

2022

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Before Rowing, Get in the Boat: Lowering NSTVL C-Section Rates

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Learning Objectives

- Identify why safe reduction of NTSVL C-Section rate is indicated.
- Discuss two interventions to successfully reduce the NTSVL C-section rate.
- List three counter metrics used to safely reduce the NTSVL C-section rate.



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Before Rowing, Get in the Boat

- WHY?

- Studies demonstrate the main factor in whether a patient undergoes a cesarean birth is WHERE they deliver and BY WHOM
 - Therefore, variation in cesarean section rates can indicate varying quality of care INDEPENDENT of patient risk factors and comorbidities
- Why focus on Nulliparous Term Singleton Vertex Living (NTSVL) cesarean specifically?
 - NTSVL cesarean rates are an indicator of the quality of obstetric care delivery

Before Rowing, Get in the Boat

Maternal & Neonatal Costs Of Cesarean Deliveries

- Increased pain and fatigue – associated risks of post traumatic stress disorder
- Increased risk of thromboembolic events and surgical site infections
- Increased risks with subsequent cesarean births
- Delayed or difficult breastfeeding
- Delayed or ineffective bonding with neonate
- Higher NICU admission rates and respiratory morbidity

Other Costs of Cesarean Delivery

- Increased length of stay
- Increased morbidity, more readmissions
- Financial cost = \$10,000 more for each cesarean delivery
- National attention by payers
 - Pay for performance plans
 - Value based payment plans
- Publicly reported measure

NTSVL C/S Rate at Lehigh Valley Health Network (LVHN)



- Leapfrog and Healthy People 2020 have set **23.9%** as the target rate of NTSVL C/S
- FY'20
– LVHN **27.29%**
- We set out to meet the national goal of **23.9%**

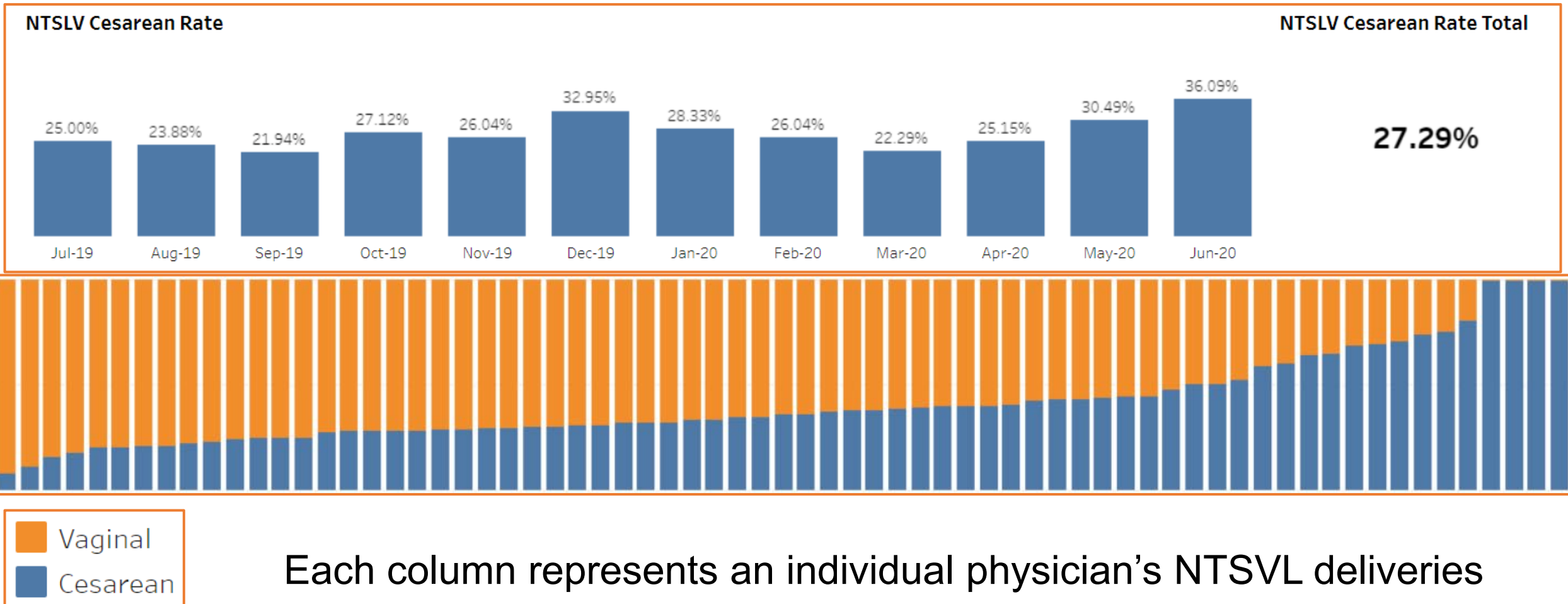
Lehigh Valley Health Network (LVHN) Playbook

