Implementing a Standardized Labor Induction Protocol to Reduce Racial Disparities

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Background

There are marked disparities between black and nonblack women in the United States in birth outcomes.
- Black women in the United States are twice as likely to experience fetal mortality and nearly 4 times more likely to die themselves in and around pregnancy.
- Black women also have higher rates of cesarean sections even after accounting for sociodemographic and clinical differences.

Because there is little data on methods to reduce racial disparities and it is proven that care standardization can help create more equitable care, we are testing the effectiveness of an intervention to reduce implicit bias and variation in labor management.

Figure 1: Impact of Care Standardization

Purpose

This study aims to evaluate the effect of a standardized labor induction protocol on reducing racial disparities in cesarean delivery rate and maternal and neonatal morbidity/mortality.

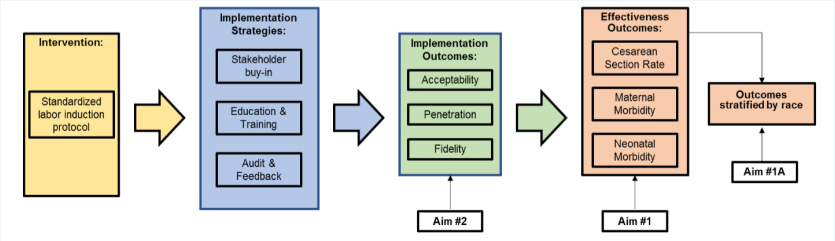
Methods

Induction Protocol During Latent Labor	Induction Protocol During Active Labor
Regular cervical examinations to assess for labor progress in latent labor: •Every 3 hours in latent labor if cervical ripening agent is utilized (Foley, misoprostol, or combination) •Every 2-4 hours in latent labor if oxytocin is utilized If the woman has not yet had membranes ruptured and cervix is ≥4 cm dilated, amniotomy is recommended, if clinically feasible.	Defined as cervical dilation ≥6cm Regular cervical examinations to assess for labor progress every 1-2 hours •If labor is not progressing, interventions are recommended at particular time points, including: O Initiation of oxytocin O Amniotomy (if not already performed) O Use of intrauterine pressure catheter to assess contraction pattern

Figure 2: Components of the Induction Protocol

Methods (con.)

Figure 3: Conceptual Model of Study Design



Aim 1 is a 2-year pre- and post-implementation study of women who meet the following inclusion criteria:
- Full-term (≥37 weeks)
- Singleton gestations
- No prior cesarean section
- Intact membranes
- Undergoing induction with cervical ripening
- Inpatient foley placement (if used)

Primary outcome: Cesarean rate

Aim 2 is a mixed-methods study of implementation outcomes, including clinician and patient surveys and interviews

Primary outcomes: Acceptability, penetration, fidelity

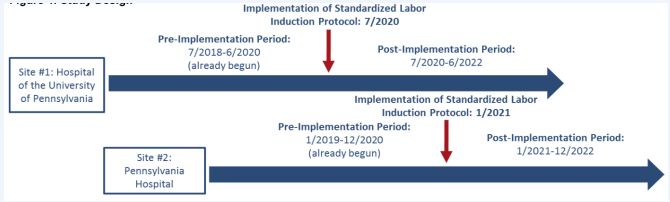
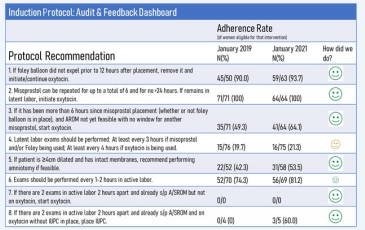


Figure 4: Study Design

Protocol Implemented at:
1. Hospital at the University of Pennsylvania
2. Pennsylvania Hospital

Each site is sent feedback reports on adherence to the protocol every 3 months for providers to access fidelity the intervention.

Methods (con.)



Induction Protocol: Audit & Feedback Dashboard

Protocol Recommendation	Adherence Rate (of women eligible for that intervention) January 2019 N(%)	January 2021 N(%)	How did we do?
1. If foley balloon did not expel prior to 12 hours after placement, remove it and initiate/continue oxytocin.	45/50 (90.0)	59/63 (93.7)	☺
2. Misoprostol can be repeated for up to a total of 6 and for no >24 hours. If remains in latent labor, initiate oxytocin.	71/71 (100)	64/64 (100)	☺
3. If it has been more than 6 hours since misoprostol placement (whether or not foley balloon is in place), and AROM not yet feasible with no window for another misoprostol, start oxytocin.	35/71 (49.3)	43/64 (64.1)	☺
4. Latent labor exams should be performed. At least every 3 hours if misoprostol and/or Foley being used. At least every 4 hours if oxytocin is being used.	15/76 (19.7)	16/75 (21.3)	☹
5. If patient is ≥4cm dilated and has intact membranes, recommend performing amniotomy if feasible.	22/52 (42.3)	31/58 (53.5)	☺
6. Exams should be performed every 1-2 hours in active labor.	52/70 (74.3)	56/69 (81.2)	☺
7. If there are 2 exams in active labor 2 hours apart and already s/p A/SROM but not on oxytocin, start oxytocin.	0/0	0/0	☺
8. If there are 2 exams in active labor 2 hours apart and already s/p A/SROM and on oxytocin without IUPC in place, place IUPC.	0/4 (0)	3/5 (60.0)	☺

Figure 5: Sample Audit and Feedback Form

Current Progress

The team is working to finish:
- Chart analysis and abstraction (total of 7,000 charts)
- Patient interviews are underway and will continue through Winter 2022
- Feedback reports were last sent to HUP and Pennsy July 2022

Future Directions

- After completion of data collection, we will compare cesarean rates and maternal/neonatal morbidity stratified by self-identified race.
- Clinician and patient acceptability of the protocol is being analyzed and tracked as the study progresses.

References

Hamm RF, Srinivas SK, Levine LD. A standardized labor induction protocol: impact on racial disparities in obstetrical outcomes. Am J Obstet Gynecol MFM. 2020 Aug;2(3):100148. doi: 10.1016/j.ajogmf.2020.100148. Epub 2020 Jun 5. PMID: 33345879.

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