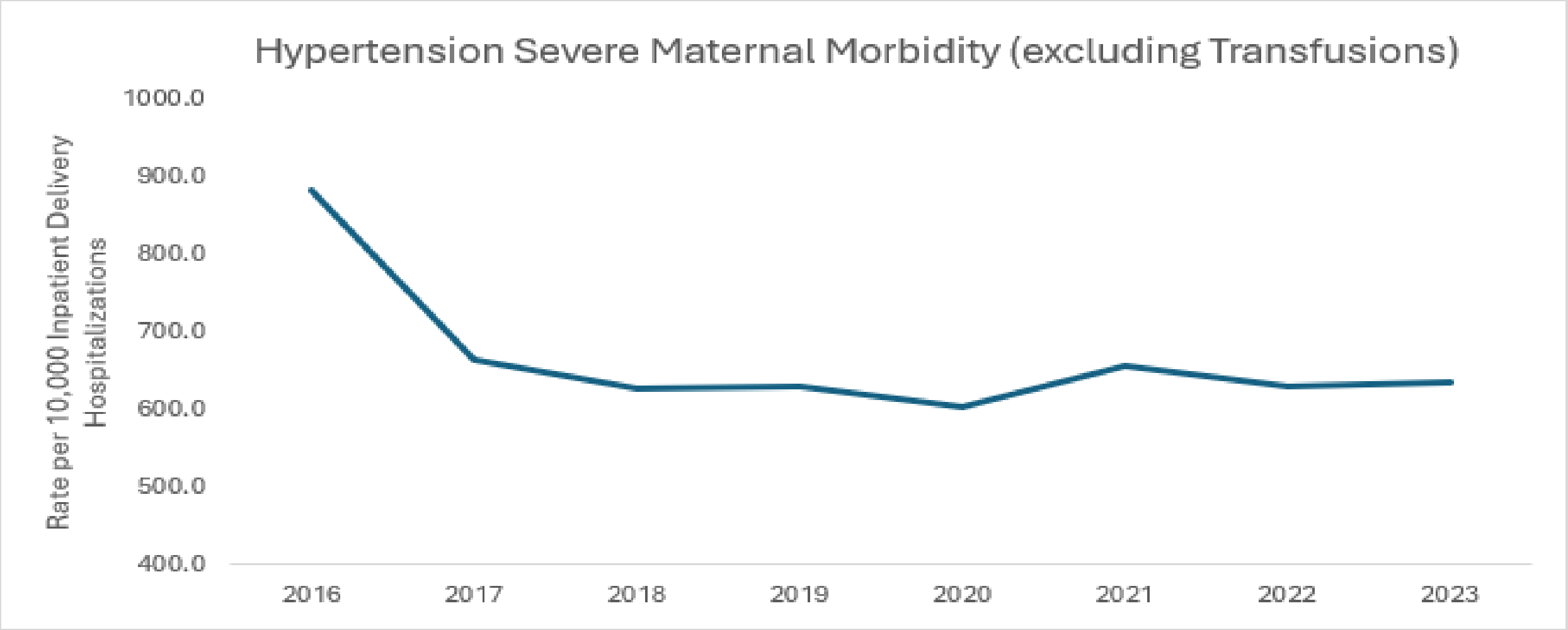
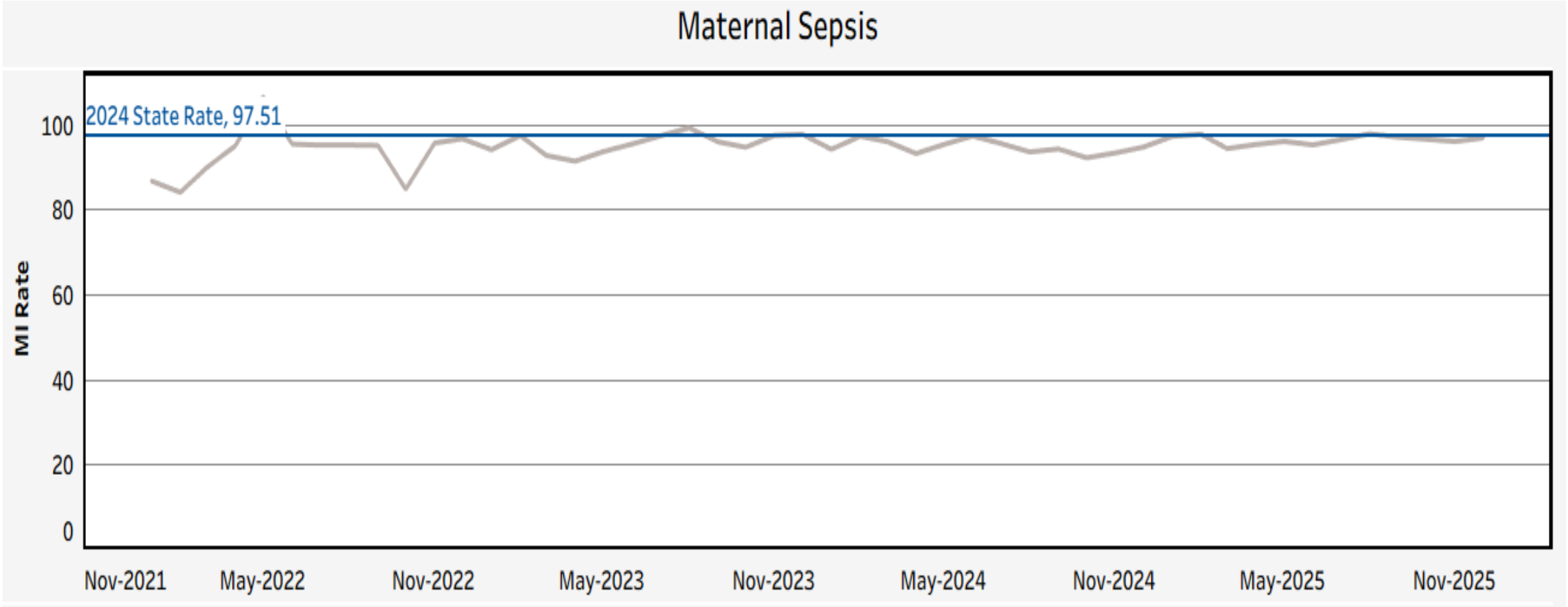
Severe Hypertension



