



Lowering NTSV CSR: Lessons from Our West Coast to Your West (and East) Coast

David Lagrew MD

Executive Medical Director

Women's and Children's Institute Providence St. Joseph Health-Southern California





Disclosure

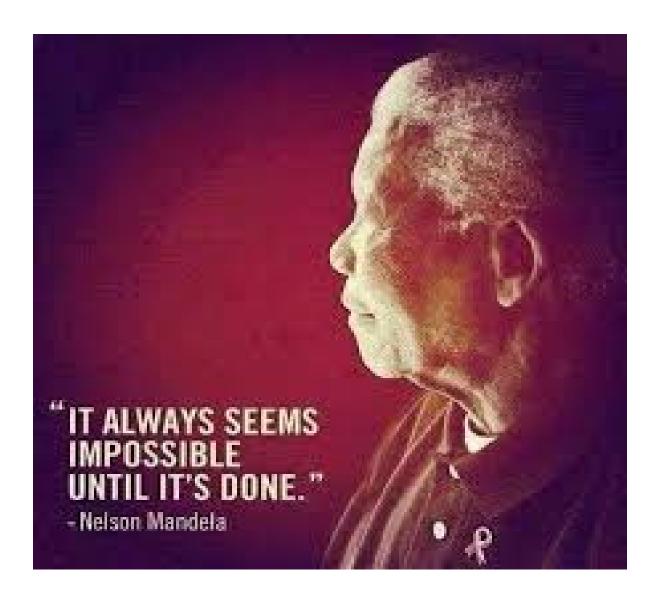
The presenter has no financial disclosures to report

Transforming Maternity Care

A Toolkit to Support Vaginal Birth and Reduce Primary Cesareans





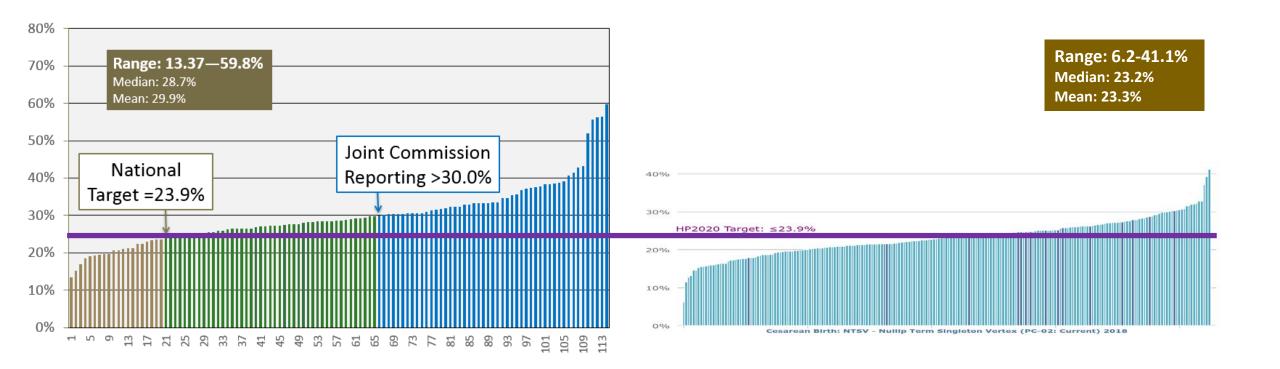


Transforming Maternity Care





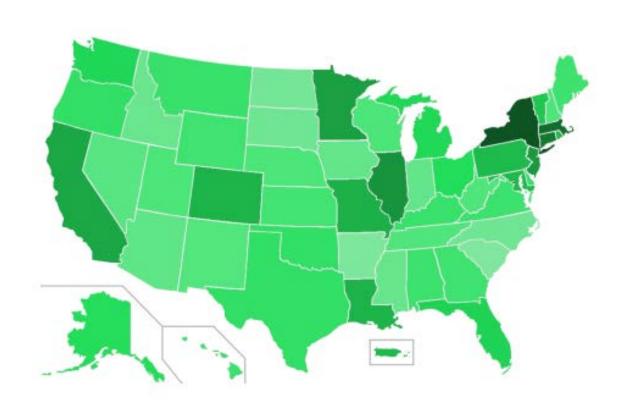
Two Coasts versus One Coast







Lawyers per Capita



NO. OF LAWYERS PER CAPITA BY STATE (2013)					
Rank	State	Population	Lawyers	Lawyers Per 10,000 Residents	
1.	D.C.	646,449	51,928	803.28	
2.	New York	19,651,127	166,317	84.63	
3.	Massachusetts	6,692,824	43,008	64.26	
4.	Connecticut	3,596,080	21,150	58.81	
5.	Illinois	12,882,135	62,496	48.51	
6.	New Jersey	8,899,339	40,993	46.06	
7.	Minnesota	5,420,380	24,091	44.45	
8.	California	38,332,521	163,163	42.57	
9.	Missouri	6,044,171	24,423	40.41	
10.	Louisiana	4,625,470	18,528	40.06	

But you need to check your zip code!

