A Model for Collaboration: Reducing Early Elective Deliveries

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Deputy Commissioner for Population Health
Tennessee Department of Health

November 13, 2017

Terminology

- Late preterm=34 0/7 to 36 6/7 weeks gestation
- Early term=37 0/7 to 38 6/7 weeks gestation
- Elective: Not medically indicated

People Are Paying Attention…

But Why?

- Evidence supports better outcomes for mom and baby when elective inductions/deliveries are avoided

Table 1. Neonatal and Infant Mortality Rates Associated With Late-Preterm and Early-Term Deliveries ⇦

Gestational Age (wk)	Neonatal Mortality Rate (Per 1,000 Live Births)	Relative Risk (95% CI)	Infant Mortality Rate (Per 1,000 Live Births)	Relative Risk (95% CI)
34*	7.1	9.5 (8.4–10.8)	11.8	5.4 (4.9–5.9)
35*	4.8	6.4 (5.6–7.2)	8.6	3.9 (3.6–4.3)
36*	2.8	3.7 (3.3–4.2)	5.7	2.6 (2.4–2.8)
37*	1.7	2.3 (2.1–2.6)	4.1	1.9 (1.8–2.0)
38*	1.0	1.4 (1.3–1.5)	2.7	1.2 (1.2–1.3)
39	0.8	1.00†	2.2	1.00†
40	0.8	1.0 (0.9–1.1)	2.1	0.9 (0.9–1.0)

Abbreviation: CI, confidence interval.

*$P<.001$

†Reference group

Data from Reddy UM, Ko CW, Raju TN, Willinger M. Delivery indications at late-preterm gestations and infant mortality rates in the United States. Pediatrics 2009;124:234–40. [PubMed] [Full Text]

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

The Society for Maternal-Fetal Medicine

COMMITTEE OPINION

Number 561 • April 2013
(Reaffirmed 2017)

The American College of Obstetricians and Gynecologists Committee on Obstetric Practice
The Society for Maternal–Fetal Medicine

This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Nonmedically Indicated Early-Term Deliveries

ABSTRACT: For certain medical conditions, available data and expert opinion support optimal timing of delivery in the late-preterm or early-term period for improved neonatal and infant outcomes. However, for nonmedically indicated early-term deliveries such an improvement has not been demonstrated. Morbidity and mortality rates are greater among neonates and infants delivered during the early-term period compared with those delivered between 39 weeks and 40 weeks of gestation. Nevertheless, the rate of nonmedically indicated early-term deliveries continues to increase in the United States. Implementation of a policy to decrease the rate of nonmedically indicated deliveries before 39 weeks of gestation has been found to both decrease the number of these deliveries and improve neonatal outcomes; however, more research is necessary to further characterize pregnancies at risk for in utero morbidity or mortality. Also of concern is that at least one state Medicaid agency has stopped reimbursement for nonindicated deliveries before 39 weeks of gestation. Avoidance of nonindicated delivery before 39 weeks of gestation should not be accompanied by an increase in expectant management of patients with indications for delivery before 39 weeks of gestation. Management decisions, therefore, should balance the risks of pregnancy prolongation with the neonatal and infant risks associated with early-term delivery.

Historically, the American College of Obstetricians and Gynecologists (the College) and the Society for Maternal-Fetal Medicine have advocated delaying deliveries until 39 completed weeks of gestation or beyond. Further, the College has stated that a mature fetal lung maturity profile is not an indication for delivery in the absence of other clinical indications (1). Yet, the rate of nonmedically indicated early-term delivery continues to increase in the United States. This document will focus on neonatal and infant outcomes and the potential neonatal complications related to nonmedically indicated early-term delivery. In this document, 36 weeks of gestation means 36 0/7–36 6/7 weeks of gestation, 37 weeks of gestation means 37 0/7–37 6/7 weeks of gestation, 38 weeks of gestation means 38 0/7–38 6/7 weeks of gestation, 39 weeks of gestation means 39 0/7–39 6/7

“Although there are specific indications for delivery before 39 weeks of gestation, a **nonmedically indicated early-term delivery is not appropriate**….

…In fact, there are **greater reported rates of morbidity and mortality** among neonates and infants delivered during the early-term period compared with those delivered at 39 weeks and 40 weeks of gestation.”

“…The differences between 37 weeks of gestation and 39 weeks of gestation are consistent, larger and statistically significant across multiple studies. Even comparing neonates and infants delivered at 38 weeks of gestation with those delivered at 39 weeks of gestation there is still an increased (albeit clinically small) risk of adverse outcomes.”

But This Is Not New Information…

2009

2003

2000

1999

1979

ACOG PRACTICE BULLETIN

CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN–GYNECOLOGISTS

NUMBER 107, AUGUST 2009

Replaces Practice Bulletin Number 10, November 1999; Committee Opinion Number 228, November 1999; Committee Opinion Number 248, December 2000; Committee Opinion Number 283, May 2003

Induction of Labor

This Practice Bulletin was developed by the ACOG Committee on Practice Bulletins—Obstetrics with the assistance of Mildred Ramirez, MD, and Susan Ramin, MD. The information is designed to aid practitioners in making decisions about appropriate obstetric and gynecologic care. These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

More than 22% of all gravid women undergo induction of labor in the United States, and the overall rate of induction of labor in the United States has more than doubled since 1990 to 225 per 1,000 live births in 2006 (1). The goal of induction of labor is to achieve vaginal delivery by stimulating uterine contractions before the spontaneous onset of labor. Generally, induction of labor has merit as a therapeutic option when the benefits of expeditious delivery outweigh the risks of continuing the pregnancy. The benefits of labor induction must be weighed against the potential maternal and fetal risks associated with this procedure (2). The purpose of this document is to review current methods for cervical ripening and induction of labor and to summarize the effectiveness of these approaches based on appropriately conducted outcomes-based research. These practice guidelines classify the indications for and contraindications to induction of labor, describe the various agents used for cervical ripening, cite methods used to induce labor, and outline the requirements for the safe clinical use of the various methods of inducing labor.

1978

Iatrogenic prematurity due to elective termination of the uncomplicated pregnancy: A major perinatal health care problem

Table I. Acute morbidity and death associated with iatrogenic prematurity

	No. of patients
Morbidity:	
Respiratory distress	32
RDS	24
Transient respiratory distress	8
Asphyxia neonatorum (1 min. Apgar score ≤6)*	10
Pneumothorax/pneumomediastinum	9
Necrotizing enterocolitis	1
Hyperbilirubinemia (total serum bilirubin value >12 mg./100 ml.	20
Hypocalcemia (total serum calcium value <7 mg./100 ml.)	13
Death:	
Group B streptococcal sepsis and intraventricular hemorrhage complicating RDS	1

*Four infants were not assigned one-minute Apgar scores.