- Pick a target
- Start with preliminary education
- Send providers individual data quarterly
- Conduct small workgroups including provider self-audit
- Hold large multidisciplinary workgroups
- Circulate dystocia checklist
- Provide progress updates regularly
- Monitor and share counter metrics to address safety concerns

Obtaining the Data

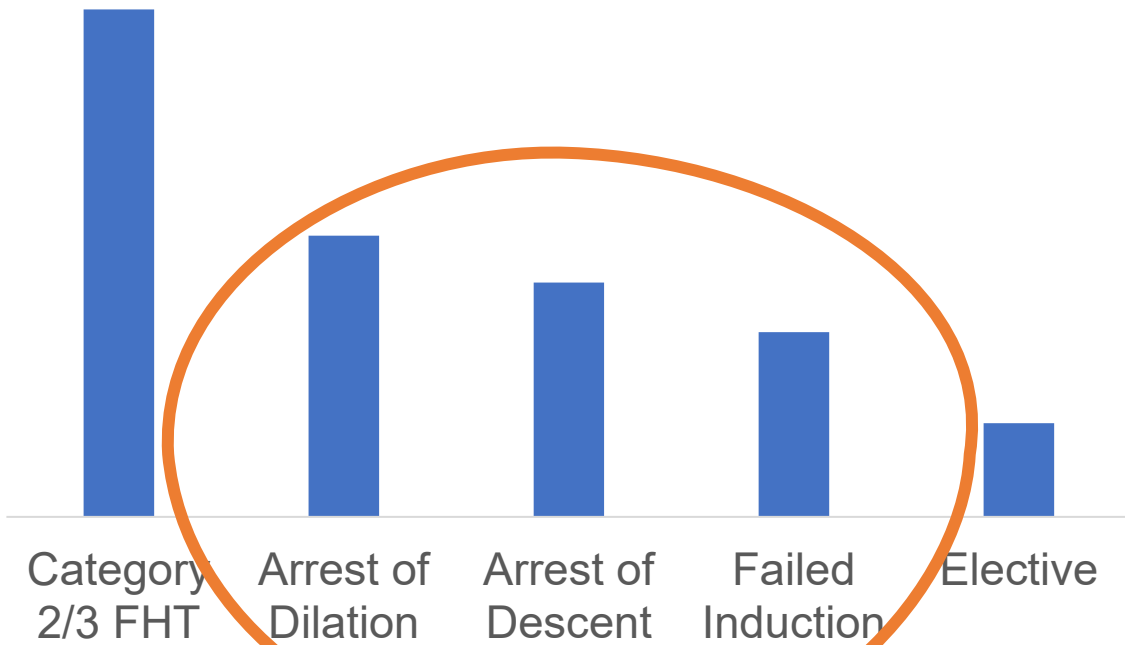
- Set the stage
- Define the data
 - Data validation
 - Trust the data
 - Invitation to validate personal data
- How to get best data
 - Provider attribution of delivery

