FPQC

Florida Perinatal Quality Collaborative

Partnering to Improve Health Care Quality
for Mothers and Babies

EAT, SLEEP, CONSOLE: THE COLORADO EXPERIENCE

NAS Initiative Webinar

February 19, 2019

Welcome!

- **Please enter your Audio PIN on your phone so we can un-mute you for discussion**
- If you have a question, please enter it in the Question box or Raise your hand to be unmuted
- This webinar is being recorded
- Please provide feedback on our post-webinar survey

No qualifying cases for the month?

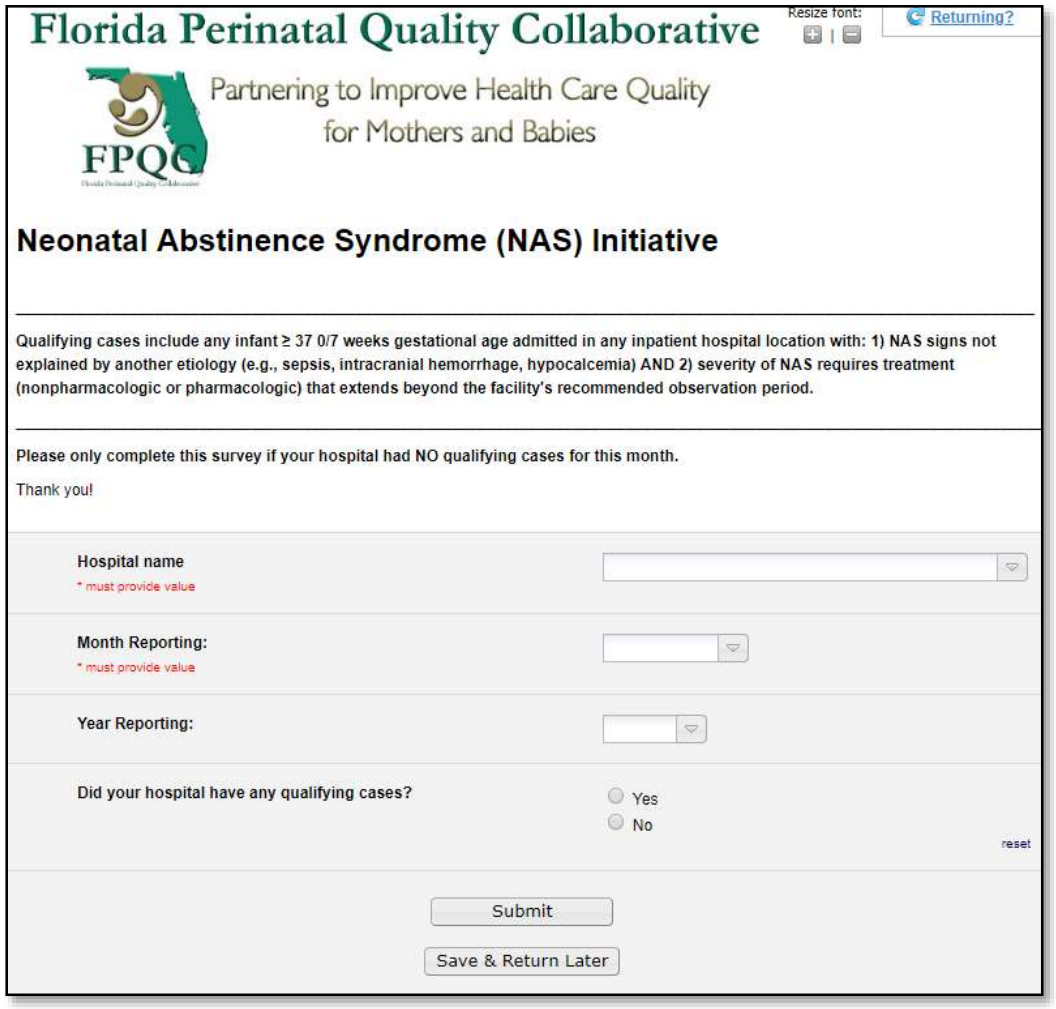
- Please press **"No"** in the e-mail we send to you each month and complete the form in REDCap

Dear NAS participating hospital,

Do you have any NAS infant to report for this past month? – Click below

YES NO

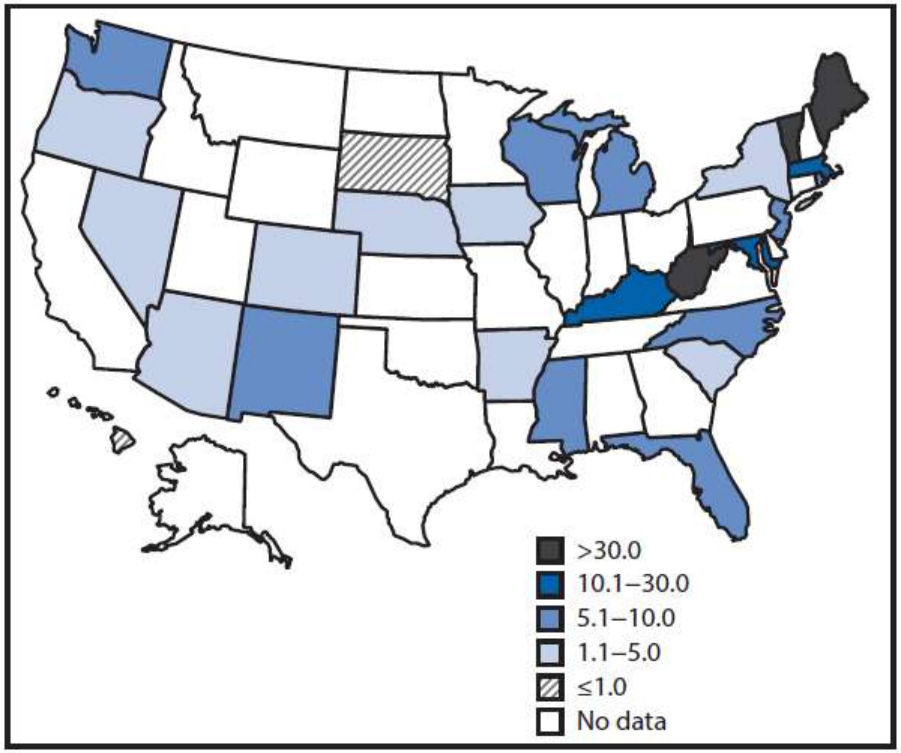
NQC – Complete the REDCap form



Colorado Hospitals Substance Exposed Newborn Quality Improvement Collaborative (CHoSEN QIC)

February 19, 2019

Among 28 states, overall NAS incidence increased 300% from 1.5 to 6.0 per 1000 hospital births from 1999 to 2013



Source: State Inpatient Databases, Healthcare Cost and Utilization Project.
* NAS cases per 1,000 hospital births.
† Incidence rates reported are for 2013, except for four states (Maine, Maryland, Massachusetts, and Rhode Island) for which 2013 data were not available; 2012 data are reported for these states.

Ko JY, Patrick SW, Tong VT, Patel R, Lind JN, Barfield WD. MMWR Morb Mortal Wkly Rep 2016;65:799–802

JAMA Pediatrics | Original Investigation

Association of Rooming-in With Outcomes for Neonatal Abstinence Syndrome
A Systematic Review and Meta-analysis

Kathryn Dee L. MacMillan, MD; Cassandra P. Rendon, BA, BS; Kanak Verma, MPH; Natalie Riblet, MD, MPH; David B. Washer, MBA, MPH; Alison Volpe Holmes, MD, MPH

Primary Outcome: Newborn treatment with pharmacotherapy

Secondary Outcomes: LOS, inpatient cost, harms from treatment (in-hospital adverse events and readmission rates)

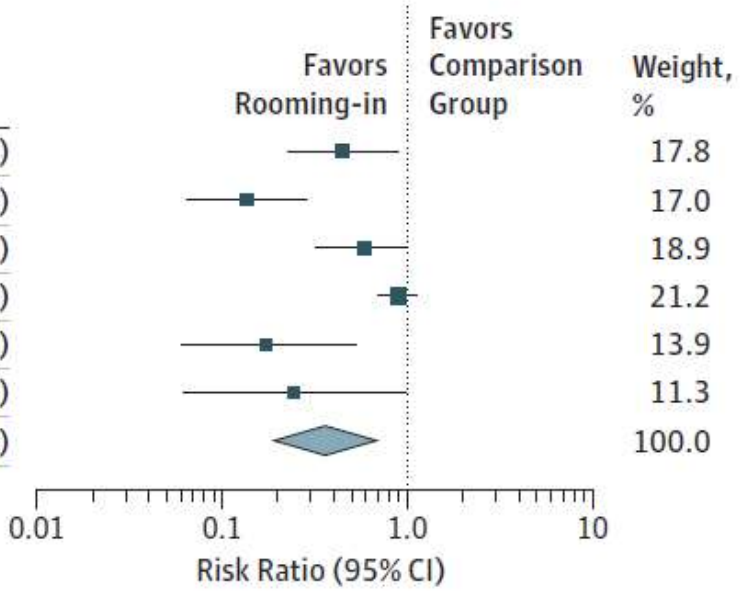
MacMillan et al. JAMA Pediatrics 2018.