Table II. Therapeutic measures required in the treatment of iatrogenic prematurity

Treatment	*No. of patients*
Endotracheal intubation	3
Umbilical artery catheterization	19
Umbilical vein catheterization	11
Chest tube drainage of pneumothorax	4
Nasal continuous positive airway pressure	18
Environmental oxygen ≥40%	25
Respirator assistance	2
One or more blood transfusions	18
Phototherapy	20
Course of antibiotics	19

1958

THE HAZARDS OF ELECTIVE INDUCTION OF LABOR*†

W. C. KEETTEL, M.D., J. H. RANDALL, M.D., IOWA CITY, IOWA,
AND MADELENE M. DONNELLY, M.D., DES MOINES, IOWA

TABLE VI. PERINATAL DEATHS

CAUSE	STILLBIRTHS		NEONATAL DEATHS		TOTAL PERINATAL MORTALITY	
	NO.	%	NO.	%	NO.	%
Related to Elective Induction of Labor.—						
Prematurity	2		15		17	
Prolapsed cord	10		0		10	
Latent period, over 24 hours	4		5		9	
Transverse presentation	2		0		2	
Precipitate labor	0		1		1	
	18	49.0	21	38.0	39	42.3
Not Related to Elective Induction of Labor.—						
Other causes	19	51.0	34	62.0	53	57.7
Total perinatal mortality in cases of electively induced labor	37	0.6	55	0.8	92	1.4

There is no question that a successfully induced short labor occurring during the day is very impressive to the young medical student, intern, or general physician. He sees the specialist do this and naturally feels he would like to offer this to his patients. He does not realize that the proper selection of patients for induction requires much more training than a year's internship.

The trained obstetrician should have sufficient experience properly to select the patients so that the maternal and fetal complications will be minimal, but even the most experienced will occasionally misinterpret his findings and complications will occur which result in fetal death. The general practitioner is performing and should continue to perform the majority of uncomplicated deliveries. He does not have sufficient experience in the early years of practice, however, in evaluating the size of the fetus, the station of the head, and the effacement of the cervix to select patients properly for induction. Hence, it seems unwise for him to induce labor electively. This conclusion is reached on the basis of our experience with elective induction where the selection of patients was done by our assistant residents whose experience seems quite comparable. We feel that a loss of 39 babies, or almost 0.6 per cent, is a significant price to pay for convenience.

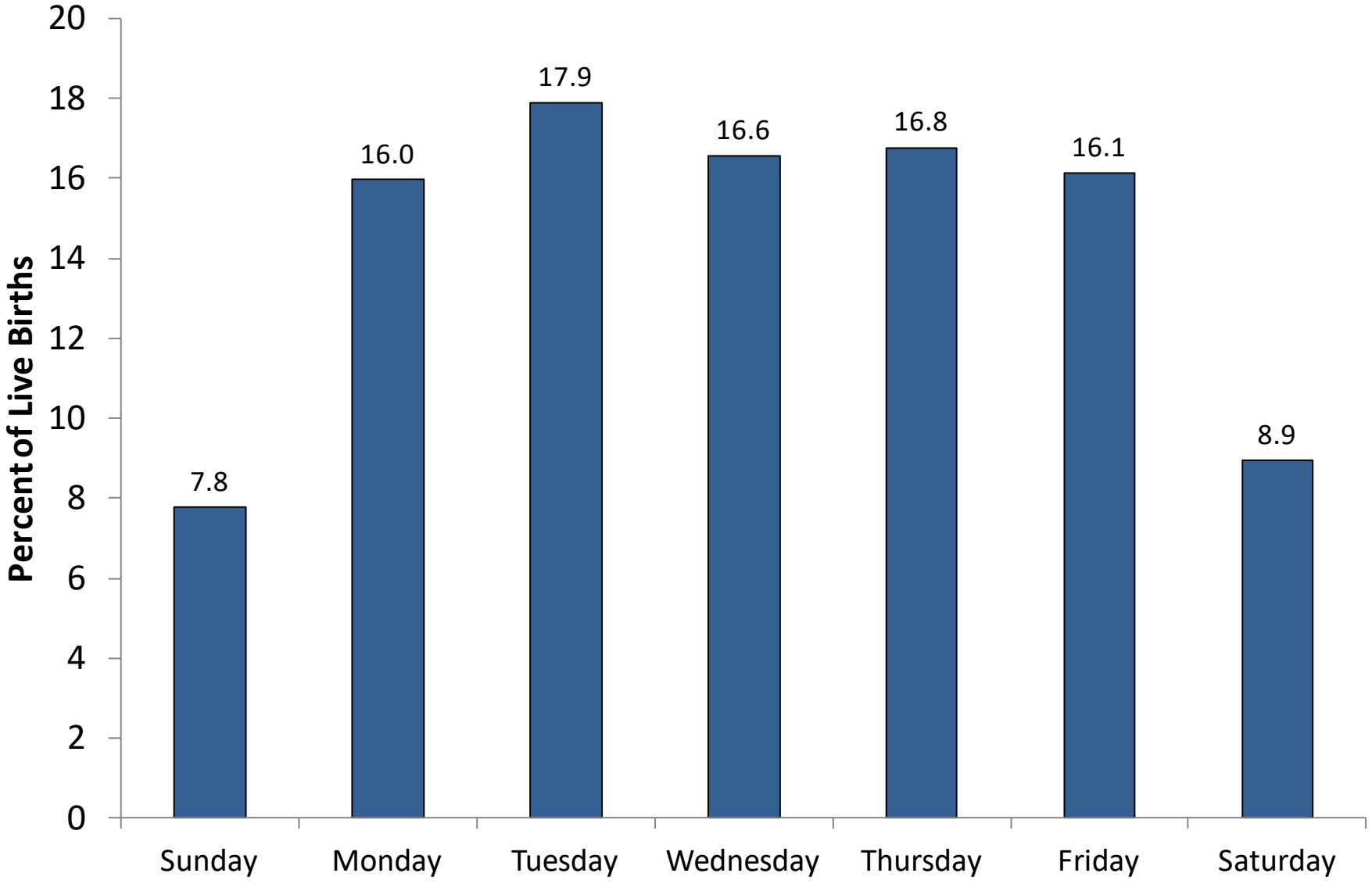
For convenience?

But that wouldn’t happen today.

Not in Tennessee.

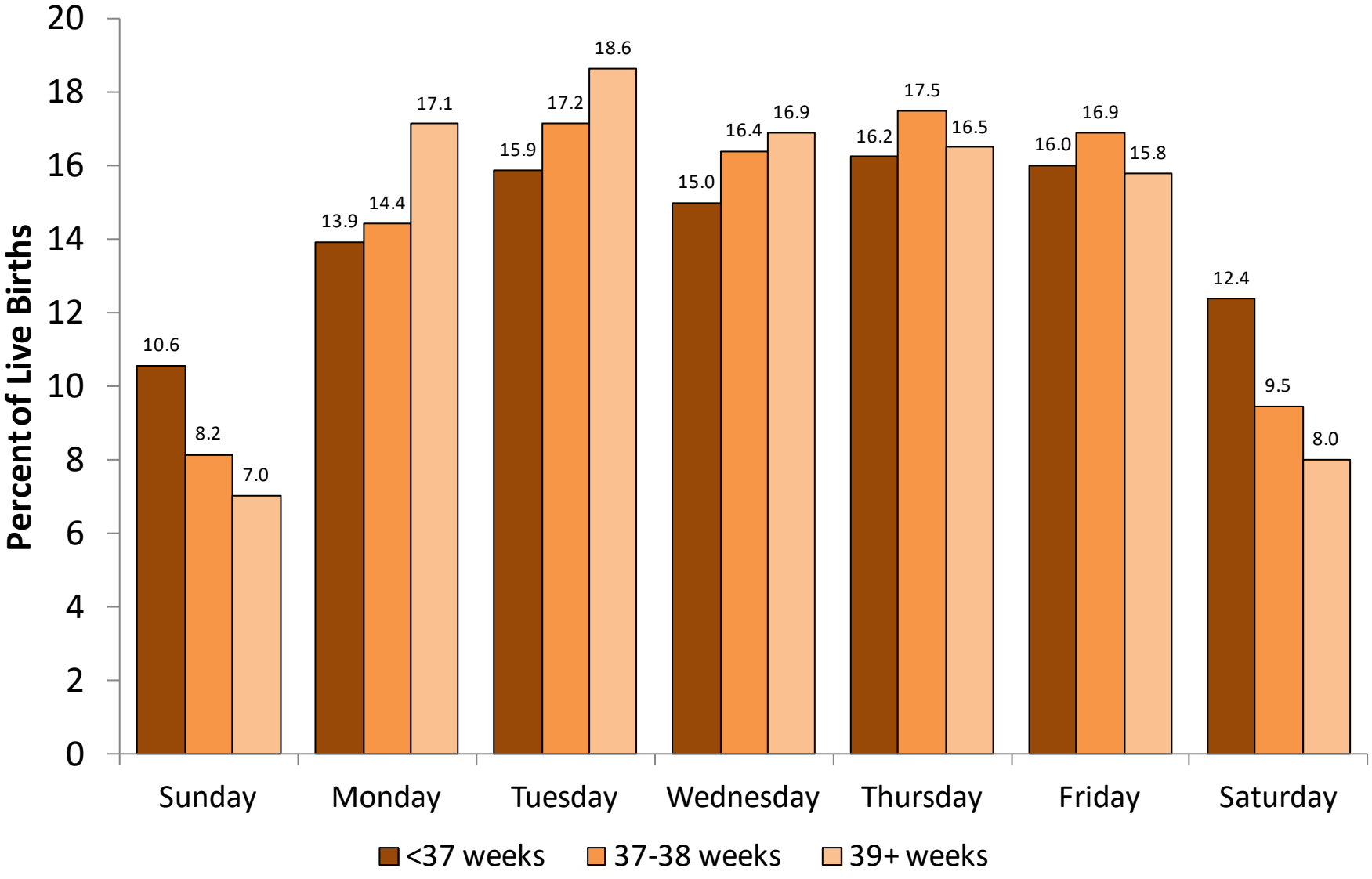
Right?