Physician Variability

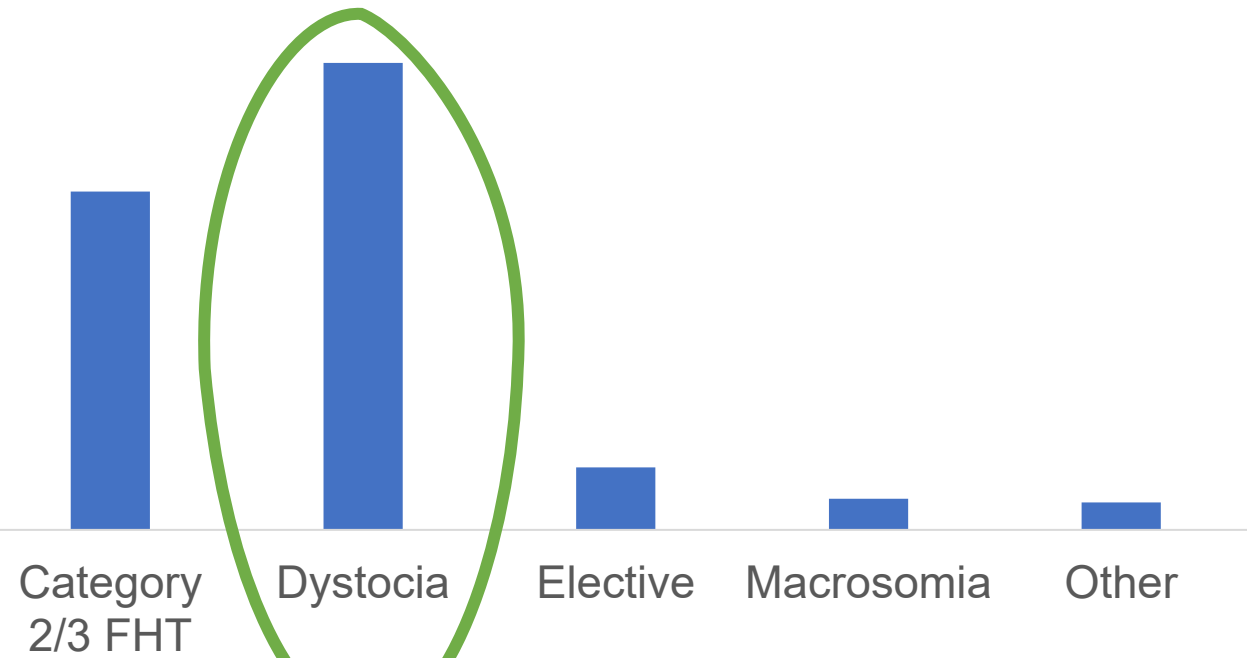


Pick the Target - NTSVL C/S Indications

Top 5 NTSVL C/S Indications



Top 5 NTSVL C/S Indications (grouped)



FHT: Fetal Heart Tracing

Education

- **Providers (attendings, residents, and midwives)**

- Why
- Variability
- Current state
- Individual data
- Campus and network data
- Goals

- **Nursing**

- Awareness of
 - NTSVL C/S rate
 - Impact of same
 - Current LVHN guidelines
 - Definitions of failed induction and arrest disorders
- Nurses as agents of change
- Patient advocacy
- Collaboration
- Oxytocin management
- Workshops on birthing positions and balancing techniques

- Selective invitation
 - Representation from providers with highest and lowest NTSVL C/S rates
- Self-audit requested utilizing dystocia checklist
- Physician-led case study review with open discussion

Physician: _____ Audit completion date: _____

[illegible]

Large Multidisciplinary Workgroup

- Voluntary basis
- Included:
 - Physicians
 - Resident Physicians
 - Certified Nurse Midwives
 - Nurses
- Tasks:
 - Develop education
 - Increase awareness
 - Policy review and modification