Sepsis


Maternal Sepsis
2024 State Rate, 97.51
MI Rate
100
80
60
40
20
0
Nov-2021
May-2022
Nov-2022
May-2023
Nov-2023
May-2024
Nov-2024
May-2025
Nov-2025

MI AIM Goals Through 2025

- **Birthing Hospital Participation**
  - GOAL: 90% birthing hospitals engaged in MI AIM.
  - 2025: **90%**
- **Hemorrhage Risk Assessment**
  - GOAL: 99% of patients receive both pre- and post-partum hemorrhage risk assessment.
  - 2025 (Year to Date): PRE – **97.53%**; POST – **96.68%**
- **Severe Hypertension Timely Treatment**
  - GOAL: 80% of patients receive timely treatment with medication.
  - 2025 (Year to Date): **86.8%**
- **Maternal Sepsis Screenings**
  - GOAL: 95% of patients receive screening for sepsis.
  - 2025 (Year to Date): **98.62%**
- **Scheduling of Postpartum Blood Pressure and Symptoms Check – Severe HTN - 3 Day Follow-up Appointment**
  - GOAL: >80% of cases had a post-partum follow up appointment scheduled
  - 2025 (Year to Date): **59.1%**
- **Scheduling of Postpartum Blood Pressure and Symptoms Check - History of HTN - 7 Day Follow-up Appointment**
  - GOAL: >80% of cases had a post-partum follow up appointment scheduled
  - 2025 (Year to Date): **64.3%**
- **Quantitative Blood Loss**
  - GOAL: 95% of patients receive QBL assessment.
  - 2025 (Year to Date): **97.81%**

MI AIM Dashboard

- MI AIM partners with MHA and MDHHS to assist hospitals in improving data collection
- Available to MI AIM participating hospitals and assists in visualizing data that is collected as part of the patient safety bundles
- Data trends over time and streamlines data collection and entry to save hospitals time and money

- The MI AIM Dashboard is available through KeyMetrics.