Births by Day of Week
Tennessee, 2010



Data source: Tennessee Department of Health; Office of Health Statistics; Birth Statistical System. Gestational age was based on estimated/clinical gestational age. If estimated gestational age was missing or invalid (<17 weeks or >49 weeks), generated gestational age (based on last menstrual period) was substituted.

Births by Day of Week and 3-Level Gestational Age
Tennessee, 2010



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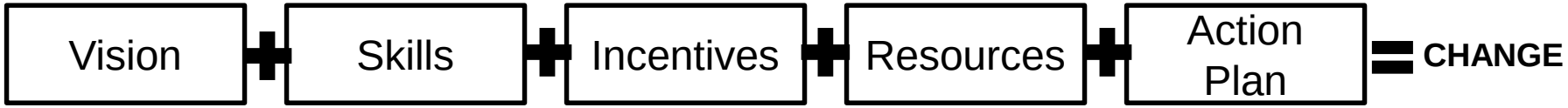
In 2012, 15.45% of all early term deliveries in Tennessee were elective

How Did TN Reduce Early Elective Deliveries?

Managing Complex Change



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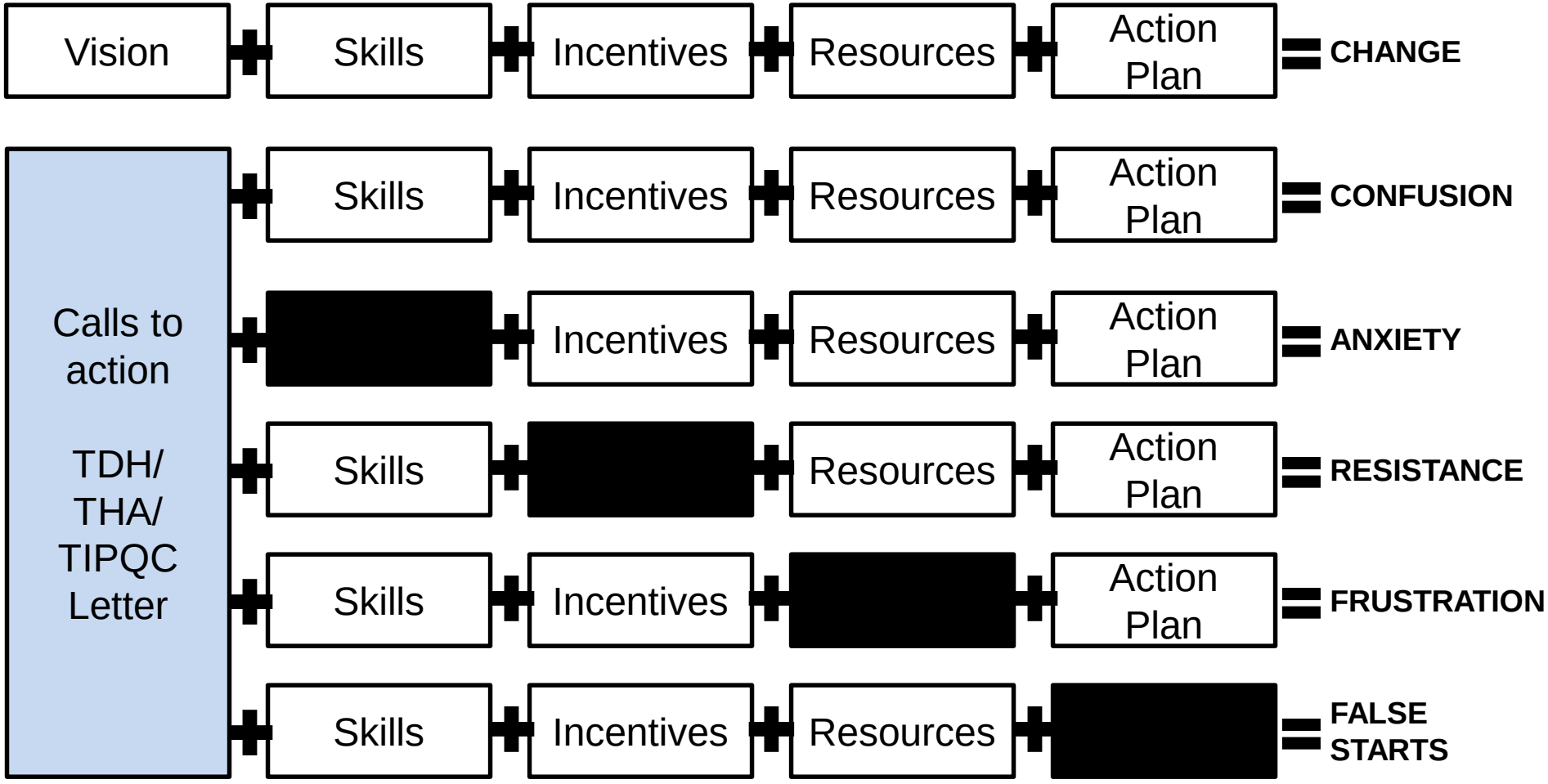


October 25, 2012

Dear Chief Executive Officer,

For over 2 decades, the American College of Obstetricians and Gynecologists (ACOG) has advocated the restriction of elective or not-medically-indicated delivery of a term pregnancy to women with a confirmed gestational age of at least 39 completed weeks. In 2008, the National Quality Forum established "No Elective Deliveries Prior to 39 Weeks Gestation" as a national quality indicator for perinatal services. Two years later The Joint Commission adopted the concept as a Perinatal Core Measure and the Fortune 500 Organization Leapfrog endorsed this concept as a perinatal quality measure as well. Recent research studies have highlighted the adverse impact of term elective deliveries prior to 39 weeks gestation, early elective deliveries (EED), on both the newborn as well as the mother, and CMS has accordingly adopted elective deliveries prior to 39 weeks as a reportable measure for FY 2014. For this reason, the Tennessee Initiative for Perinatal Quality Care (TIPQC), the THA Board of Directors and the Tennessee Department of Health requests your support to eliminate elective term deliveries prior to 39 weeks gestation in the state of Tennessee.