Labor Dystocia Checklist

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 hours of pushing in multiparous woman without epidural

3. Diagnosis of Failed Induction

- 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

LVHN.org 888-402-LVHN



Continual Progress Updates

- Quarterly individual provider updates
 - Email with individual provider identification number
- Grand Rounds
- Campus-specific department meeting
- Nurse leadership meetings

FY22 Q4 (April- June)						
Provider	Total number NTSVL CS / total NTSVL births	Overall NTSVL CS rate	Only CNM admission	CNM admission rate	Non-CNM admissions	Non-CNM admission rate
1	0/2	0.00%	0/0	0.00%	0/2	0.00%
2	0/2	0.00%	0/0	0.00%	0/2	0.00%
3	0/2	0.00%	0/1	0.00%	0/1	0.00%
4	0/1	0.00%	0/0	0.00%	0/1	0.00%
5	0/2	0.00%	0/0	0.00%	0/2	0.00%
6	0/5	0.00%	0/1	0.00%	0/4	0.00%
7	0/1	0.00%	0/0	0.00%	0/1	0.00%
8	0/1	0.00%	0/0	0.00%	0/1	0.00%
9	0/2	0.00%	0/0	0.00%	0/2	0.00%
10	0/5	0.00%	0/1	0.00%	0/4	0.00%
11	0/2	0.00%	0/2	0.00%	0/0	0.00%
12	1/13*	7.69%	0/3	0.00%	1/10*	10.00%
13	1/12*	8.33%	1/9*	11.11%	0/3	0.00%
14	1/7*	14.29%	0/2	0.00%	1/5*	20.00%
15	2/12*	16.67%	1/4*	25.00%	1/8*	12.50%
16	1.6*	16.67%	1/3*	33.33%	0/3	0.00%
17	2/11*	18.18%	1/3*	33.33%	1/8*	12.50%
18	1/5*	20.00%	1/2*	50.00%	0/3	0.00%
19	1/4*	25.00%	0/0	0.00%	1/4*	25.00%
20	1/4*	25.00%	1/1*	10.00%	0/3	100.00%
21	2/8*	25.00%	1/1*	100.00%	1/7*	14.29%
22	1/4*	25.00%	1/1*	100.00%	0/3	0.00%
23	4/15*	26.67%	1/3*	33.33%	3/12*	25.00%
24	2/7*	28.57%	1/2*	50.00%	1/5*	20.00%
25	3/10*	30.00%	1/3*	33.33%	2/7*	28.57%
26	4/12*	33.33%	2/6*	33.33%	2/6*	33.33%
27	1/3*	33.33%	1/2*	50.00%	0/1	0.00%
28	4/11*	36.36%	2/5*	40.00%	2/6*	33.33%
29	3/8*	37.50%	0/1*	0.00%	3/7*	42.86%
30	4/9*	44.44%	2/3*	66.67%	2/6*	33.33%
31	3/6*	50.00%	1/1*	100.00%	2/5*	40.00%
32	4/8*	50.00%	1/3*	33.33%	3/5*	60.00%
33	1/2*	50.00%	1/2*	50.00%	0/0	0.00%
34	3/6*	50.00%	1/1*	100.00%	2/5*	40.00%
35	5/9*	55.56%	1/2*	50.00%	4/7*	57.14%
36	3/5*	60.00%	1/1*	100.00%	2/4*	50.00%
37	5/8*	62.50%	3/5*	60.00%	2/3*	66.67%
38	2/3*	66.67%	1/1*	100.00%	1/2*	50.00%
39	3/4*	75.00%	1/2*	50.00%	2/2*	100.00%
40	1/1*	100.00%	1/1*	100.00%	0/0	0.00%

Counter Metrics (Balancing Measures)