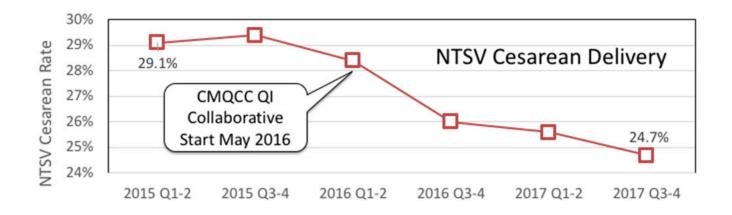
Transforming Maternity Care

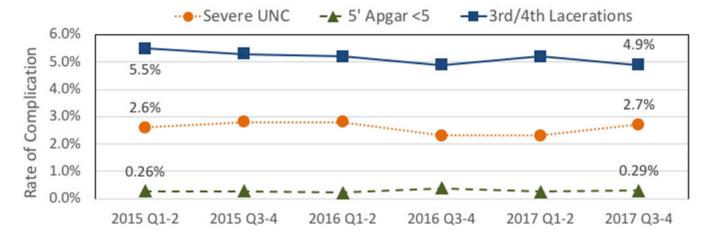














Main et al SMFM 2019, 46 hospitals met inclusion criteria with a mix of hospital types: university, community, and integrated health system; and high, medium and small delivery volume. They included an annual average of 115,000 births (of which 35% were NTSV).

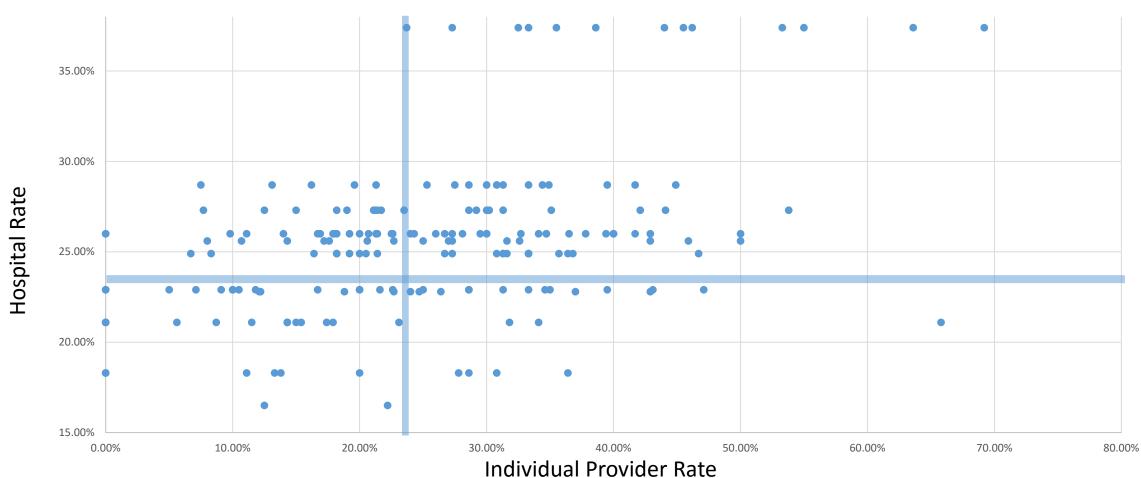


Important: Hospitals have many Providers





Breaking Down Hospital Rates by Physician Rates



Transforming Maternity Care





The Problem Picking Chances for CS Solely by Hospital





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ne

Lowering the cesarean section rate in a private hospital: comparison of individual physicians' rates, risk factors, and outcomes.

STUDY DESIGN:

We retrospectively reviewed detailed computerized delivery records (n = 16,230) collected from May 16,1988, to July 30,1995. We excluded physicians who had <100 deliveries at our institution during the study period. The physicians were divided into two groups depending on whether their individual cesarean section rates were greater than (control group) or less than 15% (target group). Various cesarean section rates, risk factors for abdominal delivery, labor management techniques, and neonatal outcome parameters were calculated for each group. The cesarean section rates of the two groups were analyzed by year to assess changes.

RESULTS:

As expected by study design, the overall cesarean section rate was markedly different between the two groups (13.8% vs 23.8%). In addition, the primary, repeat, primigravid, and multiparous cesarean section rates were all lower for the target group. The rates of

To the point: "Individual physician's lower cesarean sections are primarily obtained by labor management and attempting vaginal birth after cesarean delivery. These practice patterns did not appear to lead to any increase in perinatal morbidity or mortality."

CONCLUSIONS:

Individual physician's lower cesarean sections are primarily obtained by labor management and attempting vaginal birth after cesarean delivery. These practice patterns did not appear to lead to any increase in perinatal morbidity or mortality.

Lagrew and Adashek. Am J Obstet Gynecol. 1998 Jun;178(6):1207-14.