Figure 2. Rooming-in vs Usual Care on the Need for Pharmacotherapy

A Meta-analysis

Source	Rooming-in No. of Events	Rooming-in Total No.	Comparison Group No. of Events	Comparison Group Total No.	Risk Ratio (95% CI)	Weight, %
Abrahams et al,[7] 2007	8	32	21	38	0.45 (0.23-0.88)	17.8
Grossman et al,[19] 2017	6	44	54	55	0.14 (0.07-0.29)	17.0
Holmes et al,[18] 2016	13	48	25	54	0.58 (0.34-1.01)	18.9
Hûnseler et al,[24] 2013	19	24	47	53	0.89 (0.71-1.12)	21.2
McKnight et al,[22] 2016	3	20	20	24	0.18 (0.06-0.52)	13.9
Saiki et al,[23] 2010	2	18	19	42	0.25 (0.06-0.95)	11.3
Total (95% CI)	51	186	186	266	0.37 (0.19-0.71)	100.0

Heterogeneity: $\tau^2 = 0.51$; $I^2 = 85\%$
Test for overall effect $z = 2.99$; $P = .003$



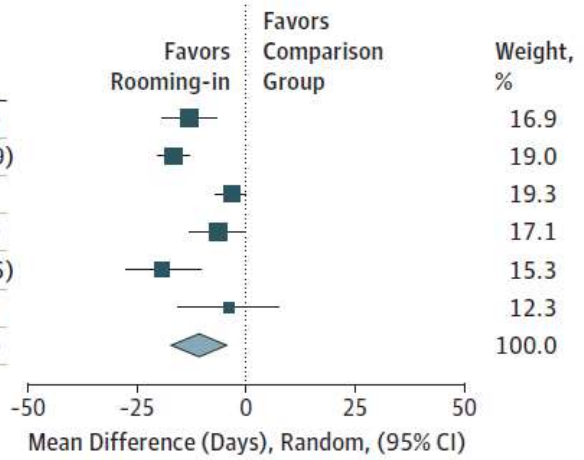
MacMillan et al. JAMA Pediatrics 2018.

Figure 3. Rooming-in vs Usual Care on Length of Stay

A Meta-analysis

Source	Rooming-in Mean	Rooming-in SD	Rooming-in Total	Comparison Group Mean	Comparison Group SD	Comparison Group Total	Mean Difference (Days), Random, (95% CI)	Weight, %
Abrahams et al,[7] 2007	11.8	9.1	32	24.7	22.2	74	-12.90 (-18.86 to -6.94)	16.9
Grossman et al,[19] 2017	5.9	1.9	44	22.4	10.8	55	-16.50 (-19.41 to -13.59)	19.0
Holmes et al,[18] 2016	6.7	4.2	48	10	7.5	54	-3.30 (-5.63 to -0.97)	19.3
Hûnseler et al,[24] 2013	36.6	10.2	24	42.8	15.3	53	-6.20 (-12.00 to -0.40)	17.1
McKnight et al,[22] 2016	5	17.8	20	24	2.2	24	-19.00 (-26.85 to -11.15)	15.3
Saiki et al,[23] 2010	15.9	21.4	18	19.8	17.9	42	-3.90 (-15.17 to 7.37)	12.3
Total (95% CI)			186			302	-10.41 (-16.84 to -3.98)	100.0

Heterogeneity: $\tau^2 = 54.31$; $I^2 = 91\%$
Test for overall effect $z = 3.17$; $P = .002$



MacMillan et al. JAMA Pediatrics 2018.

An Initiative to Improve the Quality of Care of Infants With Neonatal Abstinence Syndrome

Matthew R. Grossman, MD,[a] Adam K. Berkwitt, MD,[a] Rachel R. Osborn, MD,[a] Yaqing Xu, MS,[b]
Denise A. Esserman, PhD,[b] Eugene D. Shapiro, MD,[a,c] Matthew J. Bizzarro, MD[a]

BACKGROUND AND OBJECTIVES: The incidence of neonatal abstinence syndrome (NAS), a constellation of neurologic, gastrointestinal, and musculoskeletal disturbances associated with opioid withdrawal, has increased dramatically and is associated with long hospital stays. At our institution, the average length of stay (ALOS) for infants exposed to methadone in utero was 22.4 days before the start of our project. We aimed to reduce ALOS for infants with NAS by 50%.

METHODS: In 2010, a multidisciplinary team began several plan-do-study-act cycles at Yale New Haven Children's Hospital. Key interventions included standardization of nonpharmacologic care coupled with an empowering message to parents, development of a novel approach to assessment, administration of morphine on an as-needed basis, and transfer of infants directly to the inpatient unit, bypassing the NICU. The outcome measures included ALOS, morphine use, and hospital costs using statistical process control charts.

abstract

Departments of [a]Pediatrics, [b]Biostatistics, and [c]Epidemiology, Yale University School of Medicine and School of Public Health, New Haven, Connecticut

Dr Grossman conceptualized and designed the project, drafted the initial manuscript, and coordinated data collection; Drs Berkwitt and Osborn helped design the project, collected data, and critically reviewed the manuscript; Ms Xu and Dr Esserman carried out the statistical analysis and critically reviewed the manuscript; Dr Shapiro helped analyze data and critically reviewed the manuscript; Dr Bizzarro helped design the project and critically reviewed the manuscript; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the