THA has partnered with TIPQC on an early elective delivery (EED) initiative to reduce elective deliveries to less than five percent among our TN hospitals as part of our harm reduction initiatives. The EED initiative initially targeted the 32 THA Hospital Engagement Network (HEN) hospitals with OB services. The EED initiative has been endorsed by the THA Board of Directors including expanding the project to all hospitals in TN with obstetrical services. All TN hospitals are urged to:

- Sign the attached public commitment pledge by November 5,2012
- Submit monthly performance data on JC Perinatal Care measure 1 to TCPS and
- Adopt an organization "hard stop" policy by December 31, 2012. Working together, clinicians and hospitals in Tennessee have found that a "hard stop" policy is the most effective approach to reduce early elective (non-medically indicated) deliveries prior to 39 weeks. Numerous studies have noted the negative impact of EED on both maternal and neonatal outcomes, and the TIPQC Maternal Leadership Group has unanimously endorsed this project.

Participating hospitals will be recognized in various formats including media releases and on THA and TIPQC websites. THA and TIPQC host monthly webinars to support hospital teams in reaching the EED project goals and will provide toolkits and other resources to all participating hospitals. In addition, TIPQC, THA, the TN Department of Health and the March of Dimes have joined together on a public awareness campaign, "Healthy Babies are Worth the Wait" that will launch November 1, 2012 during prematurity awareness month. In addition to the media campaign using cable TV spots, the March of Dimes has toolkits and education materials for patients that will be available for free download to OB providers.

Please join us in this statewide effort to reduce early elective deliveries and to educate the public that healthy babies are worth the wait.

Craig Becker
President
Tennessee Hospital Association

Peter H. Grubb, MD, FAAP
Oversight Committee Chair, &
Medical Director, TIPQC

Scott Raynes
CEO Northcrest Medical Center
THA 2012 Board Chair

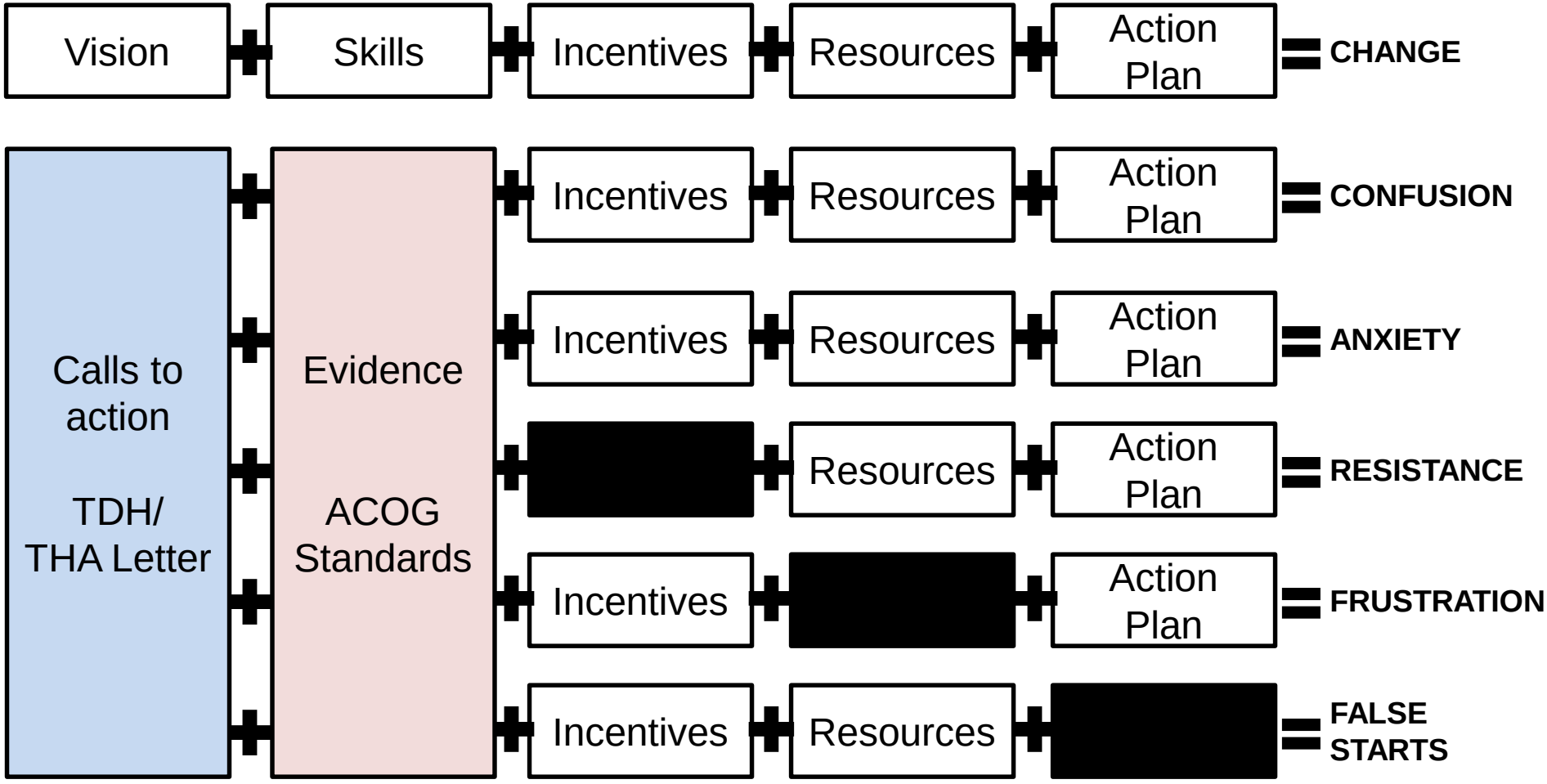
David Adair, MD, FACOG
CEO – Regional Obstetrical Consultants
Professor, Vice Chairman – The University of Tennessee College of Medicine
Department of Obstetrics and Gynecology Section of Maternal Fetal Medicine, Chattanooga, TN
Director of Women's Services – Baroness Erlanger Hospital, Chattanooga, TN
Chairman of the Board, Founder, Chief Science Officer – Glenveigh Medical, Chattanooga, TN
Maternal Leadership Working Group*, TIPQC

Doug Ardoin, MD, HCA TriStar
Chair, THA CMO Society

John J. Dreyzehner, MD, MPH, FACOEM
Commissioner, Tennessee Department of Health

*TIPQC Maternal Leadership Working Group Members: David Adair, MD, Frank Boehm MD, Kitty Cashion RN MSN, Donna Frye RN MN, Connie Graves MD, Bobby Howard MD, Cathy Ivory RNC-OB PhD, Garrett Lam MD, Giancarlo Mari MD, Selman Welt MD, Paul G. Stumpf MD, Janyce Whitty MD