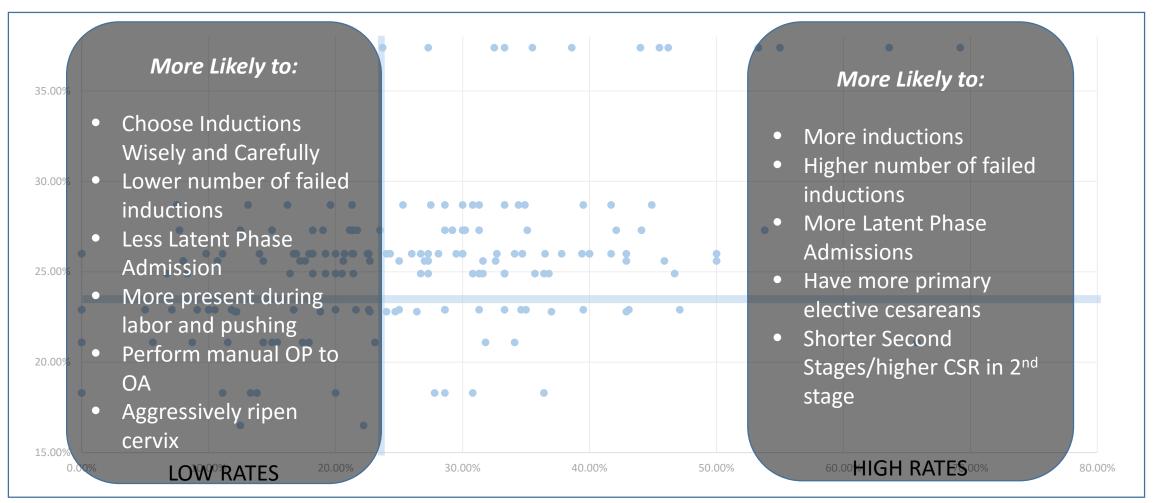
Analyzing Hospital Rates by Physician Rates

- Hospitals with lower rates have moved the bell shaped curve for providers
- Range of *provider's CSR wide* at all of the hospitals
- Note that low rate providers could achieve the lower rates with the same staff and facilities suggesting that the practice patterns of the high rate providers were the most likely cause of more cesarean deliveries.
- In general one could identify certain practices which led to lower rates.





How Do They Get Lower Rates?







National Cesarean Reduction Bundle



SAFE REDUCTION OF PRIMARY CESAREAN BIRTHS: SUPPORTING INTENDED VAGINAL BIRTHS



READINESS

Every Patient, Provider and Facility

- Build a provider and maternity unit culture that values, promotes, and supports spontaneous onset and progress of labor and vaginal birth and understands the risks for current and future pregnancies of cesarean birth without medical indication.
- Optimize patient and family engagement in education, informed consent, and shared decision making about normal healthy labor and birth throughout the maternity care cycle.
- Adopt provider education and training techniques that develop knowledge and skills on approaches which maximize the likelihood of vaginal birth, including assessment of labor, methods to promote labor progress, labor support, pain management (both pharmacologic and non-pharmacologic), and shared decision making.



RECOGNITION AND PREVENTION

Every patient

- Implement standardized admission criteria, triage management, education, and support for women presenting in spontaneous labor.
- Offer standardized techniques of pain management and comfort measures that promote labor progress and prevent dysfunctional labor.
- Use standardized methods in the assessment of the fetal heart rate status, including interpretation, documentation using NICHD terminology, and encourage methods that promote freedom of movement.
- Adopt protocols for timely identification of specific problems, such as herpes and breech presentation, for patients who can benefit from proactive intervention before labor to reduce the risk for cesarean birth.

PATIENT SAFETY BUNDLE

afe Reduction esare 9 Births





RESPONSE

To Every Labor Challenge

- Have available an in-house maternity care provider or alternative coverage which guarantees timely and effective responses to labor problems.
- Uphold standardized induction scheduling to ensure proper selection and preparation of women undergoing induction.
- Utilize standardized evidence-based labor algorithms, policies, and techniques, which allow for prompt recognition and treatment of dystocia.
- Adopt policies that outline standard responses to abnormal fetal heart rate patterns and uterine activity.
- Make available special expertise and techniques to lessen the need for abdominal delivery, such as breech version, instrumented delivery, and twin delivery protocols.



REPORTING/SYSTEMS LEARNING

Every birth facility

- Track and report labor and cesarean measures in sufficient detail to: 1) compare to similar institutions, 2) conduct case review and system analysis to drive care improvement, and 3) assess individual provider performance.
- Track appropriate metrics and balancing measures, which assess maternal and newborn outcomes resulting from changes in labor management strategies to ensure safety.

Used as model for the CMQCC toolkit

PATIENT SAFETY BUNDLE

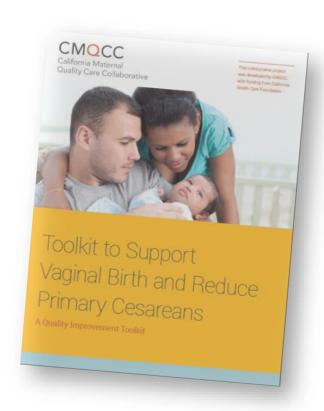
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The CMQCC Toolkit

- Comprehensive, evidence-based "Howto Guide" to reduce primary cesarean delivery in the NTSV population
- Will be the resource foundation for the CA QI collaborative project
- The principles are generalizable to all women giving birth
- Released on the CMQCC website April 28, 2016
- Has a companion Implementation Guide









Which are "a walk in the park", "rolling hills" or "climbing mountains"?