Grossman et al. Pediatrics 2017

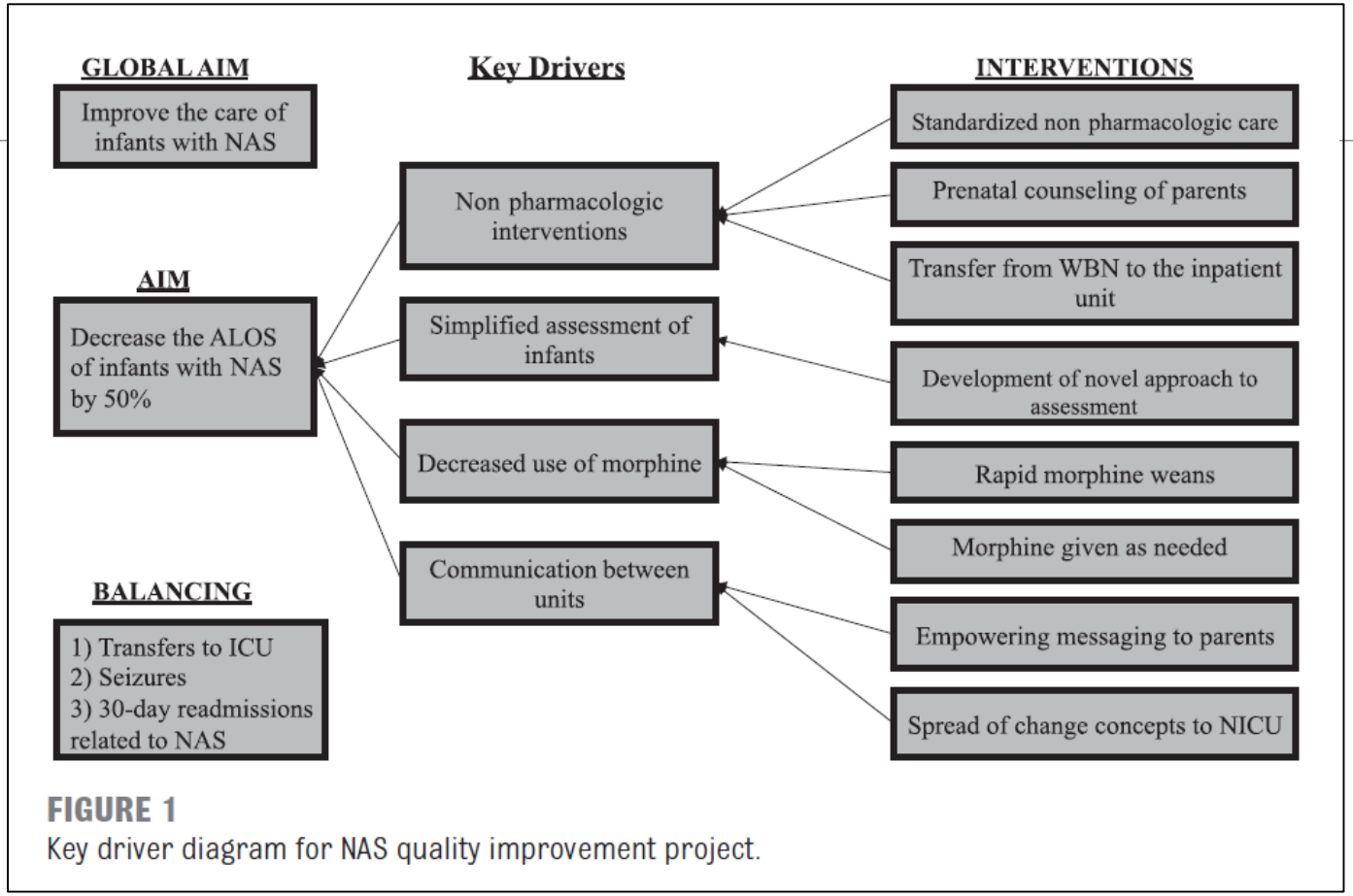
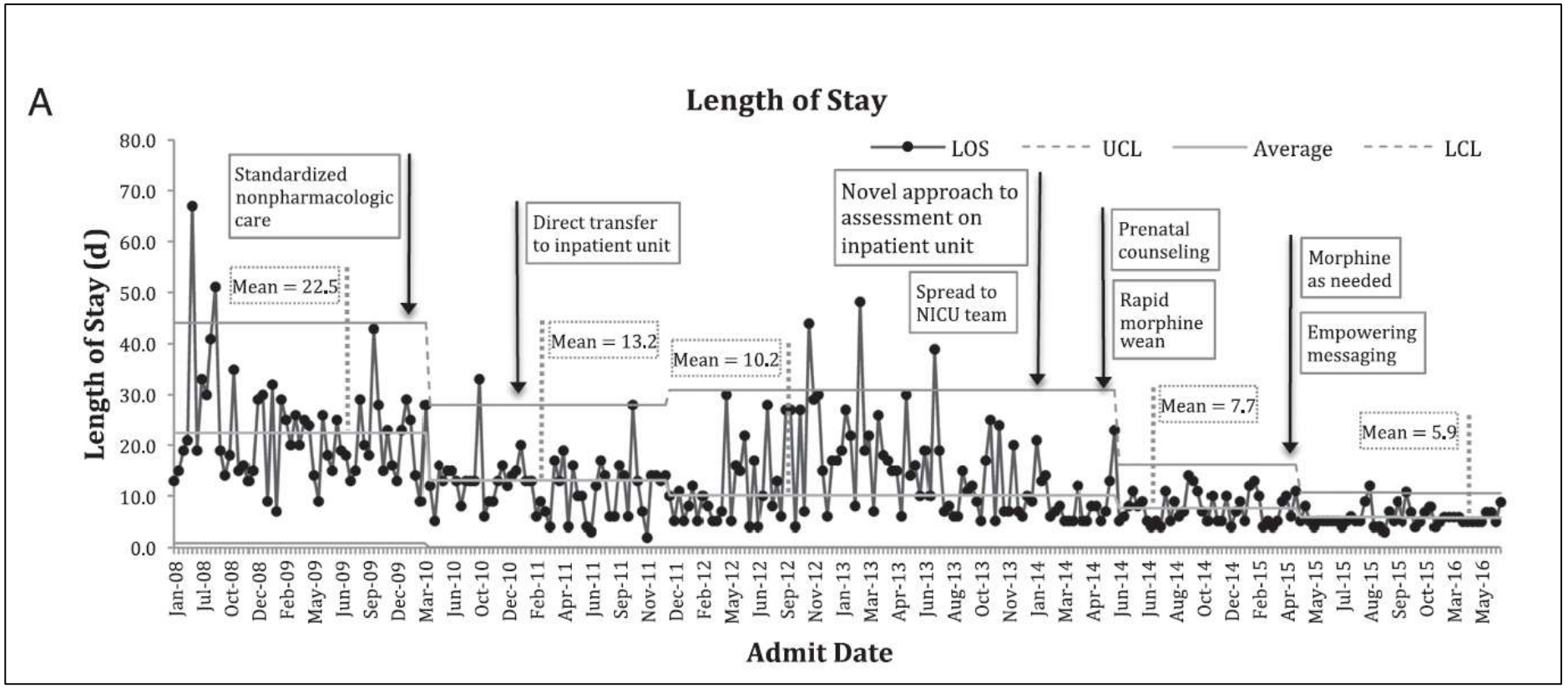
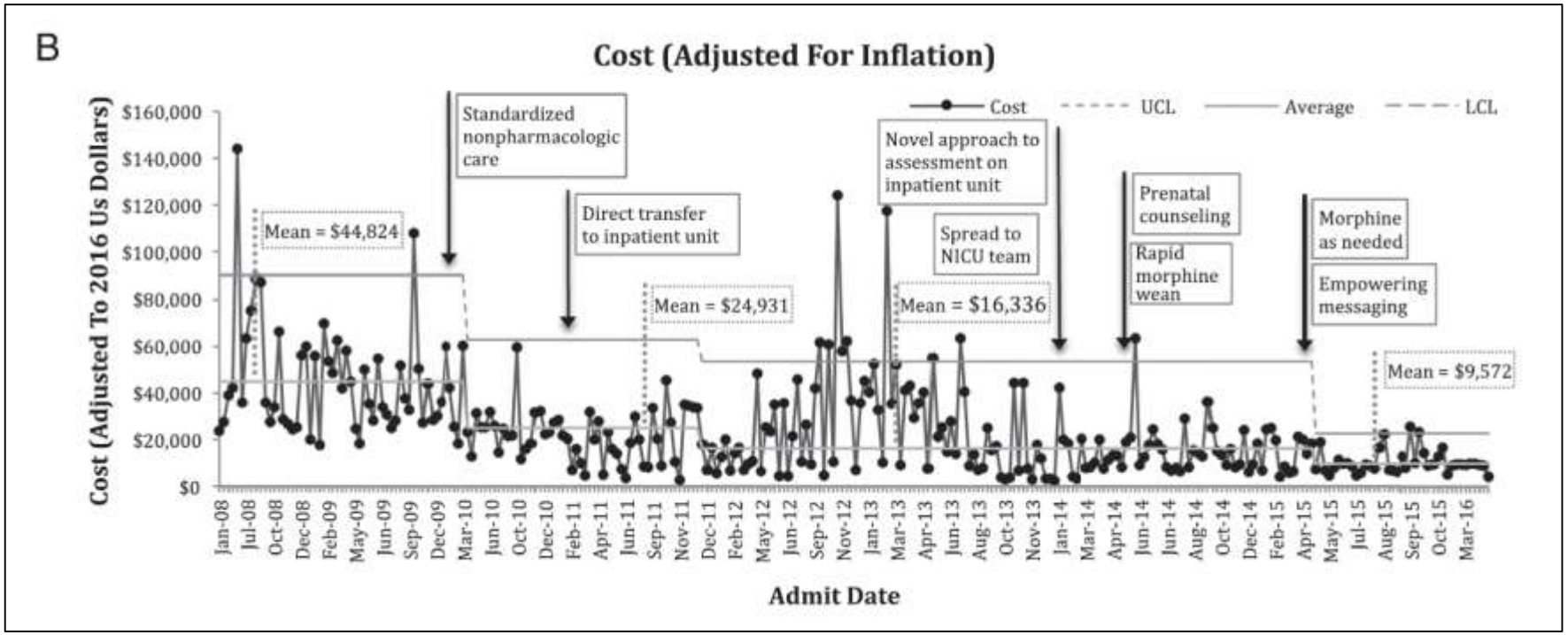


FIGURE 1
Key driver diagram for NAS quality improvement project.