Managing Complex Change



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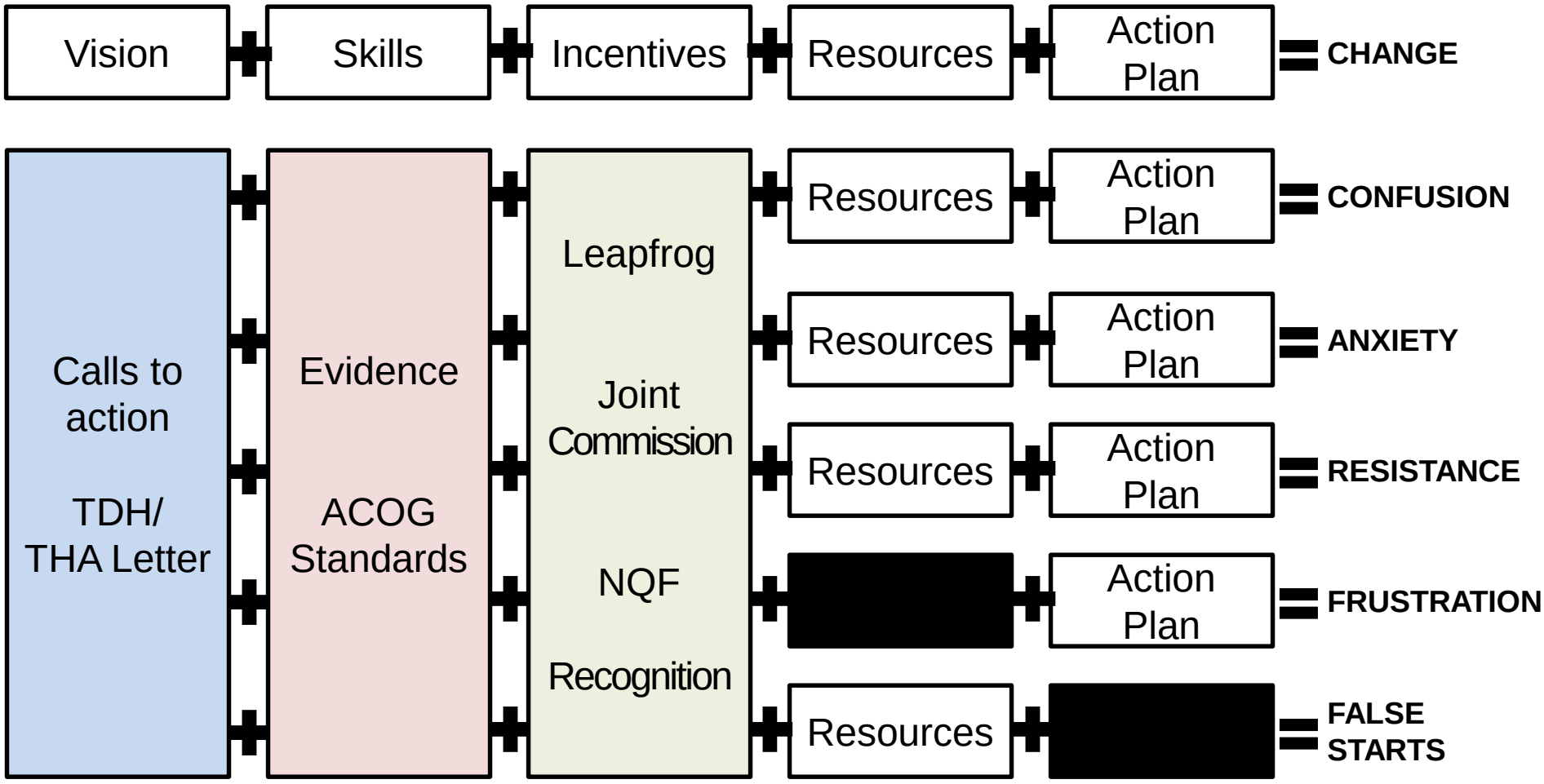
Managing Complex Change



The Joint Commission

THELEAPFROGGROUP

NATIONAL QUALITY FORUM

In celebration of healthy babies, we congratulate the team of this hospital who helped reduce early elective deliveries!

TENNESSEE DEPARTMENT OF HEALTH

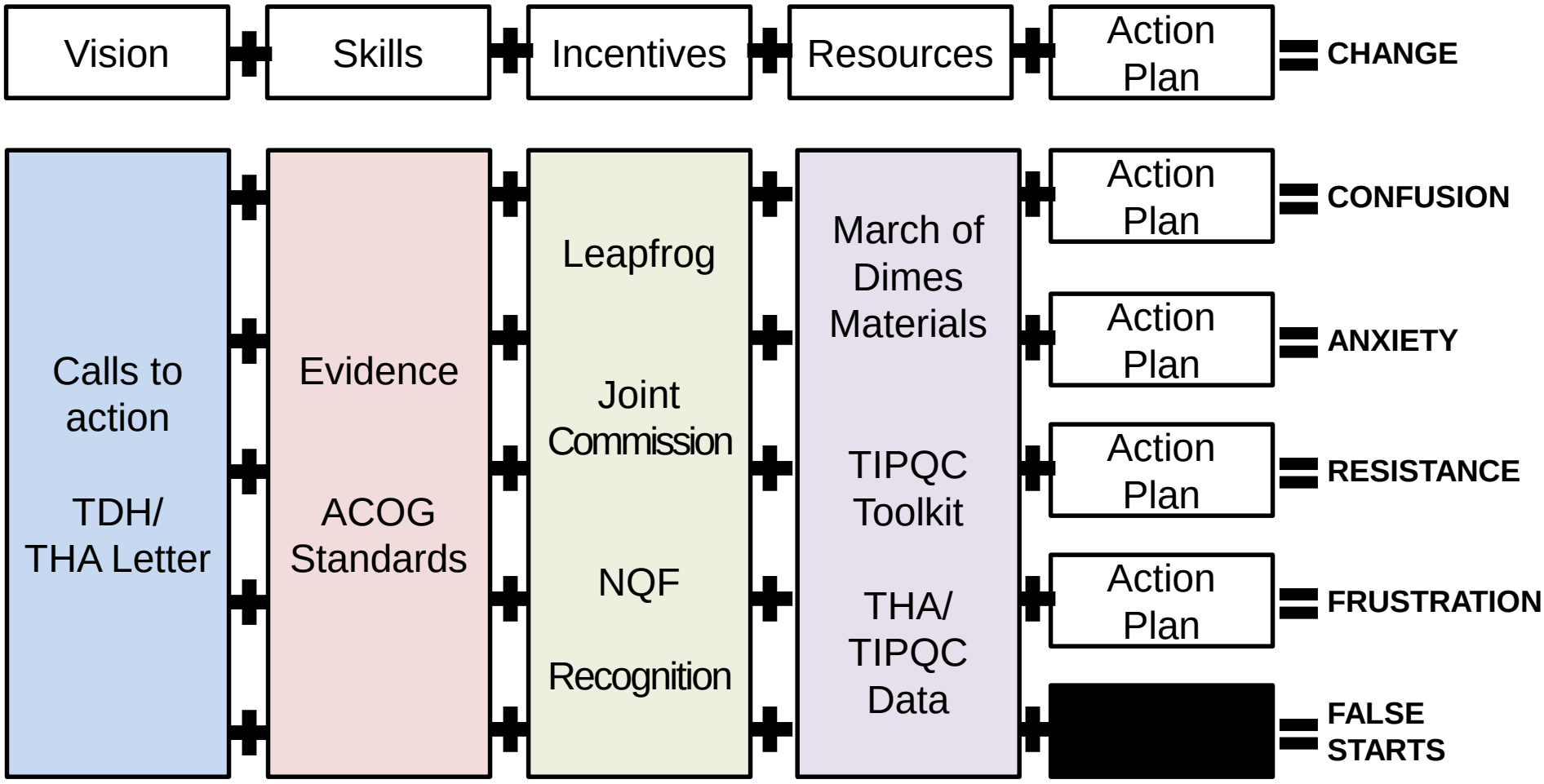
Tennessee Initiative for Perinatal Quality Care TIPQC

THA TENNESSEE HOSPITAL ASSOCIATION

march of dimes

TENNESSEE Center for Patient Safety

Managing Complex Change



There's a BIG difference between your baby's development in the last few weeks.