Transforming Maternity Care

Toolkit to Support Vaginal Birth and Reduce Primary Cesareans



Walk in the Park

- Adopt provider education
- Standardized pain management
- Track outcomes and balancing measures (for many on electronic systems)





Peanut Ball

- Decrease length of labor
- Decreasing CS rate in patients with epidurals



Tussey, C. M., Botsios, E., Gerkin, R. D., Kelly, L. A., Gamez, J., & Mensik, J. (2015). Reducing length of labor and cesarean surgery rate using a peanut ball for women laboring with an epidural. *The Journal of Perinatal Education*, 24(1), 16-24. http://dx.doi.org/10.1891/1058-1243.24.L16







REPORTING/SYSTEMS

Using Data to Drive Improvement





Key Strategies for Using Data to Reduce Cesareans

Reporting

- Make data compelling to Providers
- Assist organizations to understand data associated with their hospital
- Assist providers to understand their CS rates
- Engage women, employers, and the general public in the improvement process



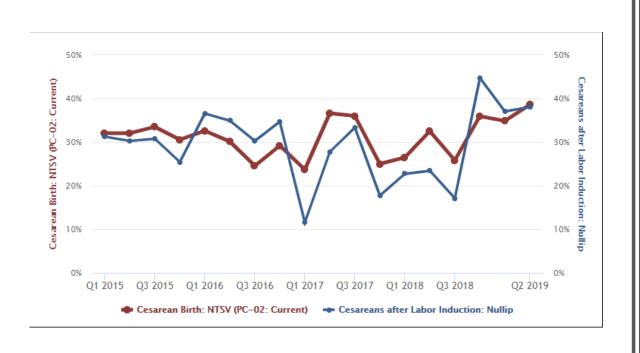


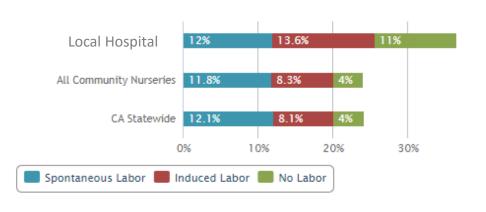
Use strategies to engage women, employers and the general public in the improvement project

Reporting

- Public release of selected hospital-level measures that have been well-vetted
- Provide a lay explanation of the measures
- Widely distribute these measures through multiple media channels to capture the greatest attention

Using Data to Direct Change









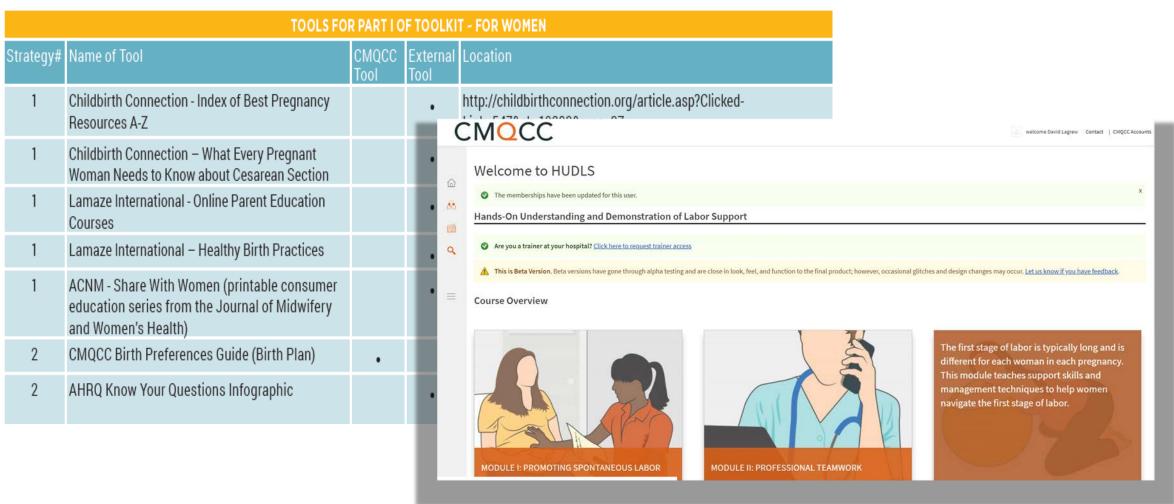


CMQCC Labor Dystocia Checklist (ACOG/SMFM Criteria) 1. Diagnosis of Dystocia/Arrest Disorder (all 3 should be present) ☐ Cervix 6 cm or greater ☐ Membranes ruptured, then ☐ No cervical change after at least 4 hours of adequate uterine activity (e.g. strong to palpation or MVUs > 200), or at least 6 hours of oxytocin administration with inadequate uterine activity 2. Diagnosis of Second Stage Arrest (only one needed) No descent or rotation for: At least 4 hours of pushing in nulliparous woman with epidural At least 3 hours of pushing in nulliparous woman without epidural ☐ At least 3 hours of pushing in multiparous woman with epidural At least 2 hour of pushing in multiparous woman without epidural 3. Diagnosis of Failed Induction (both needed) Bishop score >6 for multiparous women and > 8 for nulliparous women, before the start of induction (for non-medically indicated/elective induction of labor only) Oxytocin administered for at least 12-18 hours after membrane rupture, without achieving cervical change and regular contractions. *Note: At least 24 hours of oxytocin administration after membrane rupture is preferable if maternal and fetal statuses permit