- It's not just about doing fewer cesarean sections
- It's doing fewer cesareans **safely**
- Our counter metrics are also monitored and shared on a regular basis
 - Birth trauma
 - APGARS <7 at 5 min \geq 2500 grams
 - Postpartum hemorrhage rates
 - Admissions to Neonatal Intensive Care Unit
 - Cord pH <7

In for the Long Haul

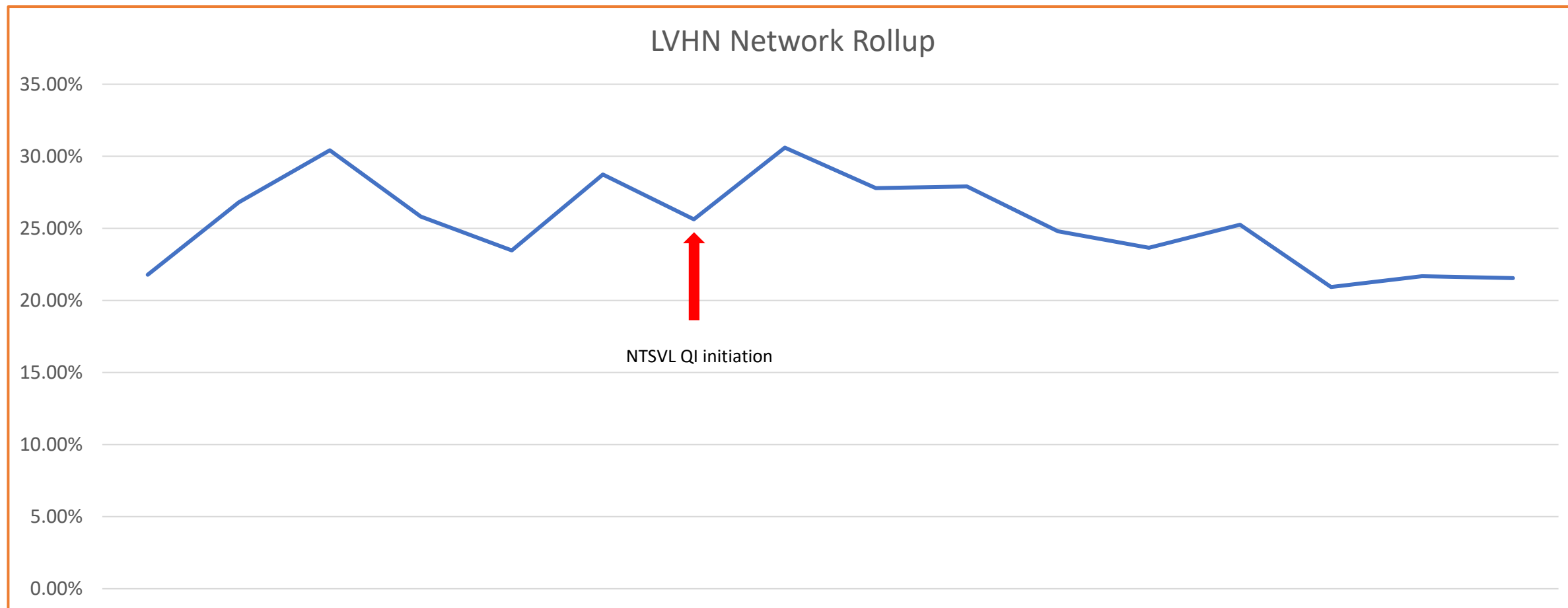
- Many of our interventions were met with initial resistance
 - Questions regarding data validity
 - Questions about safety
 - Is this goal even realistic?
- We even observed initial increase in NTSVL rate
- We persisted and kept moving forward
- Promoted the project at every forum possible
- Took time to answer each and every question
- Eventually....we saw **improvement!**

