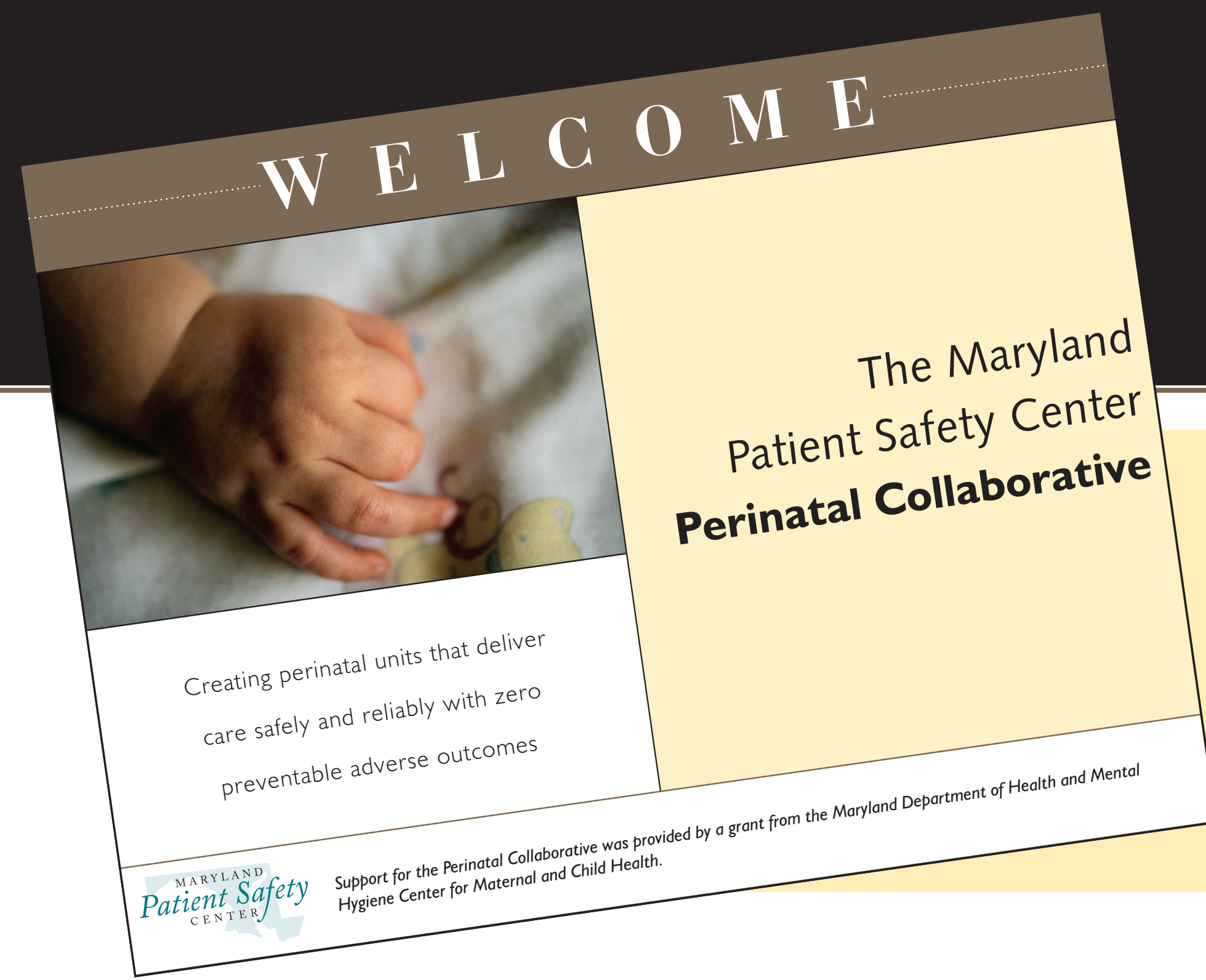


# Improving Culture and Teamwork: **Maryland Perinatal Collaborative**

The aim of the Perinatal Collaborative is to reduce infant harm through the implementation and integration of systems improvements and team behaviors into maternal-fetal care



When we think of labor and delivery today, we think of healthy women giving birth to a beautiful baby and everyone being happy, but when a bad outcome occurs it's devastating to both the parents and the care team. When the Joint Commission on Accreditation of Healthcare Organizations analyzed 42 sentinel events involving infant death from 1999-2004, it revealed that communication was the leading root cause and culture as a barrier to communication and teamwork was an underlying cause. The Maryland Patient Safety Center Perinatal Learning Network is seeking to address this fundamental process and by doing so reduce the risk of a poor outcome.