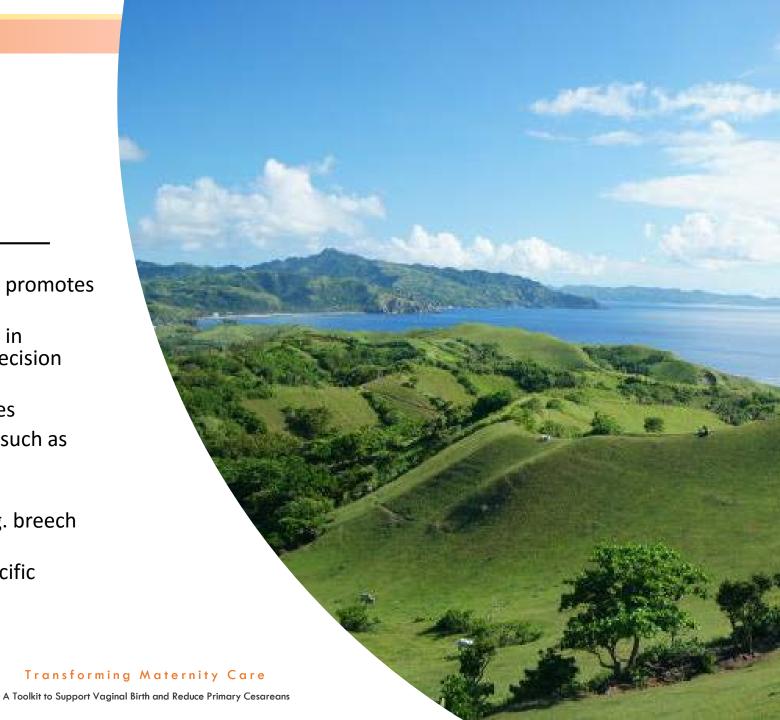
Available Childbirth Education Tools



Transforming Maternity Care

Rolling Hills

- Provider and unit culture which values and promotes vaginal birth
- Optimizing patient and family engagement in education, informed consent and shared decision making
- Standardized response to FHR abnormalities
- Timely identifications of specific problems such as herpes, breech, etc.
- Available in-house maternity care
- Special expertise for special conditions, e.g. breech version
- Track and report labor and cesarean in specific detail, assess individual performance



LAIS STRATEGY FOR LUNCH PETER DRUCKER

Most Important?

<u>A Culture that values vaginal delivery</u>





Readiness

Sharing in decision making







Birth Preferences Worksheet

Collaborate with healthcare provider to determine birth preferences

Tailor choices to what is available at each facility

CMQCC California Maternal Quality Care Collaborative		
My Preferences for Labor and Birth: A Plan to G	Guide Decision Making and Inform My Care Team	
Your Name and Date of Birth:	While low-risk women will need very little intervention, women with certain medical conditions may need procedures, such as continuous monitoring or induction of labor, to improve safety and ensure a healthy delivery. Your provider can tell you about the benefits, risks and alternatives of the decisions you may face during labor and birth. This is an opportunity to share yourvalues and preferences and make informed decisions together, based on your specific needs. This form should go with you to the hospital to be shared with	
Your Due date:		
Physician/Midwife:		
Pediatrician/Family Doctor:		
Your Labor Support Team (please include partner, doula,	your care team and reviewed as labor progresses. Environment:	
friends, relatives, or children who will be present):		
	Which options will make you most comfortable?	
	I would like to limit the number of guests in my room while I am in labor by having a sign posted on the door to my labor and delivery room	
	I would like to have the lights dimmed during labor	
	I plan to bring in music from home (my own MP3 player, CD player, etc.)	
	I plan to bring in essential oils/aromatherapy (no flames, please).	
Some of your decisions before and during childbirth may affect your risk of cesarean. These decisions are	I plan to bring in a "focal point" from home	
best made in collaboration with your provider	Preferences for Food and Fluids	
during prenatal care visits, well in advance of the time of birth. Here are some common decision	I prefer to keep myself hydrated by drinking fluids. I would like to avoid intravenous fluids unless it is medically necessary	
points:	I do not mind receiving intravenous hydration during labor	
 whether to wait for labor to begin on its own (induction of labor may increase your risk of cesarean) 	If it is safe for me to do so, I would like to eat lightly during labor	
 whether to be admitted to the hospital in early labor or to wait until active labor (being admitted in active labor improves your 	Labor Preferences	
chances of having a vaginal birth)	If safe to do so, I prefer to labor at home during the early phase of	
 how to monitor your baby's fetal heart rate (low-risk women who are continuously monitored may be more likely to have a 	labor, and be admitted to the hospital when I am in active labor I would like to have freedom of movement while I am in labor	
cesarean)	(walking, standing, sitting, kneeling, using the birth ball, etc.), if	
whether to have continuous labor support by a trained caregiver	safe and possible	
like a doula (continuous labor support improves your chances of having a vaginal birth)	I prefer to move around or change positions to improve my labor progress before trying Pitocin to increase my labor	
how to help manage labor pain and labor progress	progress	
	If labor is progressing permally I profer to be nationt and let it	

Readiness



Mountains to Climb

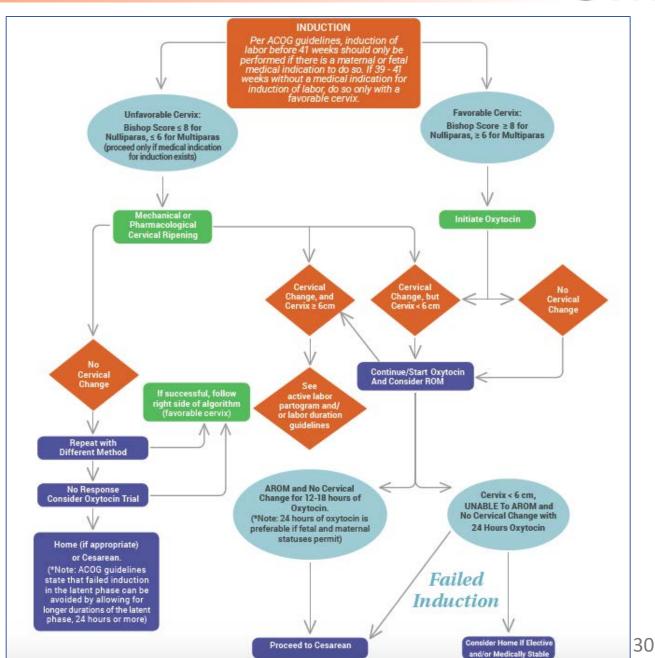
- Implement standard admission criteria, triage management for spontaneous labor
- Uphold standardized induction scheduling, proper selection and preparation
- Utilize evidence based labor algorithms
- Adopt policies standard responses to FHR patterns