Improvement in LVHN NTSVL C/S Rate

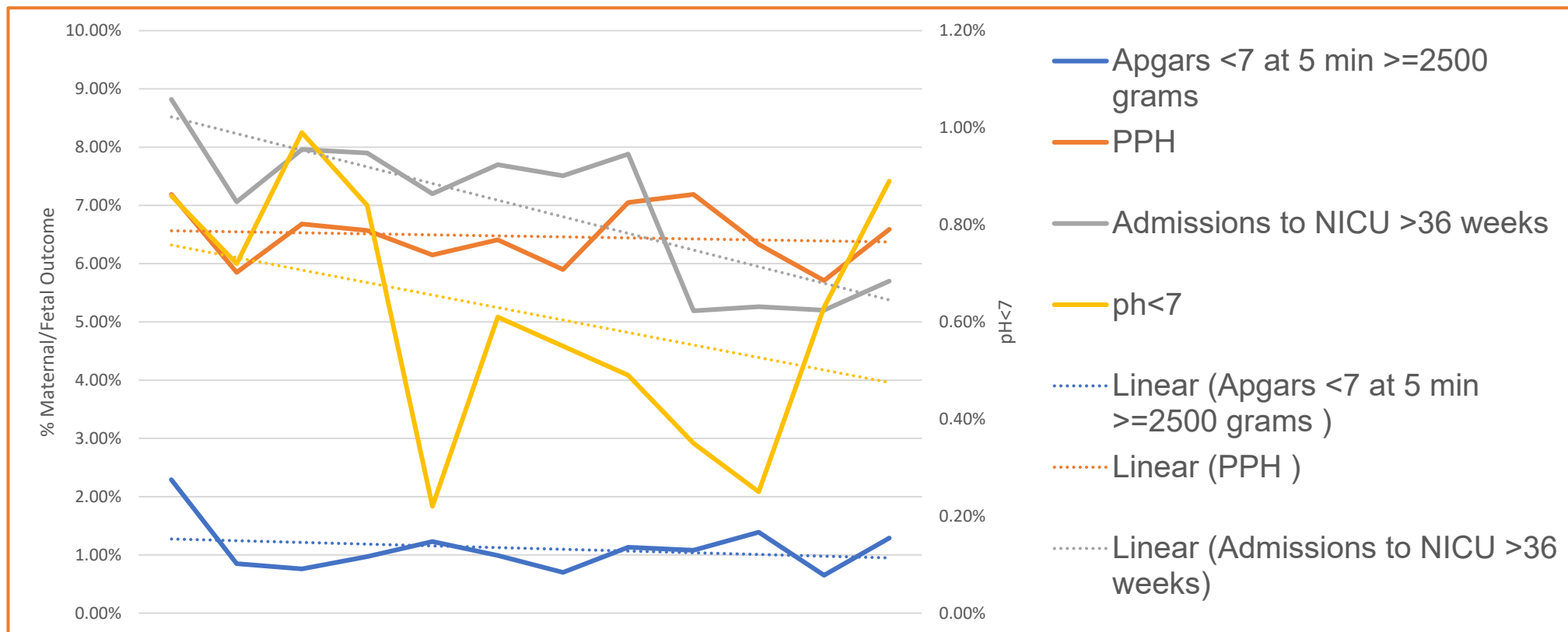
	FY'20	★ FY'21	FY'22
	July '19 – June '20	July '20 – June '21	July '21 – June '22
LVHN rollup	27.29	26.14	22.50
Cedar Crest	25.08	23.39	21.73
Hazleton	25.16	30.43	27.96
Muhlenberg	30.37	27.48	25.87
Pocono	30.72	25.56	16.09
Schuylkill	30.40	32.97	19.19