## Mission

The **mission** of the Perinatal Collaborative is to create perinatal units that deliver care safely and reliably with zero preventable adverse events. The specific **aim** is to reduce infant harm as measured by Adverse Outcome Index (AOI) and improvement in the culture of safety by the AHRQ Hospital Patient Safety Survey.

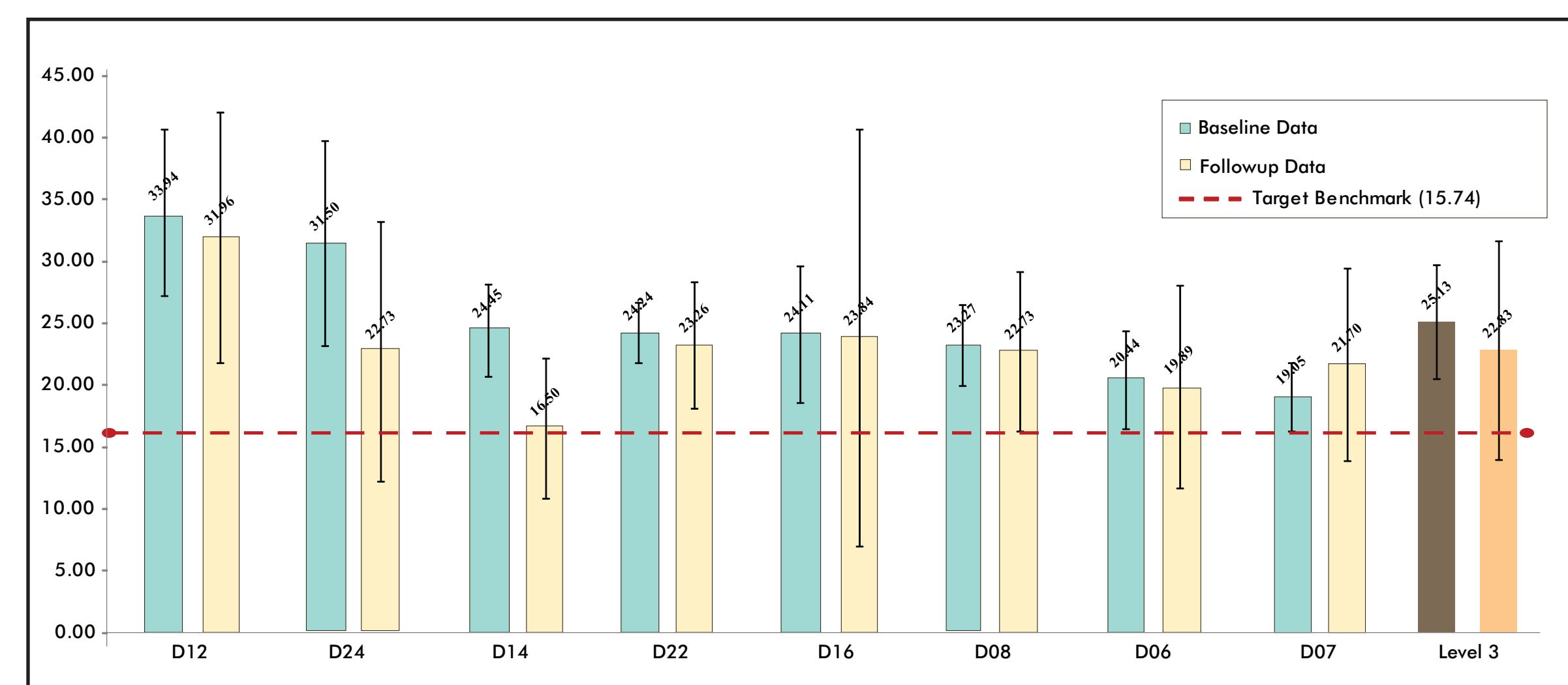
## Adverse Outcome Index

The AOI is a weighted performance measure of quality care in labor and delivery units recently developed by an expert consensus panel and tested at Beth Israel Deaconess Medical Center. Index measures are as follows:

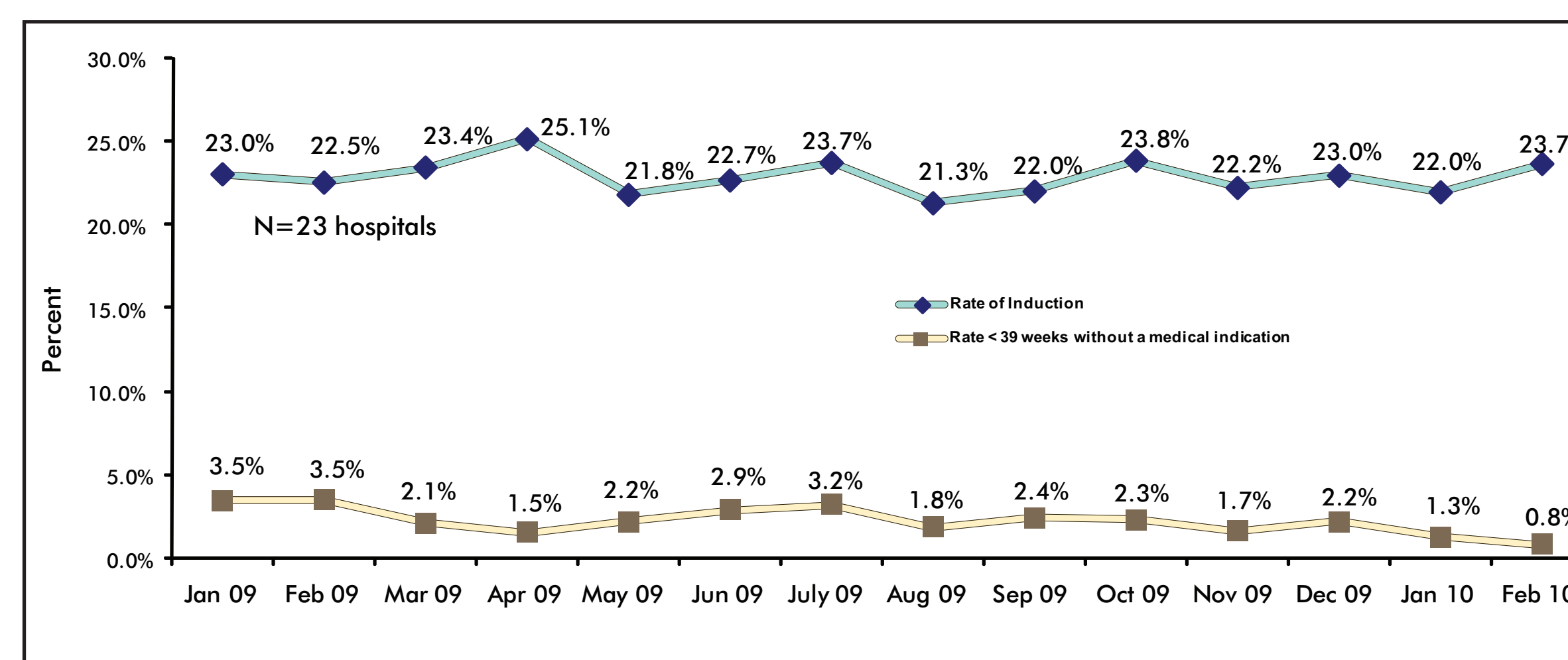
Index Measures	Weighted Score
Maternal death	750
Intrapartum and neonatal death > 2500 g	400
Uterine rupture	100
Maternal admission to the ICU	65
Birth trauma	60
Return to operating room/labor and delivery	40
Admission to NICU > 2500 g and for > 24 hours	35
Apgar < 7 at 5 minutes	25
Blood transfusion	20
Three or 4° perineal tear	5

The AOI is the percentage of patients with 1 or more of these 10 adverse events. To distinguish high from low severity events, a weighted score was developed for each outcome. The Weighted Adverse Outcome Score (WAOS) is the average score for each patient who delivers on the obstetrics unit. The Severity Index (SI) is the average score for each patient who suffers one or more adverse events. The National Perinatal Information Center (NPIC) analyzes hospital discharge data quarterly. All hospitals participating in the Perinatal Collaborative are required to submit data to NPIC.