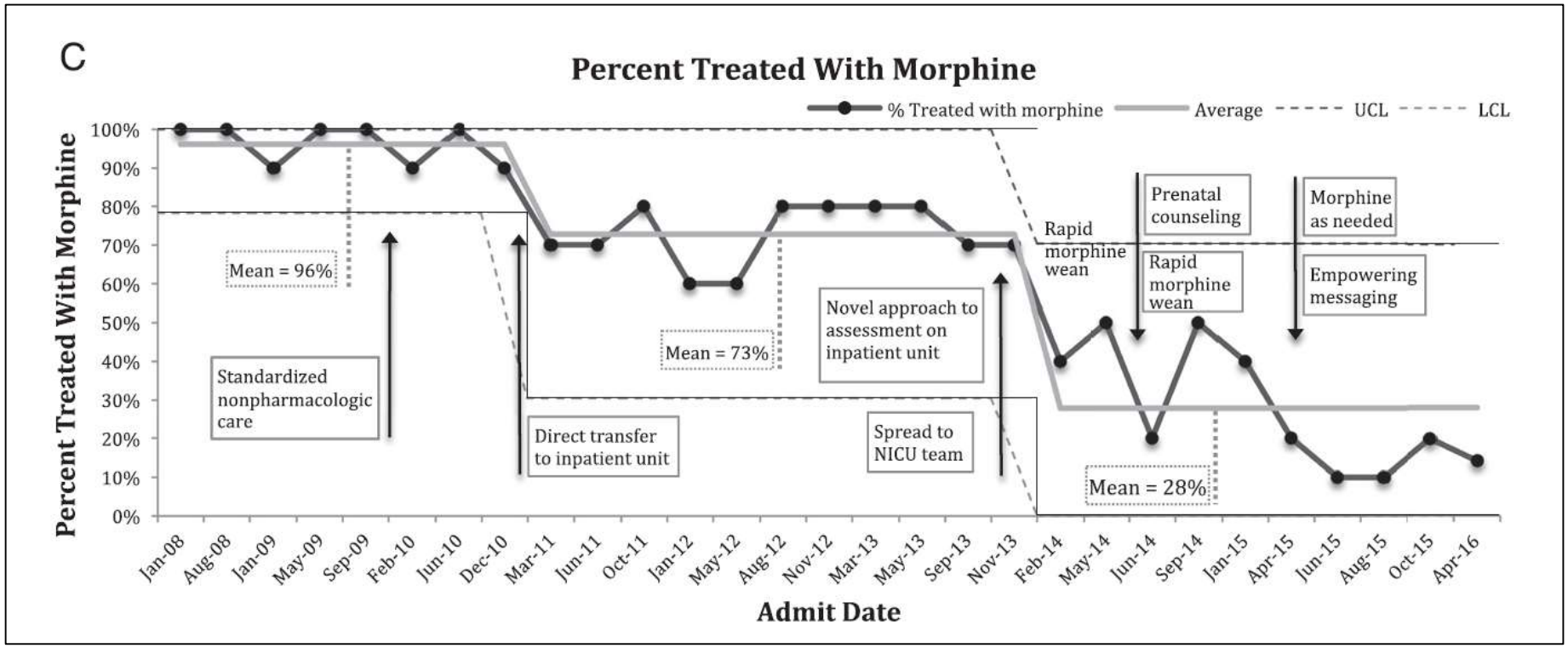
Grossman et al. Pediatrics 2017



Grossman et al. Pediatrics 2017



Grossman et al. Pediatrics 2017



Grossman et al. Pediatrics 2017

Journal of Perinatology (2018) 38:1114–1122
https://doi.org/10.1038/s41372-018-0109-8

QUALITY IMPROVEMENT ARTICLE

Quality improvement initiative to improve inpatient outcomes for Neonatal Abstinence Syndrome

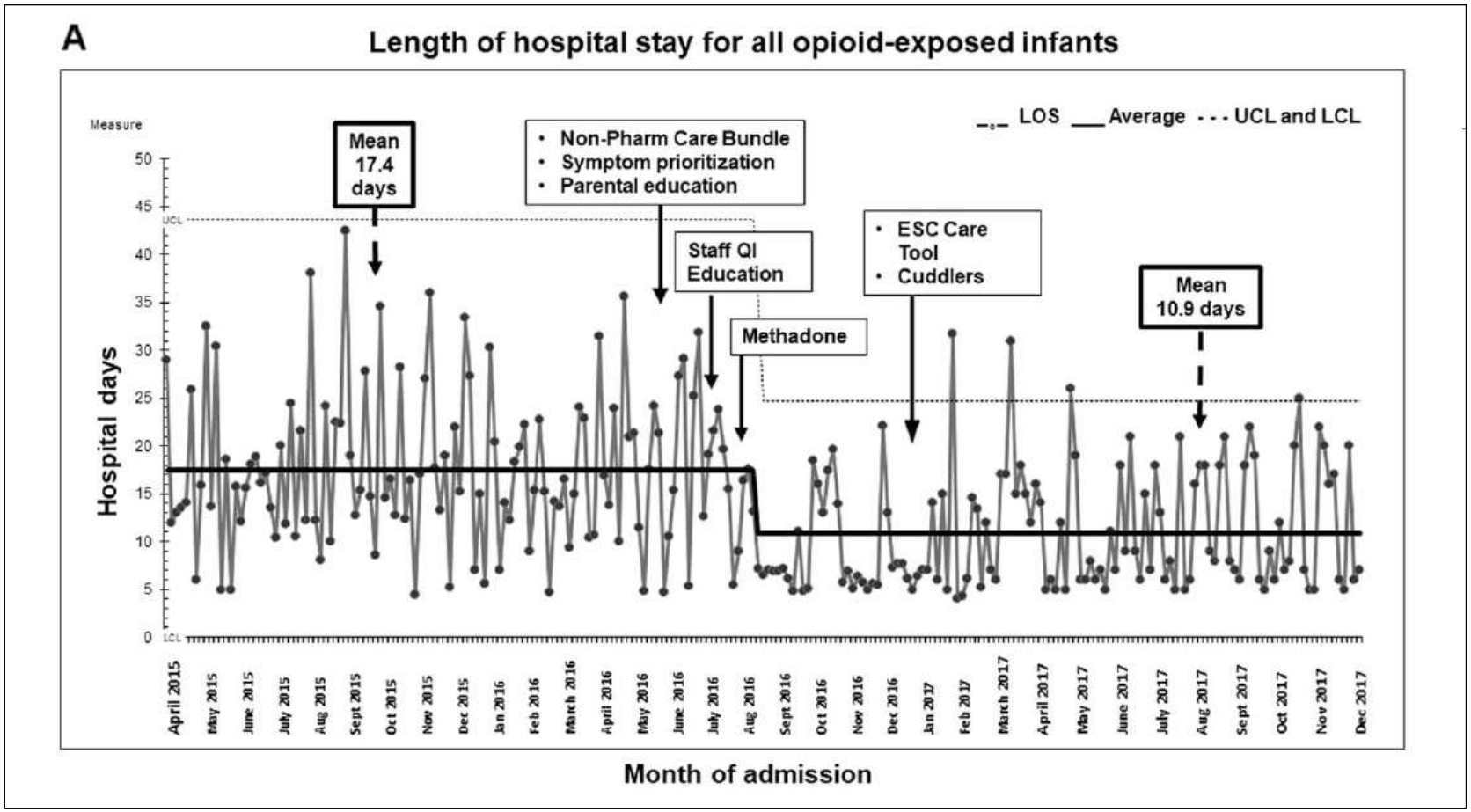
Elisha M. Wachman[1] · Matthew Grossman[2] · Davida M. Schiff[1,3] · Barbara L. Philipp[1] · Susan Minear[1] · Elizabeth Hutton[1] · Kelley Saia[4] · FNU Nikita[5] · Ahmad Khattab[6] · Angela Nolin[6] · Crystal Alvarez[5] · Karan Barry[1] · Ginny Combs[1] · Donna Stickney[1] · Jennifer Driscoll[1] · Robin Humphreys[1] · Judith Burke[1] · Camilla Farrell[7] · Hira Shrestha[1] · Bonny L. Whalen[8]