How to Identify Opportunities for Improvement?

Monitor Bundle Implementation

- Review of structure survey results to track bundle implementation
- Recognize barriers to implementing specific bundle components

Data Tracking

- Monitor process measure compliance for hemorrhage, hypertension and sepsis
- Monitor severe maternal morbidity (SMM) outcome data

Technical Assistance

- Provide support for those who are implementing the bundle
- Share resources like the MI AIM Dashboard (KeyMetrics)
- Host webinars around bundle implementation
- Leverage technical assistance listserv to connect new participants with established participants in program

Maternal Levels of Care

- Helps ensure hospitals have the right staff, equipment and systems to provide risk-appropriate care for every pregnant and postpartum patient
- To reduce maternal morbidity and mortality by promoting standardized, regionalized care
- Through a voluntary, on-site evaluation, the Joint Commission assesses hospitals and critical access hospitals to determine their designated level of maternal care

Designated Maternal Levels of Care

Level I: Basic care

Level II: Specialty care

Level III: Subspecialty care

Level IV: Regional perinatal health care centers

- Reinforce the importance of MI AIM participation, ensuring that facilities adopt evidence-based practices to improve maternal outcomes.
- By integrating MLC verification with AIM patient safety bundle implementation, hospitals are better equipped to deliver safe, high-quality care tailored to each patient's risk level

Maternal Levels of Care Verification

Delivering Confidence Across All Levels of Maternal Care

A program to help reduce maternal morbidity and mortality outcomes by ensuring women receive risk-appropriate care.

The Joint Commission ACOG

Maternal Levels of Care

- Michigan has demonstrated strong early adoption of Maternal Levels of Care Verification
- 53 of 75 birthing hospitals committing to participate in the MLC program during its initial rollout in 2024
- The MDHHS covered all associated fees, including those for site visits, and reduced barriers for facilities seeking verification
- Hospitals that completed their Maternal Levels of Care Verification application and maintained full participation in MI AIM by July 30, 2024 received a quality-based payment in September 2024 as part of this initiative

MI AIM
MICHIGAN ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

AIM
ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

The Joint Commission

ACOG

Key Takeaways and Future Directions

- Quality Improvement Initiatives are essential for improving both clinical care, public and population health
- Promote systematic, data-driven efforts to improve healthcare processes and outcomes
- Enhances safety, equity, and effectiveness
- Continuous improvement is critical for sustainable health systems
- MI AIM: 100% participation of birthing hospitals, zero preventable maternal deaths, decrease maternal morbidity and improve health outcomes
- Greater patient and community engagement