★ NTSVL Quality Improvement initiative began August of 2020

Improvement in LVHN NTSVL C/S Rate



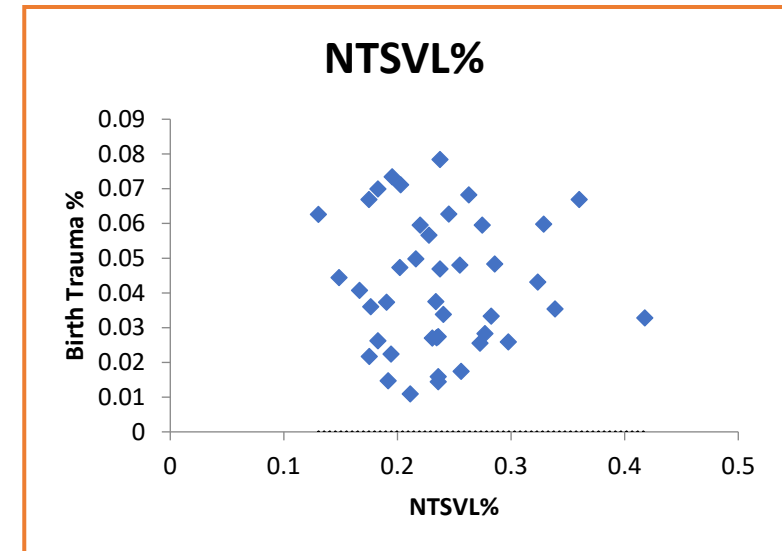
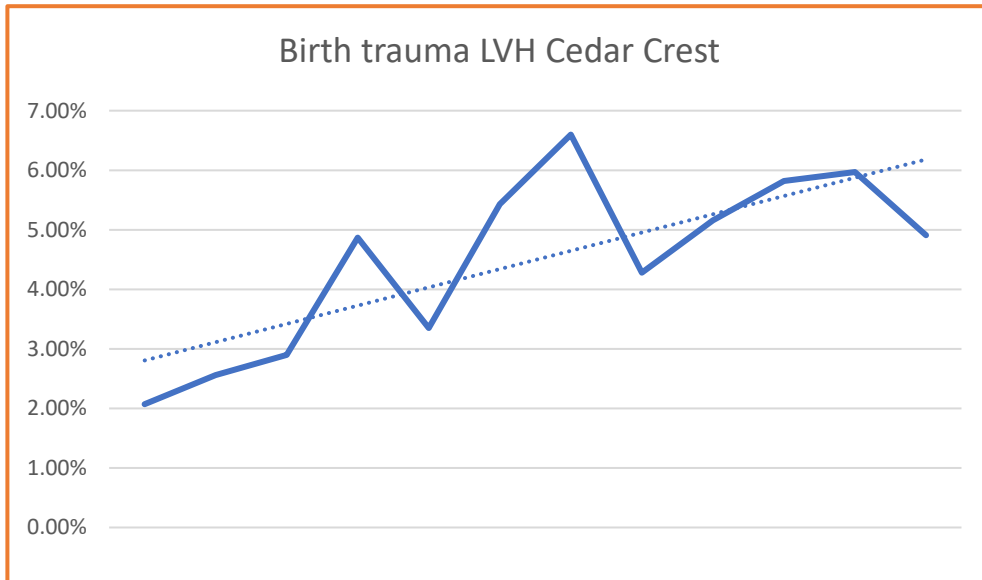
Counter Metrics (Balancing Measures) LVH Campus



Other campuses showed similar decline or remained stable

Birth Trauma Counter Metric LVH Campus

- Evaluation of birth trauma suggested a potential increase
- Regression analysis assured no correlation between our birth trauma rates and NTSVL rates



All other campuses showed either steady rate or decline in birth trauma rates

Lessons Learned

- Variability persists among campuses and providers
- Difficult to change individual provider if no group engagement
- Change takes a long time
- Each provider makes a difference
- Break it down to manageable goals
- Individual counseling is beneficial

Key Takeaways

- A multidisciplinary approach is best
- Ongoing awareness and education are necessary
- Data is powerful

Questions?



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