35 weeks

40 weeks

If your pregnancy is healthy, it's best to stay pregnant for at least **39 weeks.**

A baby's brain at 35 weeks weighs only two-thirds of what it will weigh at 39 to 40 weeks.

35 weeks

39 to 40 weeks

march of dimes®
pregnancy & newborn health education center®

marchofdimes.com

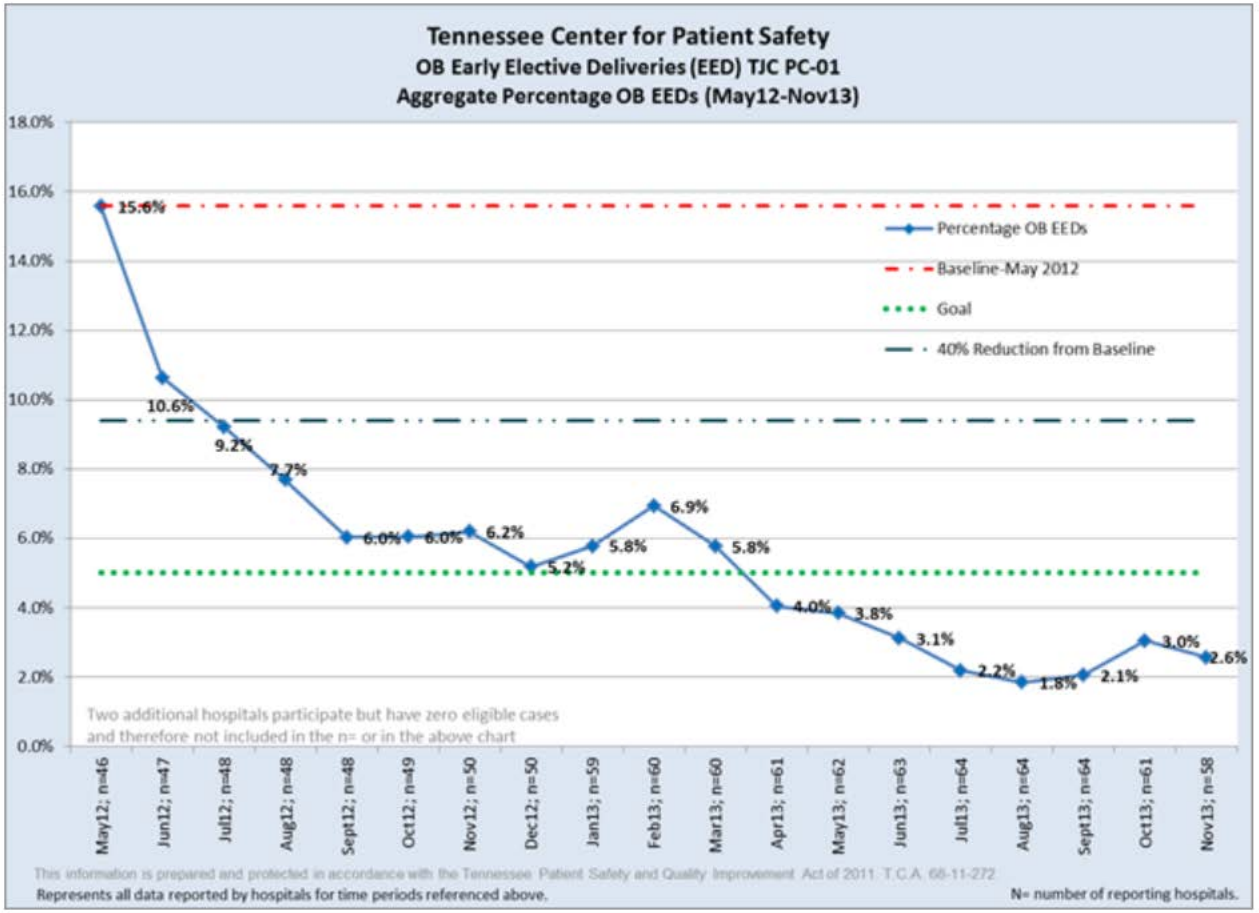
TIPQC

Projects Meetings QI E-zine

Early Elective Deliveries Before 39 Weeks

Non-spontaneous, or sche
to avert maternal and/or i
deliveries prior to 39 weeks
near-term infants to increa
term. This project seeks to
deliveries to avert materna

This project was complet



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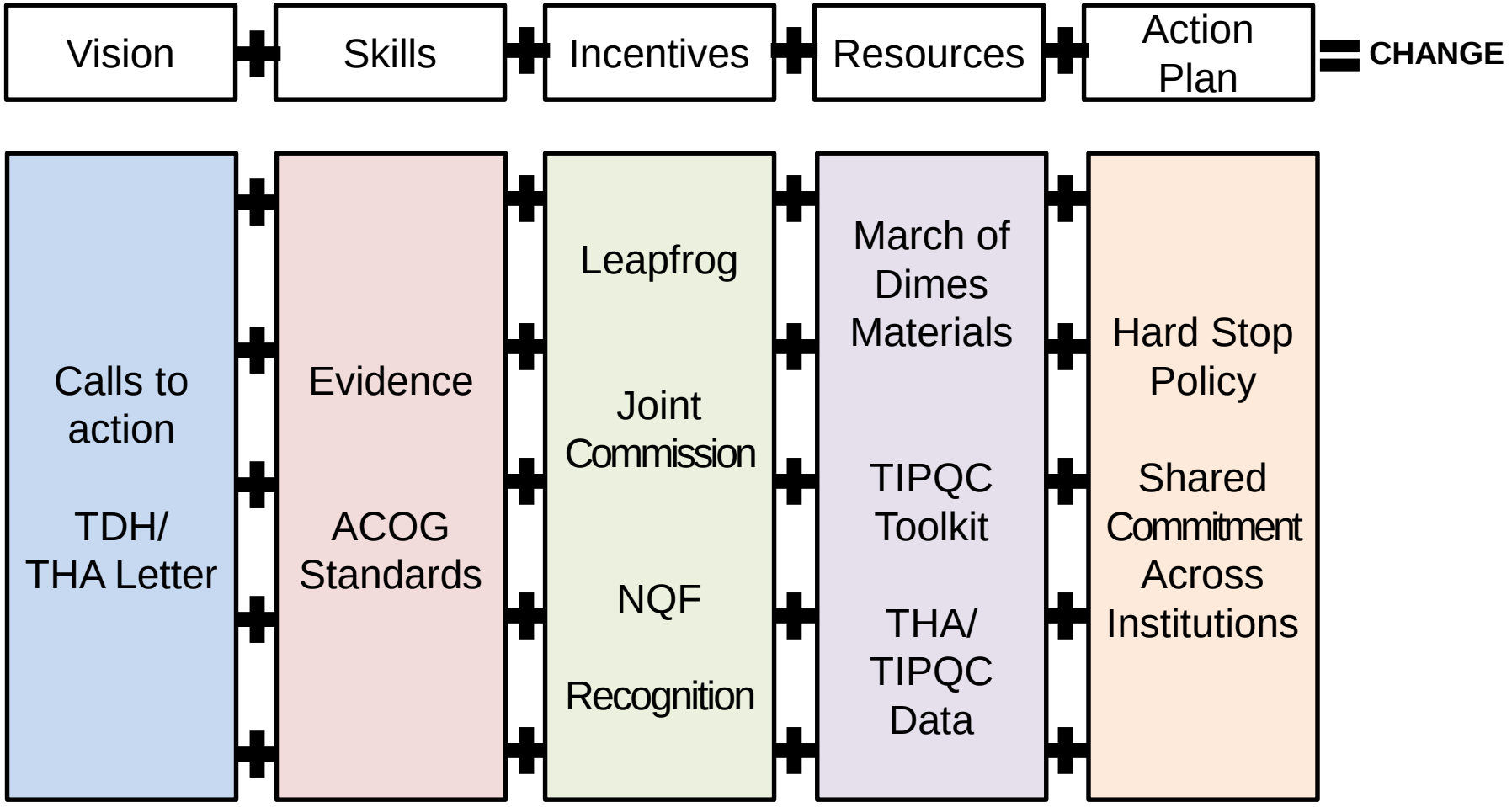
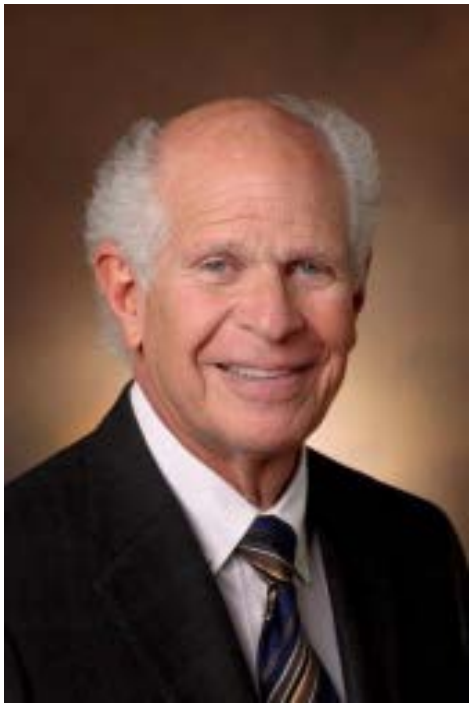