References

- Donabedian A. Evaluating the quality of medical care. 1966. Milbank Q. 2005;83(4):691-729. doi: 10.1111/j.1468-0009.2005.00397.x. PMID: 16279964; PMCID: PMC2690293.
- Batalden PB, Davidoff F. What is "quality improvement" and how can it transform healthcare? Qual Saf Health Care. 2007 Feb;16(1):2-3. doi: 10.1136/qshc.2006.022046. PMID: 17301192; PMCID: PMC2464920.
- Panteli D, Quentin W, Busse R. Understanding healthcare quality strategies: a five-lens framework. In: Busse R, Klazinga N, Panteli D, et al., editors. Improving healthcare quality in Europe: Characteristics, effectiveness and implementation of different strategies [Internet]. Copenhagen (Denmark): European Observatory on Health Systems and Policies; 2019. (Health Policy Series, No. 53.) 2. Available from: https://www.ncbi.nlm.nih.gov/books/NBK549261/
- *The six primary dimensions for data quality assessment*. DAMA UK Working Group. (2013, October). https://www.sbctc.edu/resources/documents/colleges-staff/commissions-councils/dgc/data-quality-deminsions.pdf
- National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Care Services; Committee on the Quality of Care in Nursing Homes. The National Imperative to Improve Nursing Home Quality: Honoring Our Commitment to Residents, Families, and Staff. Washington (DC): National Academies Press (US); 2022 Apr 6. 3, Quality Measurement and Quality Improvement. Available from: https://www.ncbi.nlm.nih.gov/books/NBK584650/
- Faiman B. (2021). Quality Improvement Projects and Clinical Research Studies. *Journal of the advanced practitioner in oncology*, *12*(4), 360–361. https://doi.org/10.6004/jadpro.2021.12.4.1
- IOM. Crossing the quality chasm: A new health system for the 21st century. Washington, DC: National Academy Press; 2001a.
- Trahan MJ, Plourde M, Clouatre A, Wou K, Pavilanis A, Fortune RL, Haas S, Pepin J, Kapellas S, Morency AM, Aucoin G, Flannery A, Monast PO, Hassan N, Koolian M, Oudanonh T, Almeida N, Suarthana E, Daskalopoulou SS, Malhamé I. A quality improvement intervention to optimize the management of severe hypertension during pregnancy and postpartum. Pregnancy Hypertens. 2025 Mar;39:101192. doi: 10.1016/j.preghy.2025.101192. Epub 2025 Feb 17. PMID: 39965297.
- Kuster, Andrea et al. Quality Improvement Project to Increase Postpartum Clinic Visits for Publicly Insured Women. Journal of Obstetric, Gynecologic & Neonatal Nursing, Volume 51, Issue 3, 313 - 323

References

- AHRQ. Module 4. Approaches to quality improvement. 2013. https://www.ahrq.gov/ncepcr/tools/pf-handbook/mod4.html .
- CMS. Quality measures. 2020a. https://www.cms.gov/Medicare/Quality-Initiatives-PatientAssessment-Instruments/QualityMeasures .
- O'Donnell B, Gupta V. Continuous Quality Improvement. [Updated 2023 Apr 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559239/
- Bhat L, McCammon C. The Importance of Quality Assurance and Quality Improvement in Low- and Middle-Income Settings. Curr Bladder Dysfunct Rep. 2021;16(1):1-5. doi: 10.1007/s11884-020-00623-y. Epub 2021 Mar 5. PMID: 33688387; PMCID: PMC7933912.
- Endalamaw A, Khatri RB, Mengistu TS, Erku D, Wolka E, Zewdie A, Assefa Y. A scoping review of continuous quality improvement in healthcare system: conceptualization, models and tools, barriers and facilitators, and impact. BMC Health Serv Res. 2024 Apr 19;24(1):487. doi: 10.1186/s12913-024-10828-0. PMID: 38641786; PMCID: PMC11031995.
- Ilin M, Bohlen J. Six Sigma Method. [Updated 2023 Jan 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK589666/
- https://www.ihi.org/library/model-for-improvement
- Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd edition). San Francisco: Jossey-Bass Publishers; 2009.
- Lion KC, Faro EZ, Coker TR. All Quality Improvement Is Health Equity Work: Designing Improvement to Reduce Disparities. Pediatrics. 2022 Mar 1;149(Suppl 3):e2020045948E. doi: 10.1542/peds.2020-045948E. PMID: 35230431.
- Dixon-Woods M, McNicol S, Martin G. Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. BMJ Qual Saf. 2012 Oct;21(10):876-84. doi: 10.1136/bmjqs-2011-000760. Epub 2012 Apr 28. PMID: 22543475; PMCID: PMC3461644.