Induction of Labor Algorithm

Kesponse



GRAND ROUNDS: ARRIVE TRIAL

Can we adopt and get the same results?



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Labor Induction versus Expectant Management in Low-Risk Nulliparous Women

William A. Grobman, M.D., Madeline M. Rice, Ph.D., Uma M. Reddy, M.D., M.P.H., Alan T.N. Tita, M.D., Ph.D., Robert M. Silver, M.D., Gail Mallett, R.N., M.S., C.C.R.C., Kim Hill, R.N., B.S.N., Elizabeth A. Thom, Ph.D., Yasser Y. El-Sayed, M.D., Annette Perez-Delboy, M.D., Dwight J. Rouse, M.D., George R. Saade, M.D., Kim A. Boggess, M.D., Suneet P. Chauhan, M.D., Jay D. Iams, M.D., Edward K. Chien, M.D., Brian M. Casey, M.D., Ronald S. Gibbs, M.D., Sindhu K. Srinivas, M.D., M.S.C.E., Geeta K. Swarny, M.D., Hyagriv N. Simhan, M.D., and George A. Macones, M.D., M.S.C.E., for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal–Fetal Medicine Units Network*

ABSTRACT

BACKGROUND

The perinatal and maternal consequences of induction of labor at 39 weeks among In the authors' affiliations are listed in the low-risk nulliparous women are uncertain.

Appendix Address repirin requests to Dr. Cohenna at the Description of Obstation

METHODS

In this multicenter trial, we randomly assigned low-risk nulliparous women who were at 38 weeks 0 days to 38 weeks 6 days of gestation to labor induction at 39 weeks 0 days to 39 weeks 4 days or to expectant management. The primary outcome was a composite of perinatal death or severe neonatal complications; the principal secondary outcome was cesarean delivery.

RESULTS

A total of 3062 women were assigned to labor induction, and 3044 were assigned to expectant management. The primary outcome occurred in 4.3% of neonates in the induction group and in 5.4% in the expectant-management group (relative risk, 0.80; 95% confidence interval [CII, 0.64 to 1.00). The frequency of cesarean delivery was significantly lower in the induction group than in the expectant-management group (18.6% vs. 22.2%; relative risk, 0.84; 95% CI, 0.76 to 0.93).

CONCLUSIONS

Induction of labor at 39 weeks in low-risk nulliparous women did not result in a significantly lower frequency of a composite adverse perinatal outcome, but it did result in a significantly lower frequency of cesarean delivery. (Funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development; ARRIVE Clinical Trials.gov number, NCT01990612.)

The authors' affiliations are listed in the Appendix. Address reprint requests to Dr. Grobman at the Department of Obstetrics and Gynecology, Northwestern University, 250 E. Superior St., Suite 05-2175, Chicago, IL 60611, or at w-grobman@northwestern.edu.

*A list of other members of the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network is provided in the Supplementary Appendix, available at NEJM.org.

N Engl J Med 2018;379:513-23. DOI: 10.1056/ NEJ Moa1800566 Copyright © 2018 Massachusetts Medical Society. ive





ARRIVE TRIAL SUMMARY

- The ARRIVE Trial was released on February 1st at the Society for Maternal Fetal Medicine Annual Meeting and published in NEJM August 2018. The ARRIVE trial was a randomized controlled trial comparing labor induction at 39 weeks to expectant management to $42 \, 2/7$ weeks among low risk nulliparous women.
- Delivery in the IOL group was significantly earlier than in the EM group (39.3 weeks [IQR 39.1] to 39.6] vs **40.0 weeks** [IQR 39.3 to 40.7]; P < .001).
- \blacksquare Preeclampsia and gestational hypertension occurred in 9% of the IOL group versus 14% of the EM group.
- Among newborns, 3% in the IOL group needed respiratory support versus 4% in the EM group.
- The primary (adverse) perinatal outcome occurred in 4.4% of the IOL group versus 5.4% of the EM group (RR 0.81, 95% CI 0.64 to 1.01; P = .06).
- Frequency of CD also was significantly lower in the IOL group (18.6% vs 22.2%; RR 0.84, 95% CI 0.76 to 0.93).
- The IOL group on average had 6 more hours in labor and delivery.

Grobman WA, et al. A randomized trial of elective induction of labor at 39 weeks compared with expectant management of lowrisk nulliparous women. Am J Obstet Gynecol 2018; 218:S601.

Grobman WA et al. Labor Induction versus Expectant Management in Low-Risk Nulliparous Women N Engl J Med 2018;379:513-23.