Excerpt from Hard Stop Policy from one TN birthing hospital:

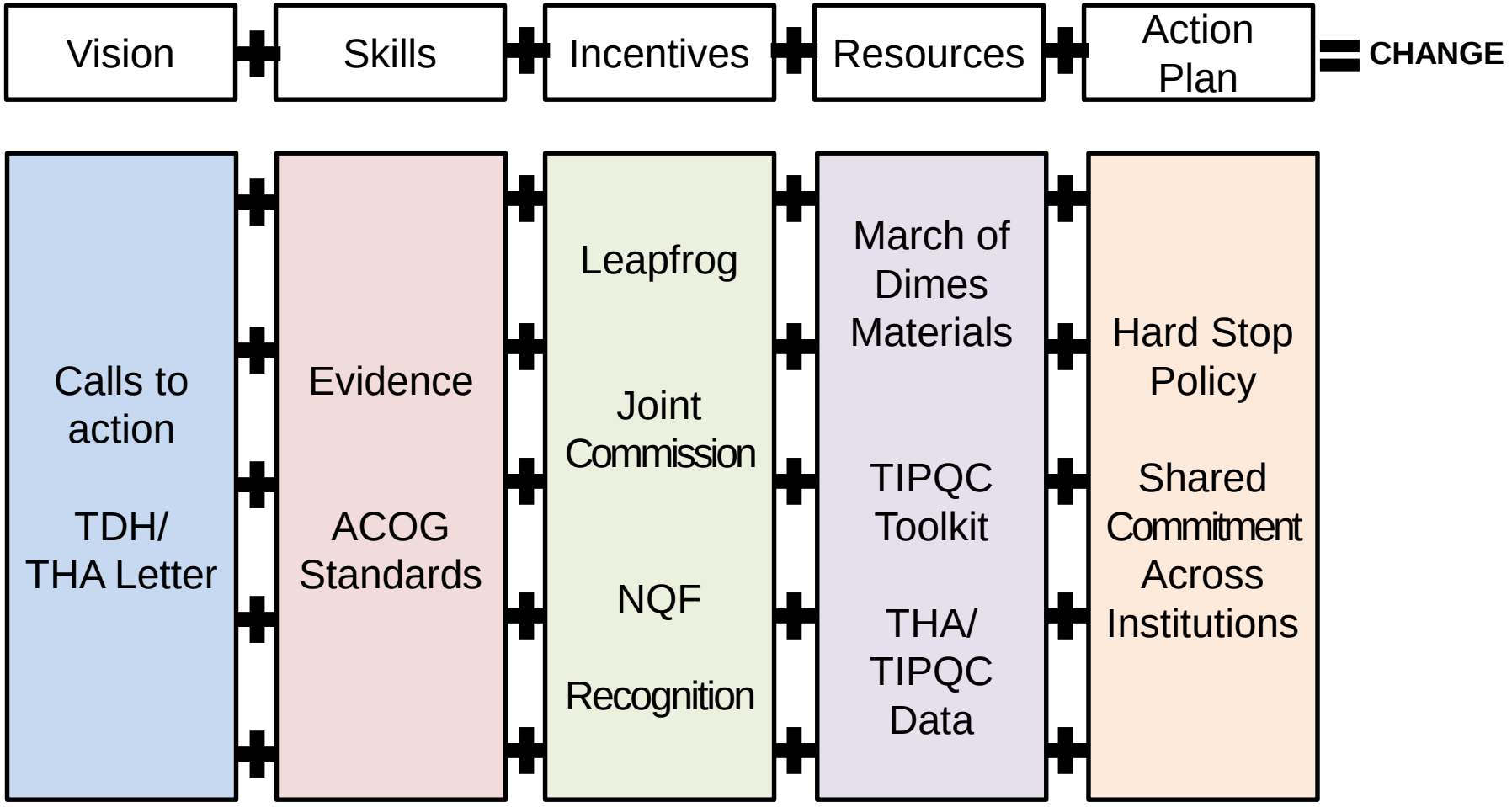
Hard stop #1: OB Scheduler

Hard stop #2: Labor and Delivery Medical Director

Hard Stop #3: Vice Chairman of OB Services

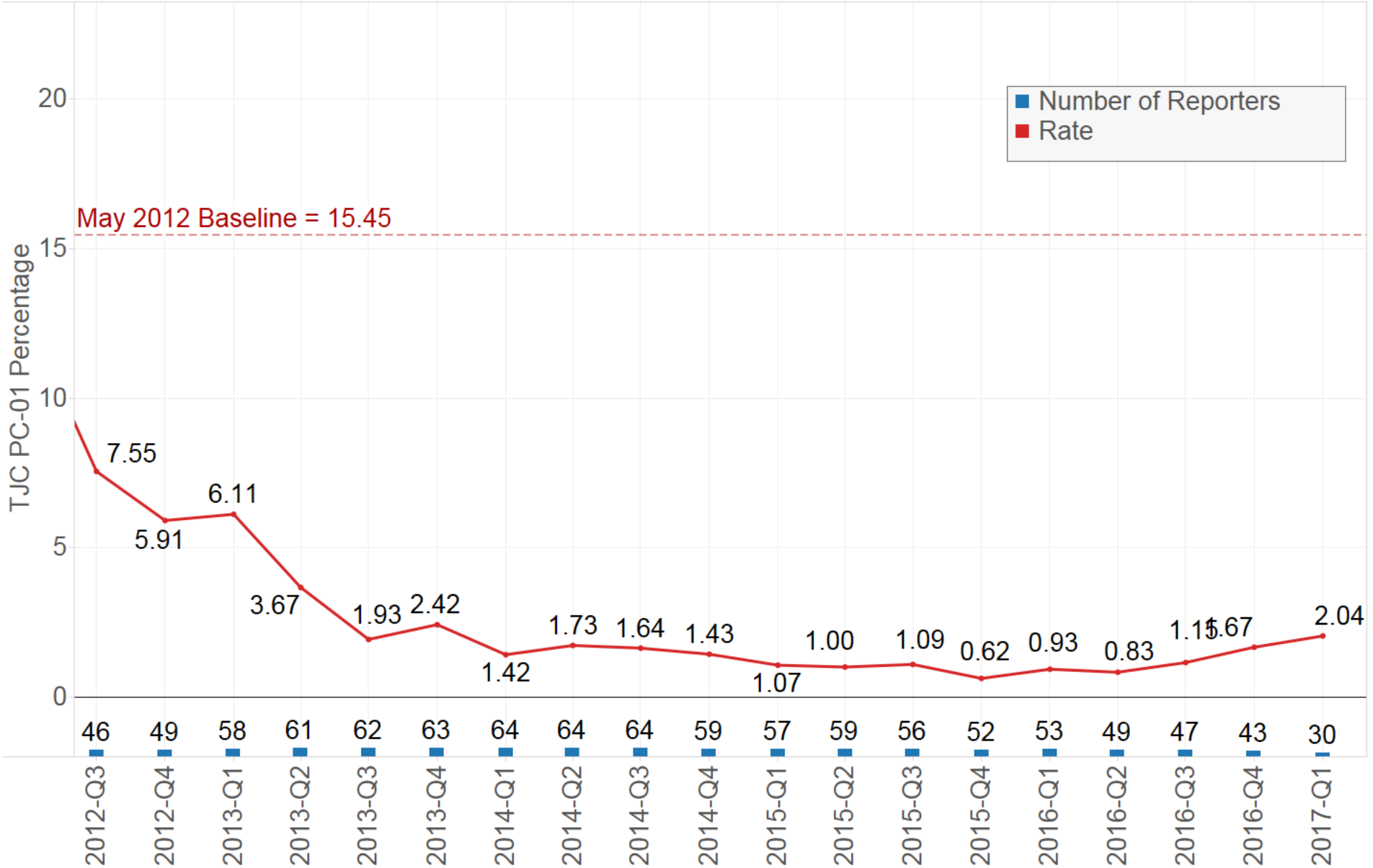
"…If the patient is admitted for delivery, the charge nurse becomes hard stop #4 if the patient does not meet criteria. To support this effort, the multidisciplinary OB team meets in a daily huddle and they "run the board." Occasionally, patients are sent home if they do not meet medical criteria with extensive patient education provided. This needs to happen only one time, for a physician to change their practice."

Managing Complex Change