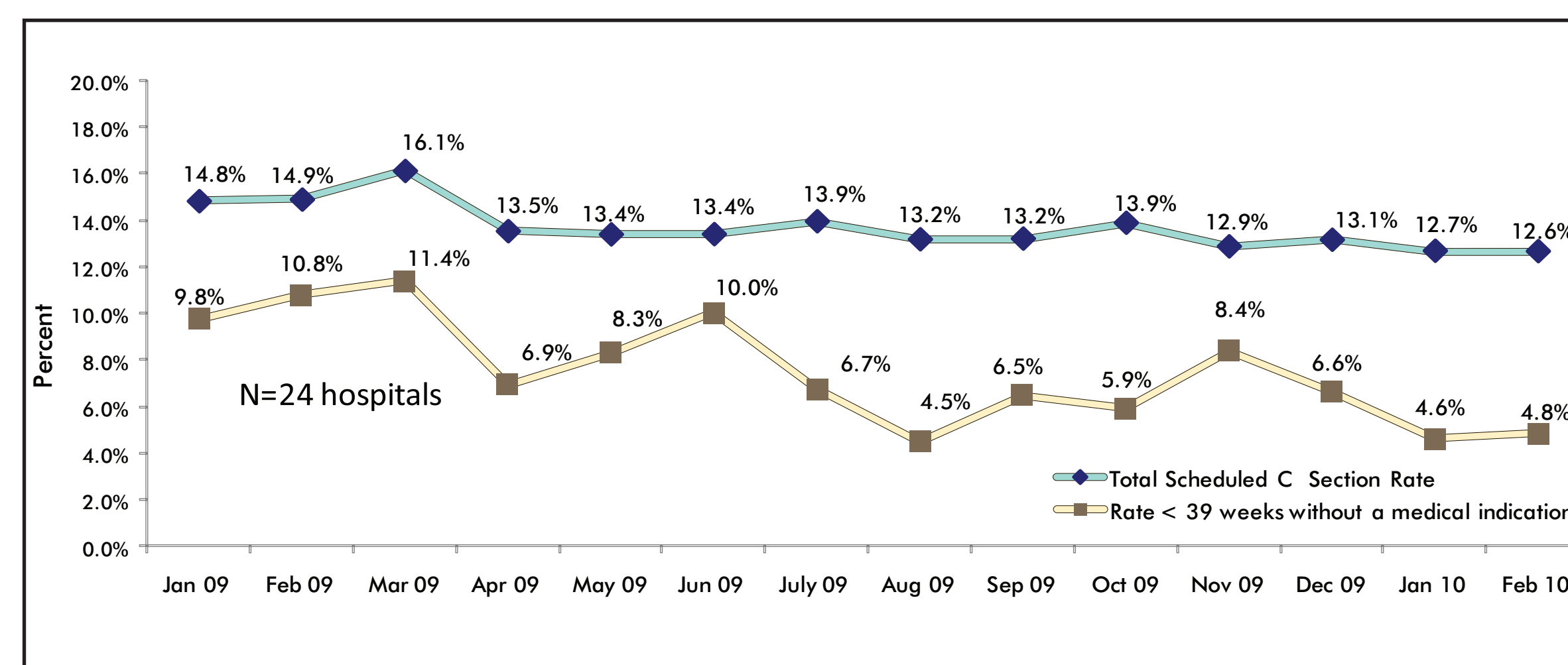
**Severity Index (SI Report): Baseline Data (2006) & Followup Data (Q4, 2008-Q3, 2009) from a Sample of Level 3 Maryland Hospitals (total weights divided by number of patients with an adverse event) AOI Version 2.1**



**Induction Rate Less than 39 Weeks without Medical Indication Maryland Patient Safety Center - Perinatal Collaborative**