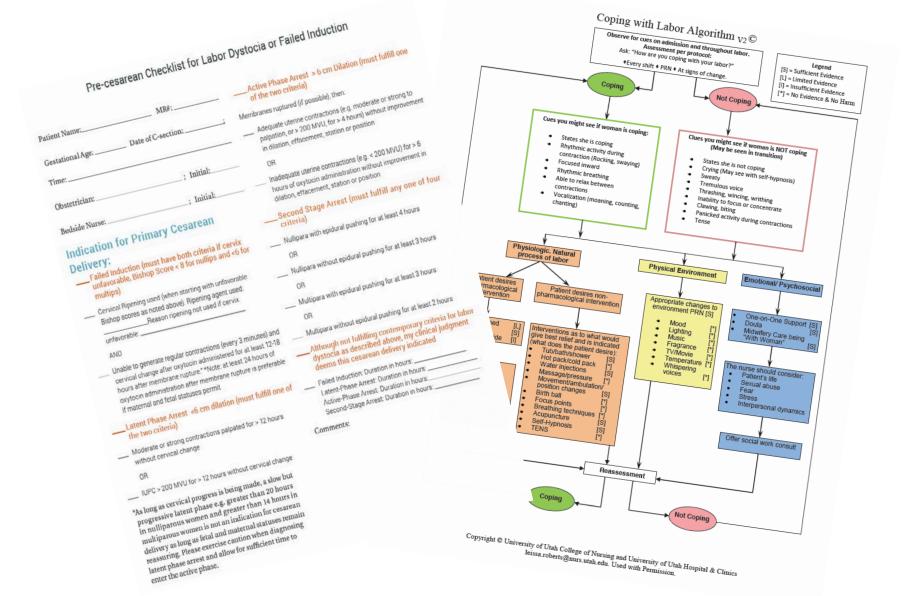


How did they get such a low CSR in both groups?

- Very selective group of patients (51K down to 6K patients)
- Very selective group of providers (evidenced by both management having low CSR)
- Truly low risk patients (average age 24)
- Aggressive cervical preparation (even outpatient cervical ripening)
- Adherence to failed induction criteria







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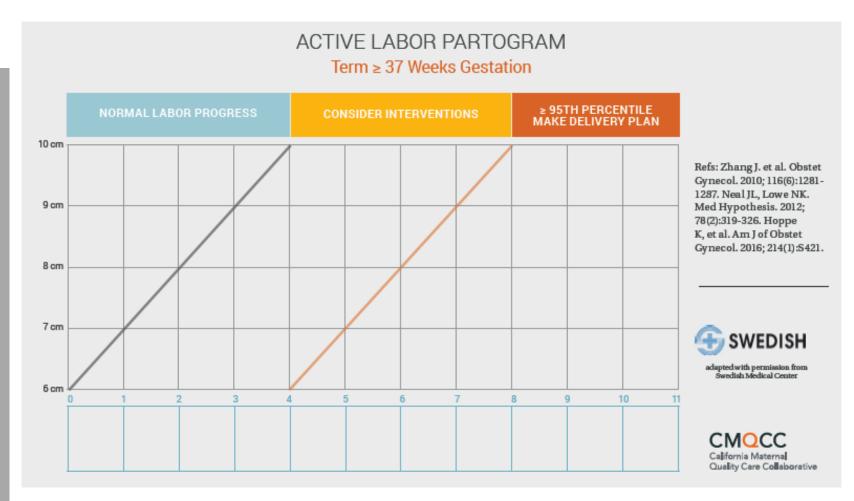
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Active Labor Partogram



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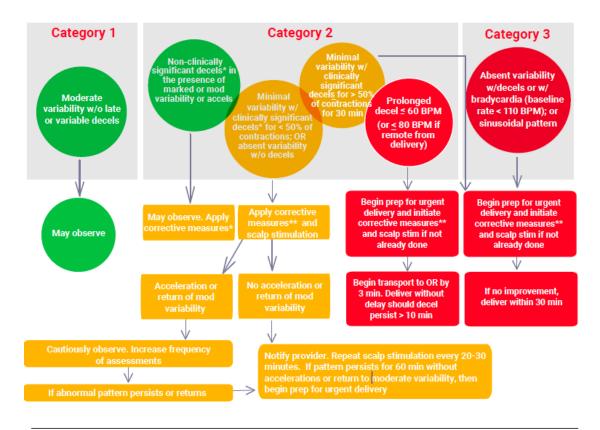


Appendix Q

Example Algorithm for the Management of Intrapartum Fetal Heart Rate Tracings



Example
Algorithm:
Management
of Intrapartum
FHR Tracings



$\hbox{*Clinically significant decelerations include:}$

- Variable decels lasting > 60 sec with a nadir > 60 BPM below baseline
- Variable decels > 60 sec with a nadir < 60 BPM regardless of baseline
- Late decels of any depth
- Any prolonged decel as defined by NICHD

(Clark et al.Am J Obstet Gynecol, 2013;209(2):89-97)

**Corrective measures include:

- · Oxygen administration
- · Maternal position change
- Fluid bolus
- · Reduction or discontinuation of pitocin
- Administration of terbutaline for tetanic contraction or tachysystole
- · Administration of pressors, if hypotension present
- · Amnioinfusion for deep, repetitive variable decelerations

(Miller IA, Miller DA. J Perinat Neonatal Nurs. 2013;27(2):126-133.)