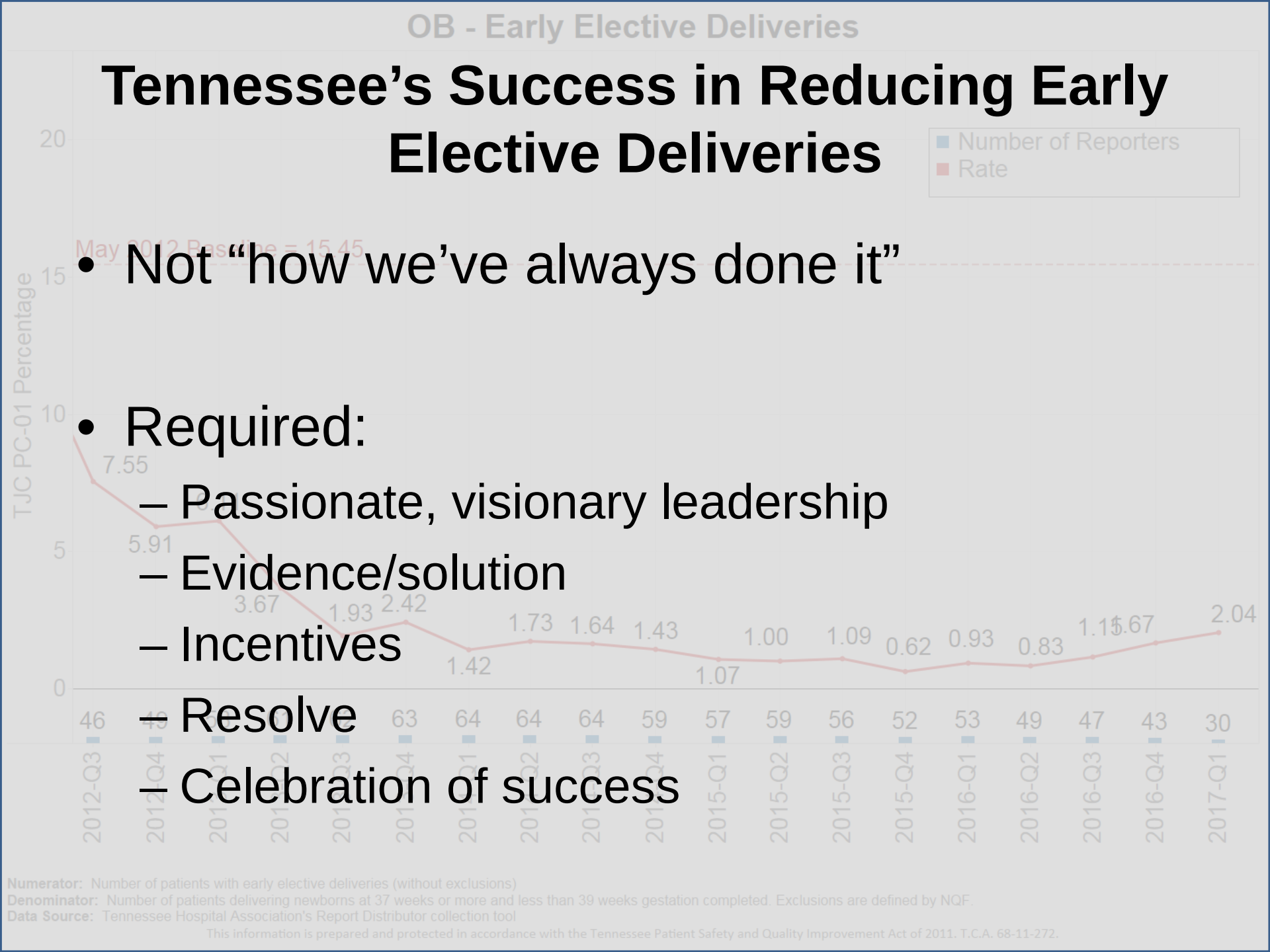



In celebration
of healthy babies,
we congratulate
the team of this hospital
who helped reduce
early elective deliveries!
39
Weeks
TIPQC
THA
RN

OB - Early Elective Deliveries



Numerator: Number of patients with early elective deliveries (without exclusions)
Denominator: Number of patients delivering newborns at 37 weeks or more and less than 39 weeks gestation completed. Exclusions are defined by NQF.
Data Source: Tennessee Hospital Association's Report Distributor collection tool



Tennessee's Success in Reducing Early Elective Deliveries

- Not "how we've always done it"
- Required:
  - Passionate, visionary leadership
  - Evidence/solution
  - Incentives
  - Resolve
  - Celebration of success