References

- Carbonell C, Adegbulugbe A, Cheung W, Ruff P. Barriers and Challenges to Implementing a Quality Improvement Program: Political and Administrative Challenges. JCO Glob Oncol. 2024 Jun;10:e2300455. doi: 10.1200/GO.23.00455. PMID: 38935883.
- Shaller D. Implementing and using quality measures for children's health care: perspectives on the state of the practice. Pediatrics. 2004 Jan;113(1 Pt 2):217-27. PMID: 14702504.
- O'Donnell B, Gupta V. Continuous Quality Improvement. [Updated 2023 Apr 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559239/
- Asif M, Jameel A, Sahito N, Hwang J, Hussain A, Manzoor F. Can Leadership Enhance Patient Satisfaction? Assessing the Role of Administrative and Medical Quality. Int J Environ Res Public Health. 2019 Sep 3;16(17):3212. doi: 10.3390/ijerph16173212. PMID: 31484308; PMCID: PMC6747509.
- Wong CA, Houry D, Cohen MK. Integrating Public Health and Health Care - Protecting Health as a Team Sport. N Engl J Med. 2024 May 16;390(19):1739-1742. doi: 10.1056/NEJMp2403274. Epub 2024 Apr 10. PMID: 38598818; PMCID: PMC11093256.
- Benn J, Arnold G, D'Lima D, et al. Evaluation of a continuous monitoring and feedback initiative to improve quality of anaesthetic care: a mixed-methods quasi-experimental study. Southampton (UK): NIHR Journals Library; 2015 Jul. (Health Services and Delivery Research, No. 3.32.) Scientific summary. Available from: https://www.ncbi.nlm.nih.gov/books/NBK305879/
- Lighterness, A., Adcock, M., Scanlon, L. A., & Price, G. (2024). Data Quality-Driven Improvement in Health Care: Systematic Literature Review. *Journal of medical Internet research*, *26*, e57615. https://doi.org/10.2196/57615
- Bingham, D., Lyndon, A., Lagrew, D., & Main, E. K. (2011). A state-wide obstetric hemorrhage quality improvement initiative. *MCN. The American journal of maternal child nursing*, *36*(5), 297–304. https://doi.org/10.1097/NMC.0b013e318227c75f
- https://www.uab.edu/medicine/obgyn/clinical/section-of-quality-and-patient-safety/quality-improvement-projects#Anemia-in-Pregnancy-Quality-Improvement-Initiative
- Quality-Improvement Strategies for Safe Reduction of Primary Cesarean Birth: ACOG Committee Statement No. 17:. Obstetrics & Gynecology e145(5):p 542-552, May 17, 2025. | DOI: 10.1097/AOG.0000000000005888

References

- https://itsm.tools/training-your-staff-to-use-itsm-tools-5-tips-to-success/
- https://fccamaine.com/2022/04/26/update-on-required-evacuation-drills/
- https://shop.nascohealthcare.com/products/postpartum-hemorrhage-trainer-sku-1021568?srsltid=AfmBOoqrWmPsVuXrYL9tnuEo_vpSiCxeB6QXdUVhai68KxDCwQZXeZiM
- https://www.jointcommission.org/en-us/knowledge-library/webinars/announcing-new-maternal-levels-of-care-verification-program-webinar
- https://flagsexpress.com/michigan-flag/outdoor/?srsltid=AfmBOoqi4ZgNvig9CHvggYn-pZnerzJzDR3EQ6CcqDd6iURXovtmrHtq
- https://www.deloitte.com/us/en/insights/industry/health-care/health-equity-economic-impact.html
- https://nursekey.com/12-postpartum-assessment-and-nursing-care/
- https://www.fredhutch.org/en/about/about-the-hutch/accountability-impact/accreditations-licenses/the-joint-commission.html
- https://pcainitiative.acog.org/about-us/
- https://www.freepik.com/premium-vector/quality-improvement-landing-page-template-tiny-businessman-character-pull-huge-lever-arm-increase-level-satisfied-customer-top-evaluation-rate-work-efficiency-cartoon-people-vector-illustration_22728091.htm
- https://cartoonstudio.wordpress.com/2010/10/28/committed-to-continuous-improvement/
- https://www.freepik.com/premium-vector/tiny-businesspeople-characters-pull-huge-switch-increase-level-quality-customers-feedback-rate-evaluation-work-efficiency-management-solution-success-cartoon-people-vector-illustration_16300127.htm
- https://www.alamy.com/principles-flat-icon-colored-sign-from-personality-collection-creative-principles-icon-illustration-for-web-design-infographics-and-more-image440301484.html

Thank you

Questions??