Wachman et al. Jour of Perinatology 2018

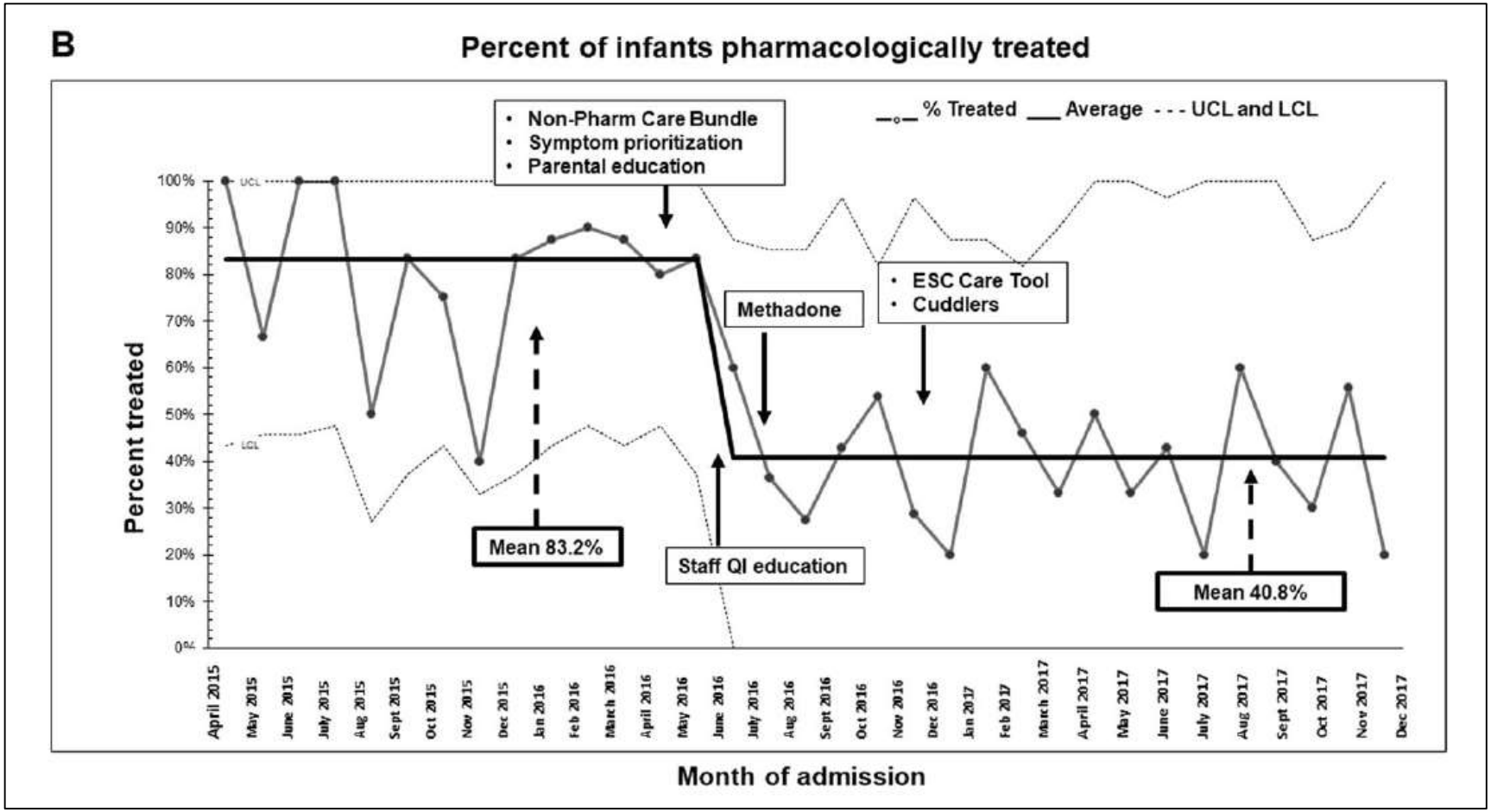
Table 2 Demographics and outcomes pre- and post-intervention

Demographic/outcome	Pre-intervention *N*=101 *N* (%) or Mean (95% CI)	Post-intervention *N*=85 *N* (%) or Mean (95% CI)	*p* value
NAS outcomes			
Pharmacologic treatment	88 (87.1%)	34 (40.0%)	<0.0001*
Adjunctive medication[d]	34 (33.6%)	2 (2.4%)	<0.0001*
Hospital LOS—all opioid-exposed infants (days)	17.4 (15.8, 19.0)	11.3 (10.0, 12.6)	<0.0001*
Pharmacologically treated LOS (days)	19.1 (17.5, 20.7)	17.6 (16.5, 18.7)	0.11
Opioid treatment days	16.2 (14.5, 17.9)	12.7 (11.5, 13.8)	0.0007*
Caregiver presence (%)	55.6% (50.3%, 60.8%)	79.9% (74.8%, 85.1%)	<0.0001*
Parental presence (%)	55.6% (50.3%, 60.8%)	75.8% (69.8%, 81.8%)	<0.0001*
Cuddler presence (%)	–	4.4% (3.2%, 5.5%)	
Hospital charges (US dollars)	31,825 (28,898, 34,751)	20,668 (18,290, 23,045)	<0.001*
Re-admission[e]	0	1 (1.2%)	–

Wachman et al. Jour of Perinatology 2018



Wachman et al. Jour of Perinatology 2018



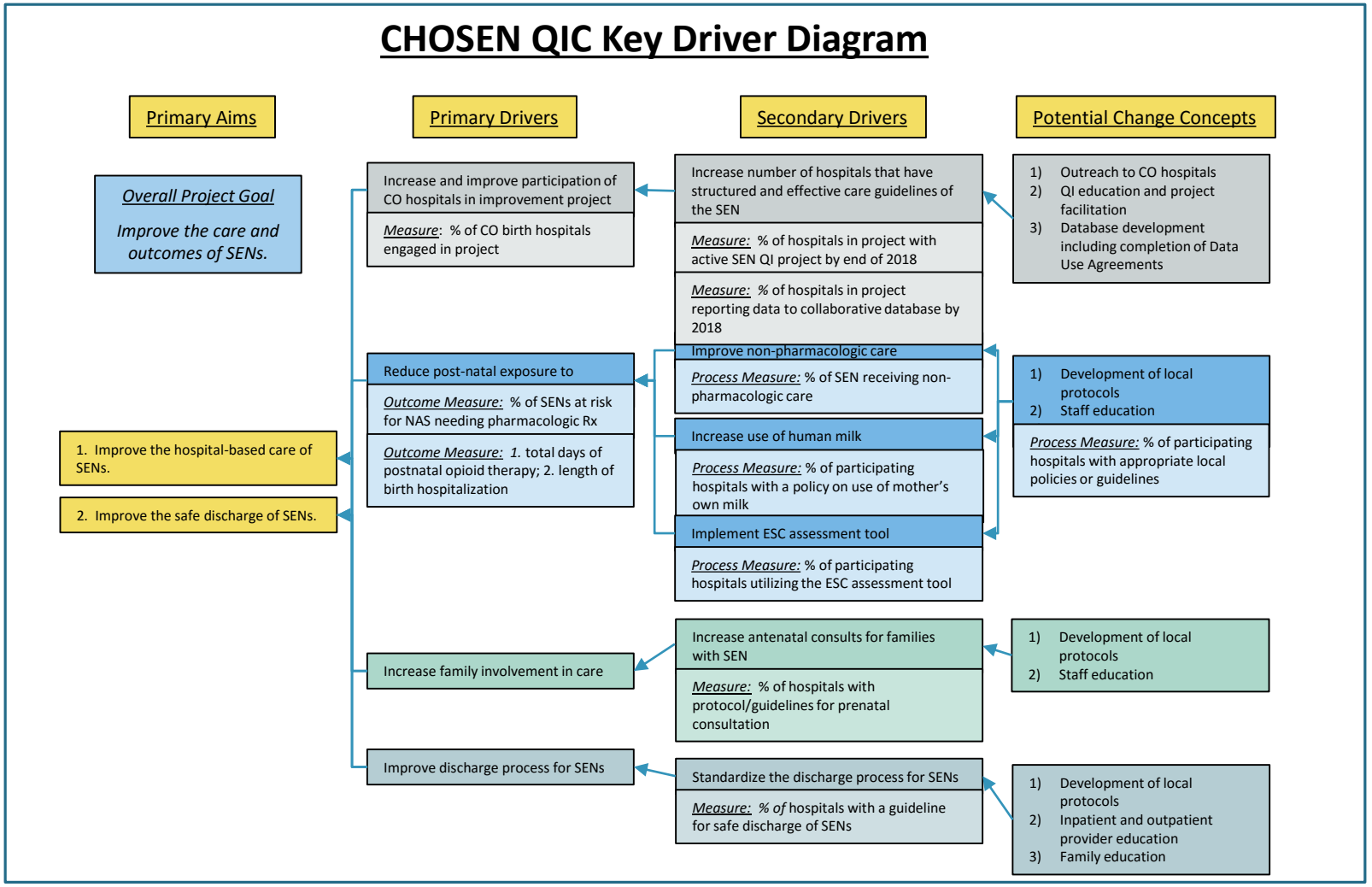
Wachman et al. Jour of Perinatology 2018

CHoSEN QIC

Initiative Goal

Our goal is to develop a collaborative quality improvement initiative of Colorado hospitals that will use structured quality improvement methods and sharing of data and practices to further support hospital-based improvement efforts to achieve measurable improvements in the care of substance-exposed newborns and their families.