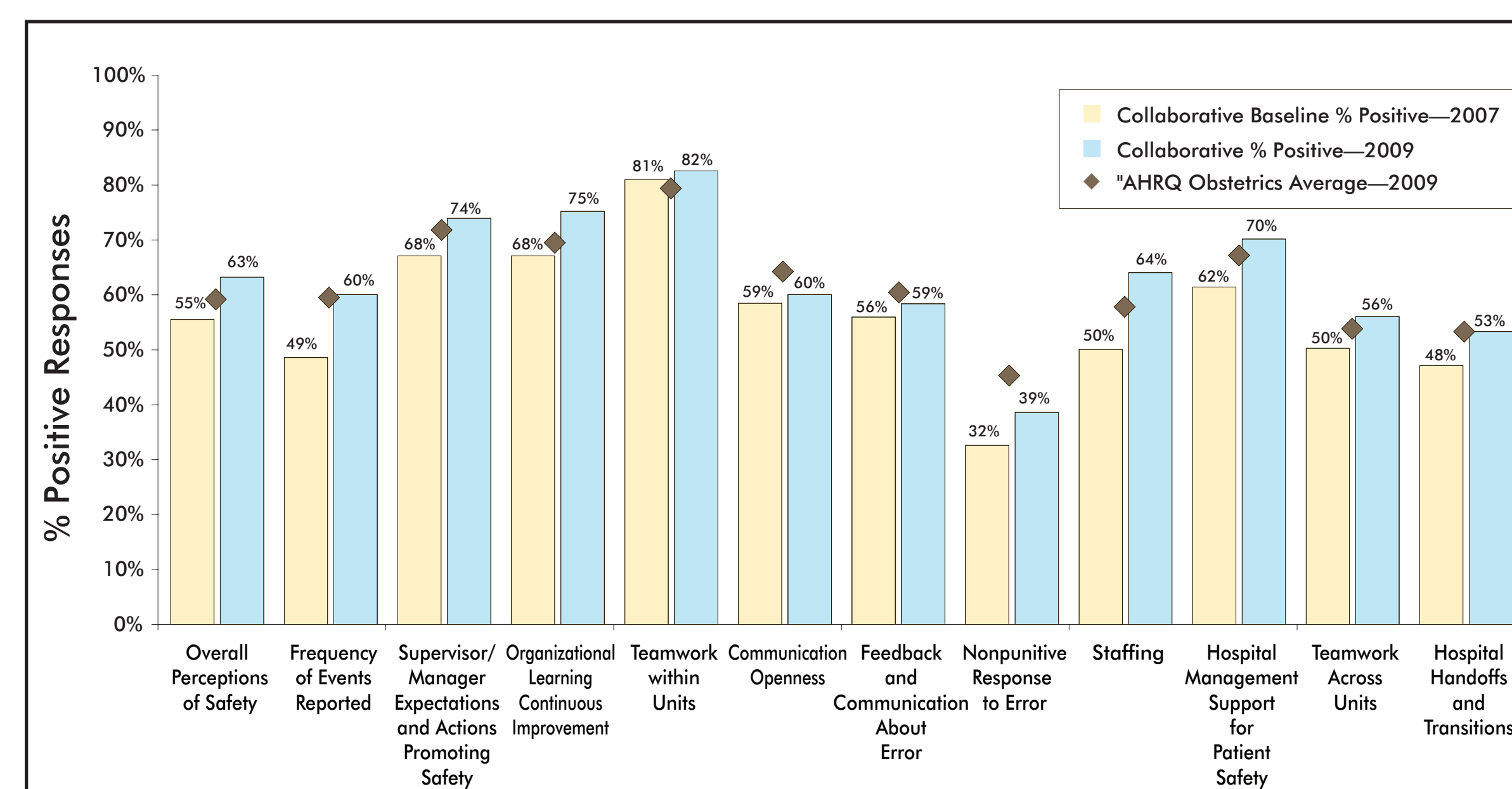
**Scheduled C- Section Rates Less than 39 Weeks without Medical Indication Maryland Patient Safety Center - Perinatal Collaborative**



## Assessment of Safety Culture

The Perinatal Collaborative uses the AHRQ Hospital Survey on Patient Safety Culture to measure the culture component of improving perinatal care. The AHRQ survey was distributed before the start of the collaborative and has been repeated twice.

**AHRQ Hospital Patient Safety Survey, Maryland Perinatal Collaborative**



## Changes Being Tested and Implemented

- Standardized electronic fetal heart rate (FHR) monitoring terminology with the adoption of terms from the National Institute of Child Health and Development (NICHD) for all professional communication about FHR patterns
- Applied the concepts of crew resource management/team training to labor & delivery
  - Implemented multidisciplinary team meetings (Board Rounds) on each shift.
  - Improved effectiveness of SBAR communications
  - Improved assertion for patient safety via TeamSTEPPS™ Two-Challenge Rule and CUS Techniques
  - Created contingency teams to respond to emergency situations
  - Improved situation monitoring through creation of shared mental models (e.g. call out and huddles)
  - Improved situation monitoring through cross monitoring of team members
- Implemented routine emergency drills or critical events training with debriefings to evaluate team performance and identify opportunities for improvement
- Reviewed technique for vacuum-assisted deliveries
- Measured and provided feedback on the Institute for Healthcare Improvement's Perinatal Bundles (Elective Induction and Augmentation)

## Summary of Results / Lessons Learned

To date, 90% of 22 of the participating hospitals have improved on at least one of the AOI scores (Twenty-three percent reduction in admissions to the NICU for Level 3 facilities). Nine of the 12 dimensions of the AHRQ Hospital Patient Safety Culture Survey have improved. Elective inductions <39 weeks gestational age without a medical indication have decreased by 29%. Elective C-sections <39 weeks without a medical indication have decreased by 41%. Both Q4 2009 compared to Q1 2009.

The project has been extended as the Perinatal Learning Network. We have learned:

- Change is slow and the continued use of the infrastructure built by the Collaborative has assisted the teams to practice "relentless persistence."
- Improving team skills prior to tackling the elective induction and augmentation bundles as a requirement was a successful strategy. We are now focused on reducing inductions and C-sections less than 39 weeks without a medical indication.
- Senior Leadership support is critical to success

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funded in part by the Center for Maternal and Child Health, Department of Health and Mental Hygiene