Examples

- Spontaneous labor algorithms/dystocia checklists
- •Induction algorithms/checklists/policies for timing, scheduling, proper selection
- Algorithms for standard intervention for FHR changes
- Model policies for oxytocin
- Tools for effective communication







Take-home Lessons from Our Experience

- Power of sharing provider-level data
- Key role of Nurses and Physician Leaders
- Need a reason to change
- National guidelines very helpful
- Needs "constant gardening"





Uphill or Wind Behind Your Back?

Easy:

- OBirthing balls and other natural labor tools
- Tools to support early management and supportive care
- Tools and planning to increase mobility
- Hard
 - Intermittent auscultation adoption
 - ODoula (economic model)
 - Admission after 4 cm (but also key strategy)







Opinion Leaders vs. Audit/Feedback

- •76 physicians in 16 community hospitals
- Looked at trial of labor
- After 24 months no difference between control and groups in audit and feedback group
- Opinion leader groups were 85% higher than controls and 46% higher than audit groups
- No adverse outcome differences

Lomas et al, JAMA 1991;265:2202



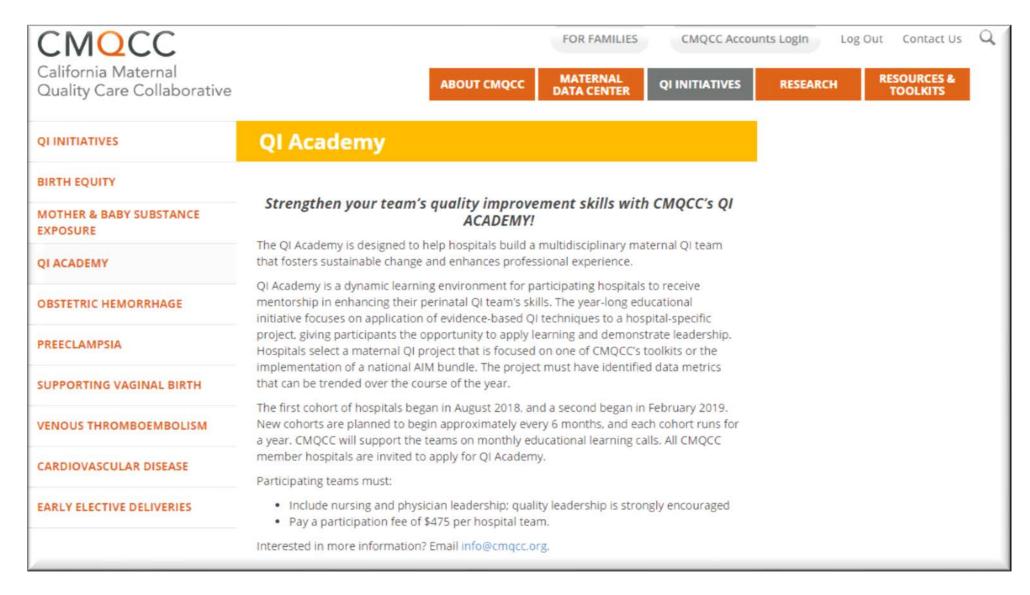


The **formal role** of leadership teams

- Leadership, tools, and organizational processes play an important role in developing and embedding a reliable-seeking culture across an organization.
- Progress toward a reliability-seeking, systemoriented approach to care remains ongoing, and movement in that direction requires deliberate and sustained effort by committed leaders in health care.











Thank You!



Visit: CMQCC.org









READINESS

Developing a maternity culture that values, and supports intended vaginal birth



Strategies

- Improve access and quality to modern childbirth education
- Improved shared decision making at critical points
- Bridge provider knowledge and skills gap
- Transition to value based payments



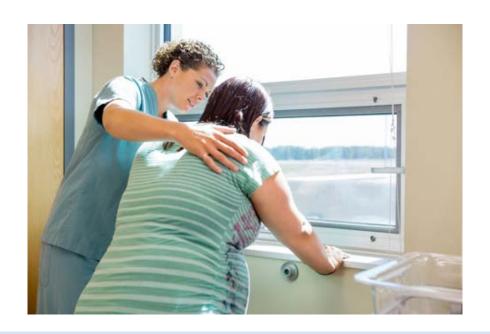


Examples

- Sources of best childbirth education tools
- Tools/policies/concepts of "mother friendly" hospital
- Approaches to shared decision making and training aspects
- Payment models for value based results







RECOGNITION AND PREVENTION

Key Strategies for Supporting Intended Vaginal Birth





Strategies

- Implement institutional policies which support vaginal birth
- Early labor management and supportive care
- Labor support personnel (e.g. doulas)
- Infrastructure/equipment
- Best practices for regional anesthesia
- Protocols for intermittent auscultation
- Protocols for modifiable conditions likeHSV and breech position





Examples

- Model policies for intermittent monitoring, freedom of movement, early labor support, etc.
- Coping with labor algorithm
- Guidelines for working with doulas
- Patient education and decision guides

In fact, there are over 27 Tools in this section alone





Promoting mobility in labor/birth

- For both patients with and without regional anesthesia/analgesia
- Know your labor beds and what they can do
- Use of birthing balls and peanut balls
- Posters in labor rooms of labor positions
- Use of telemetry EFM







RESPONSE

Management of Labor Abnormalities





Strategies

- Create highly reliable teams and improve interdisciplinary communication
- Adopt standard measures for labor and FHR abnormalities
- •Utilize operative vaginal deliveries in appropriate cases
- Identify malposition and perform manual rotation
- Develop alternative coverage patterns such as hospitalist/midwives