CHOSEN QIC Key Driver Diagram



Progress to Date

Development of Partnerships

September 2017

Hospital	Team Lead Identified	Team Roster Completed	IRB Review Completed	Data Audit Begun	Interventions Implemented	Data Sharing Begun
Denver Health	Y					
Lutheran	Y					
Parker	Y					
Platte Valley	Y					
Poudre Valley	Y					
University Hospital	Y					

January 2019

Hospital	Team Lead Identified	Team Roster Completed	Data Use Agreement	Interventions Implemented	Data Collection & Sharing Begun
Denver Health	Y	Y	Y	Y	Y
Lutheran Medical Center	Y	Y	Y	Y	Y
McKee Medical Center	Y	Y	Y		
Medical Center of the Rockies	Y	Y	Y		
Memorial Hospital	Y	Y	Y	Y	Y
North Colorado Medical Center	Y	Y	Y		
North Suburban Medical Center	Y	Y	Y	Y	Y
Parkview Medical Center	Y	Y	Y	Y	Y
Parker Adventist	Y	Y	Y	Y	Y
Platte Valley	Y	Y	Y	Y	Y
Poudre Valley	Y	Y	Y	Y	Y
San Luis Valley Health	Y	Y			
St. Joseph Hospital	Y	Y	Y	Y	Y
St. Mary's Medical Center	Y	Y	Y	Y	Y
St. Vincent Healthcare	Y	Y			
University Hospital	Y	Y	Y	Y	Y
Valley View Hospital	Y	Y			

Workshops, Forums, Webinars

- First forum, September 2017
- Fall Forum, November 2017
- CHoSEN QIC “How-To” Workshop, February 2018
- Spring Forum, May 2018
- Webinar, September 2018
- Winter Forum, January 2019

Winter Forum: January 31, 2019

Over 80 attendees from across Colorado:

- Colorado Springs
- Denver Metro
- Fort Collins
- Grand Junction
- Glenwood Springs
- Greeley
- Pueblo

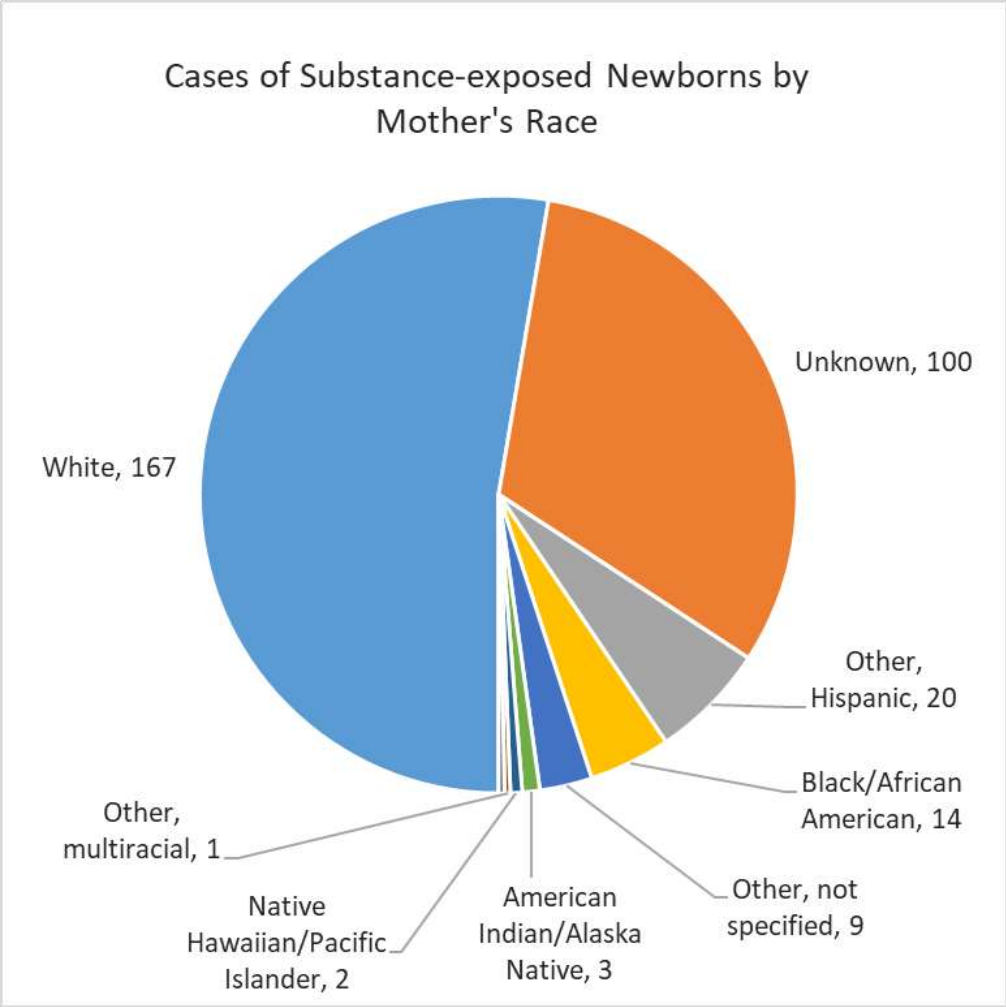
Representing:

- 14 Colorado hospitals
- 3 State agencies
- 3 Partner organizations

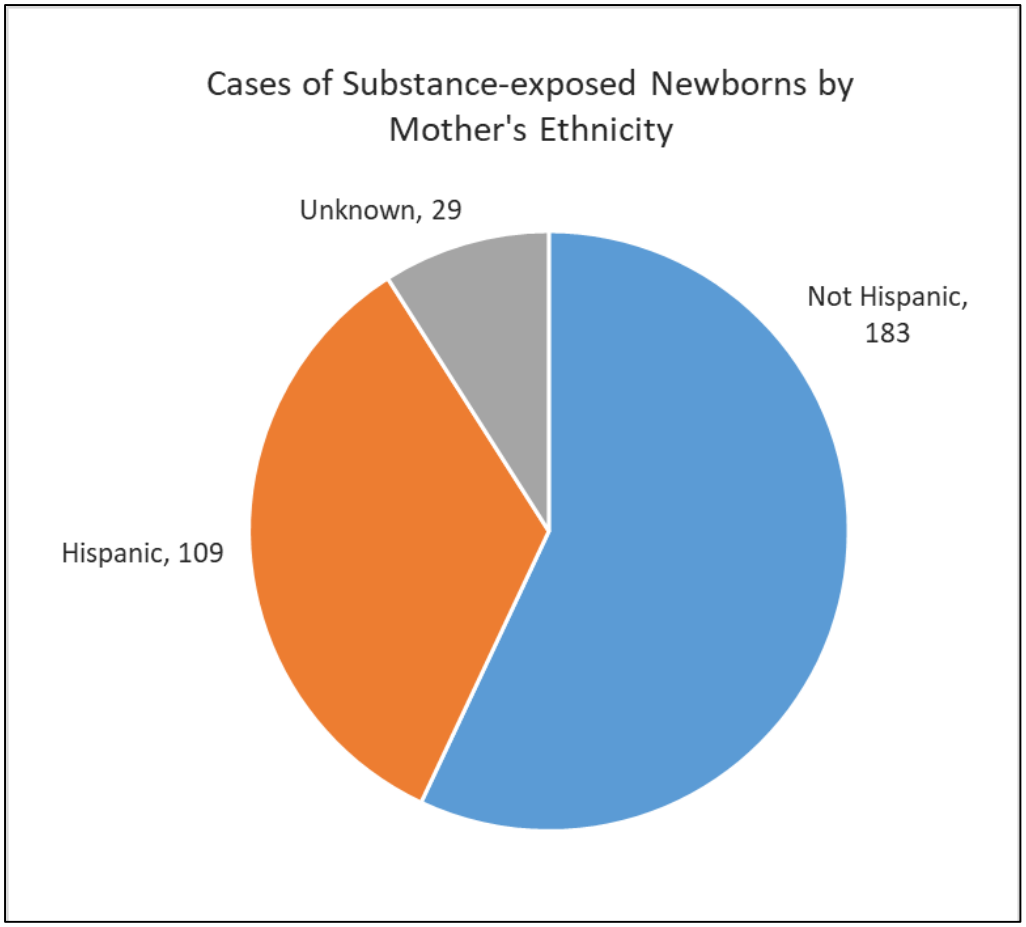
Site Visits

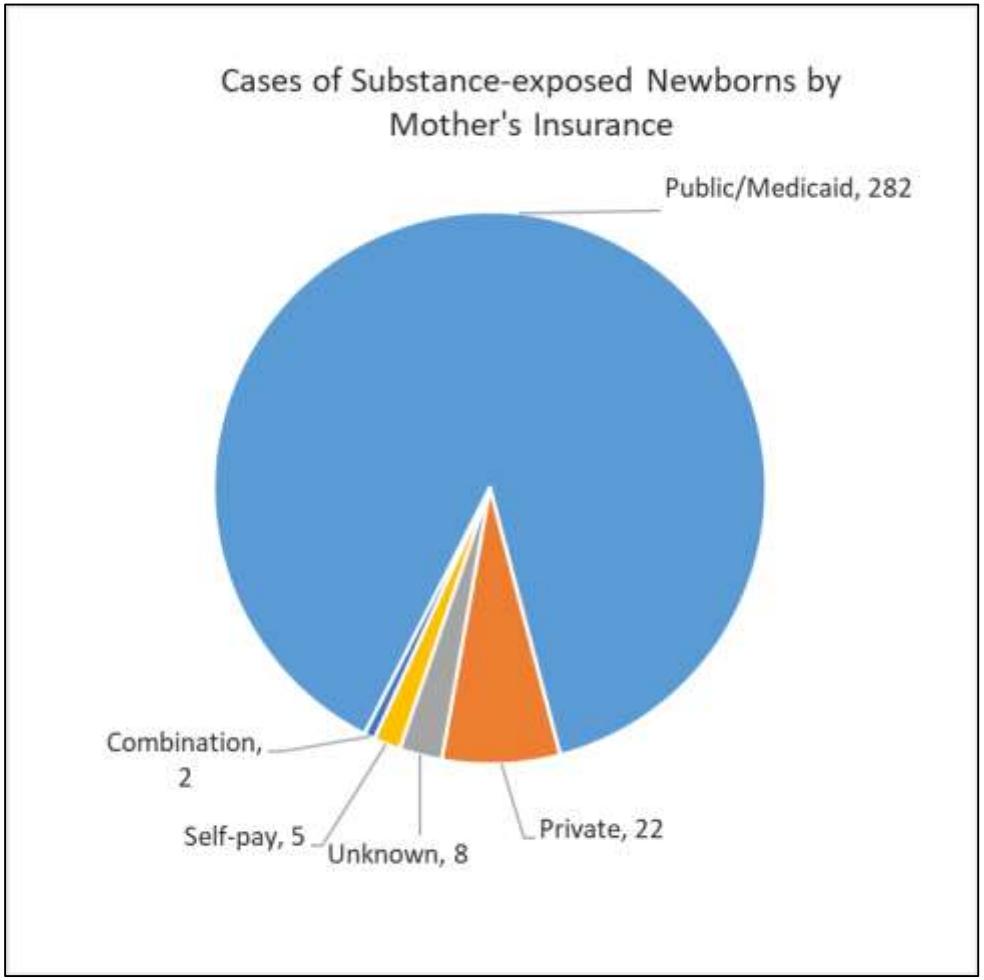
Hospital	Date
Denver Health	7/13/2018
Memorial Hospital	11/9/2018
Valley View Hospital	11/19/2018
St. Mary's Medical Center	11/20/2018
Parkview Medical Center	1/14/2019
St. Joseph Hospital	2/15/2019

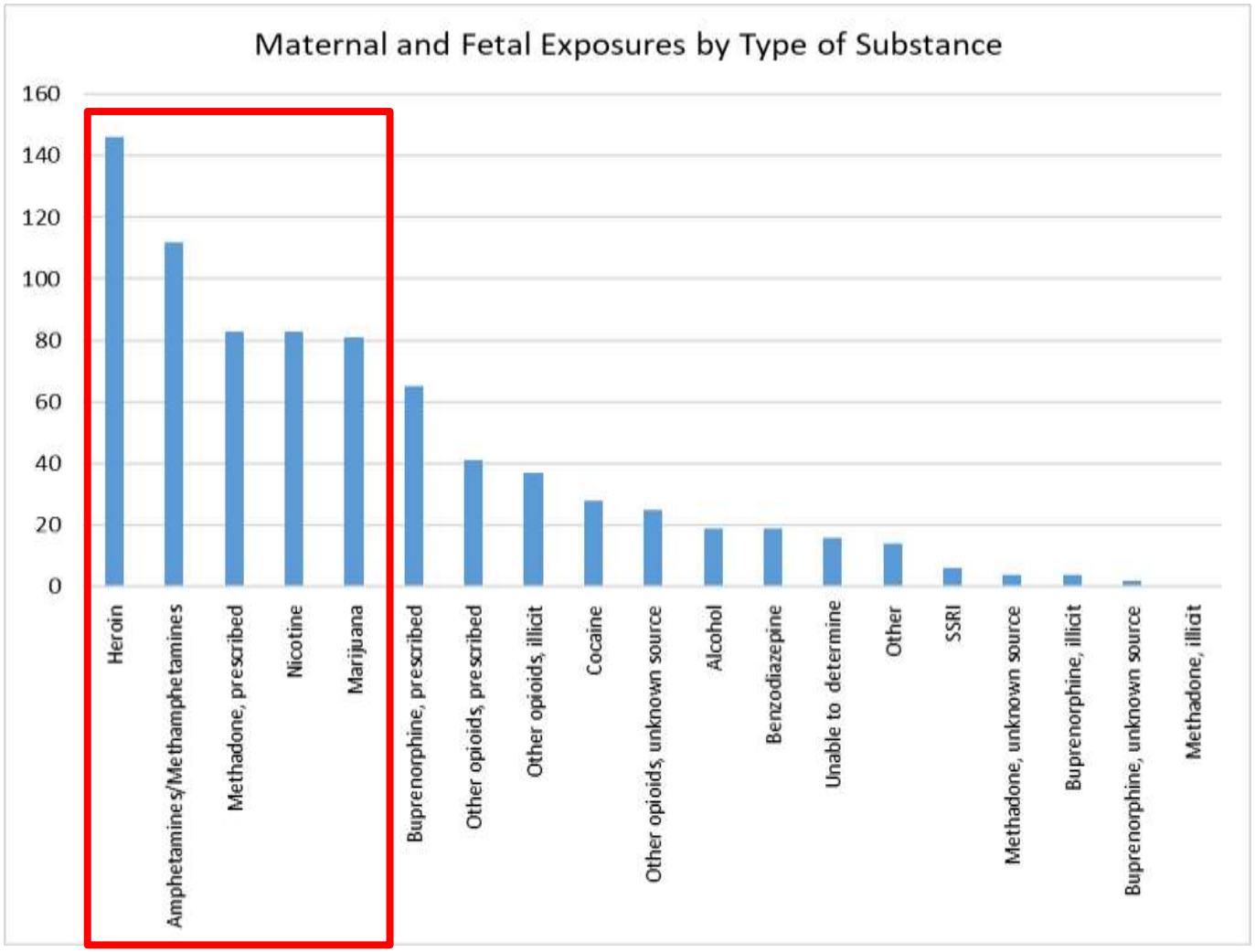
Data Update

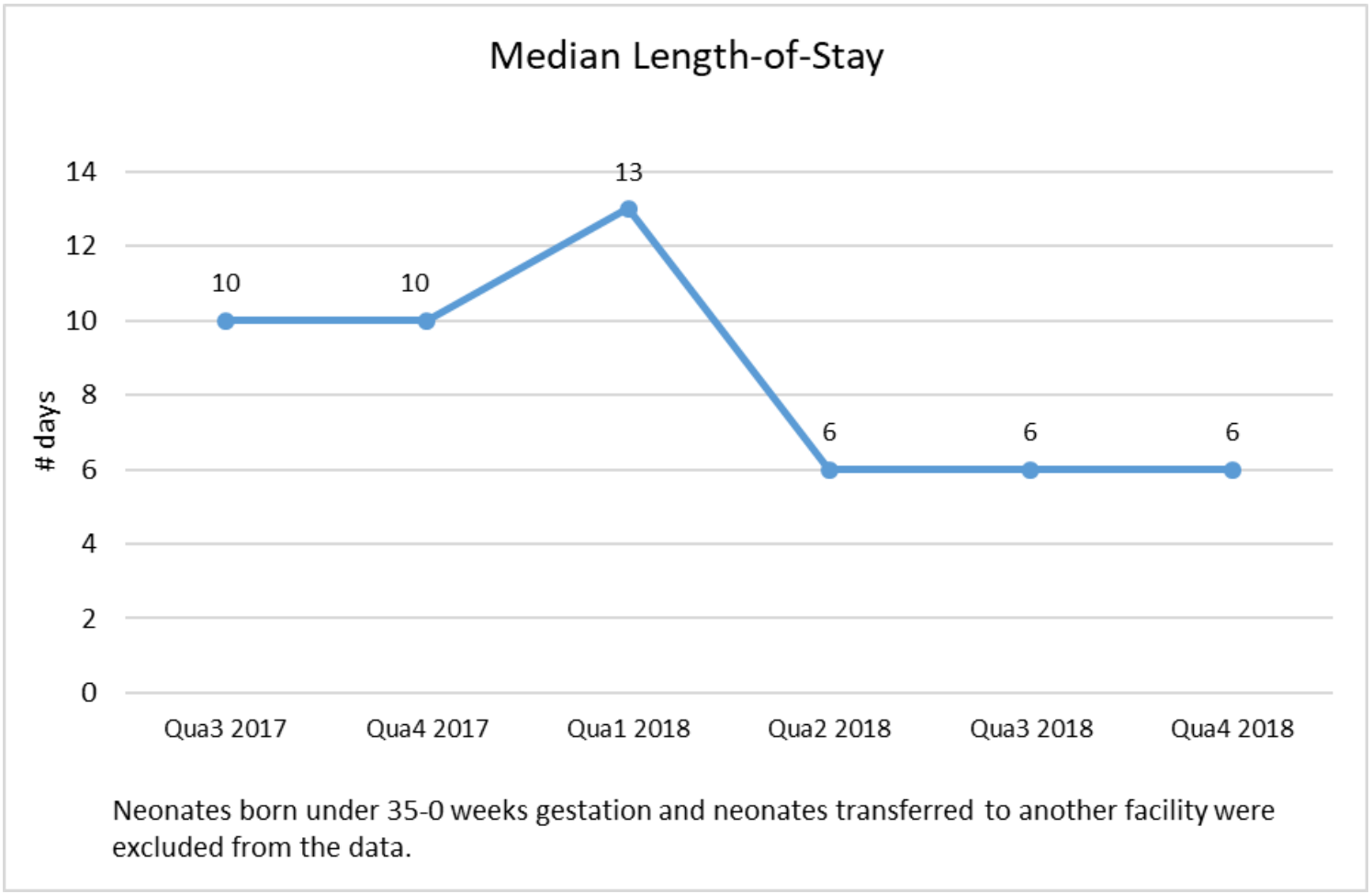


315 cases captured to date

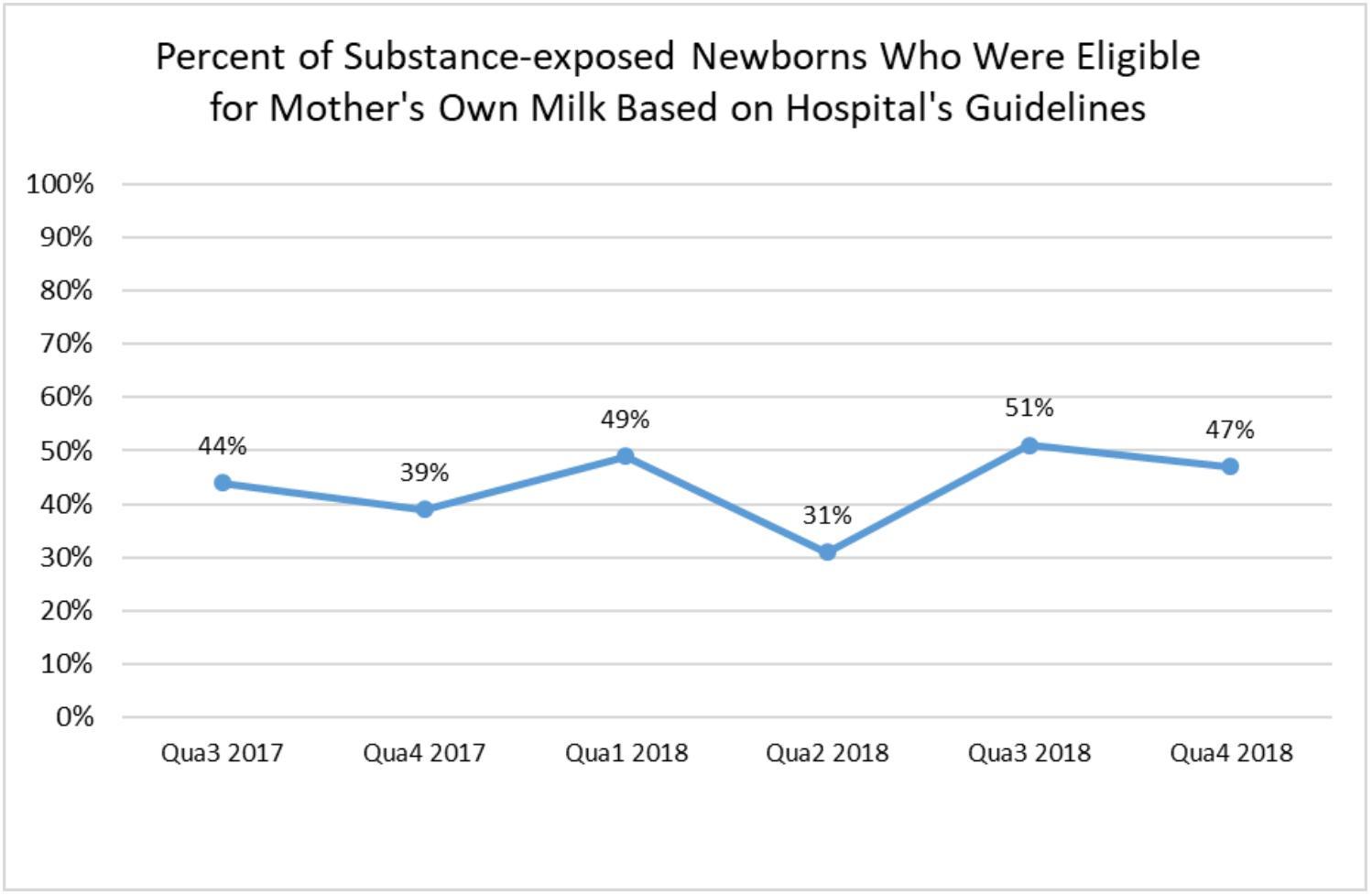

Cases of Substance-exposed Newborns by Mother's Ethnicity
Unknown, 29
Not Hispanic, 183
Hispanic, 109

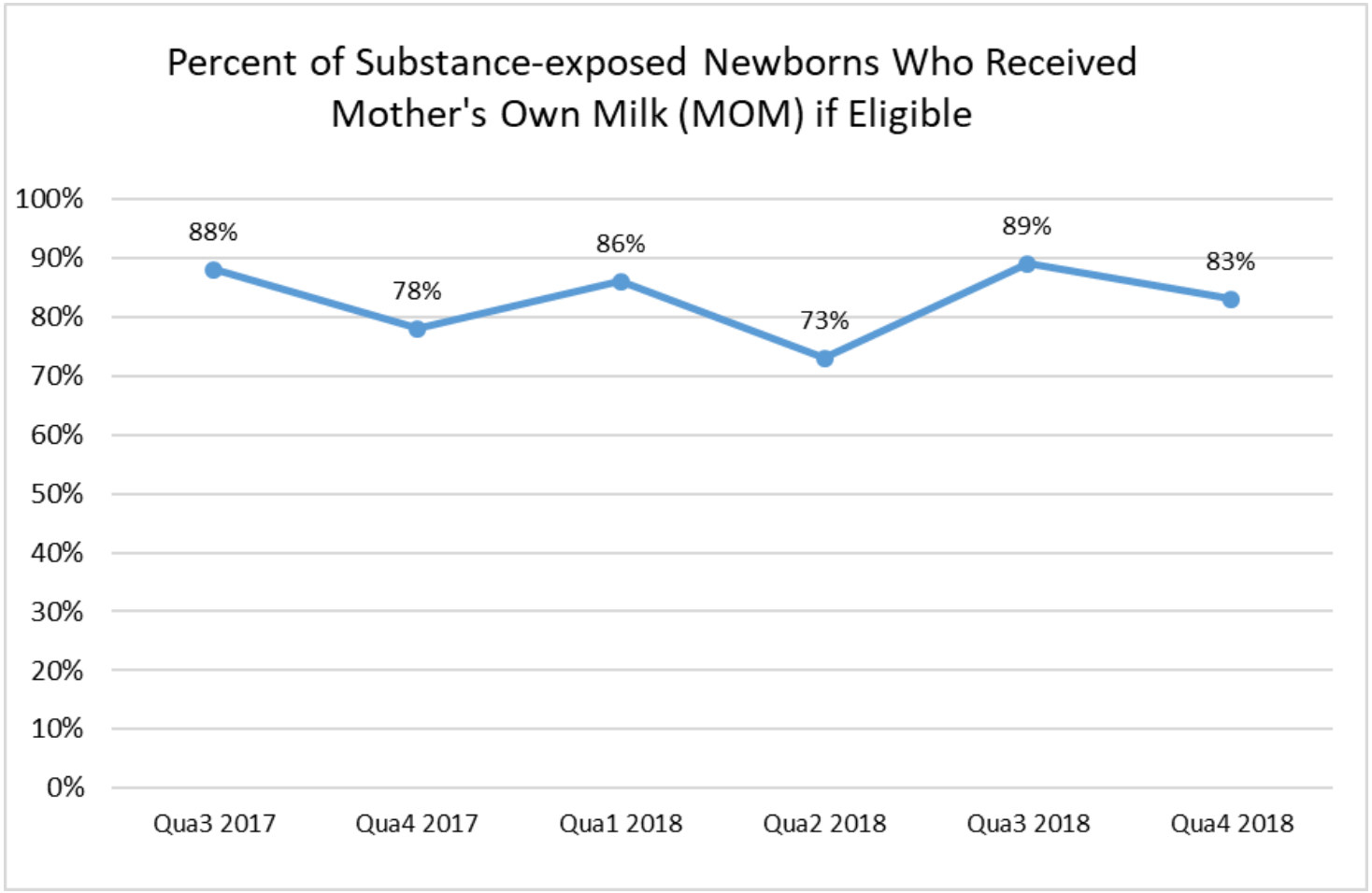

Cases of Substance-exposed Newborns by Mother's Insurance
Public/Medicaid, 282
Combination, 2
Self-pay, 5
Unknown, 8
Private, 22

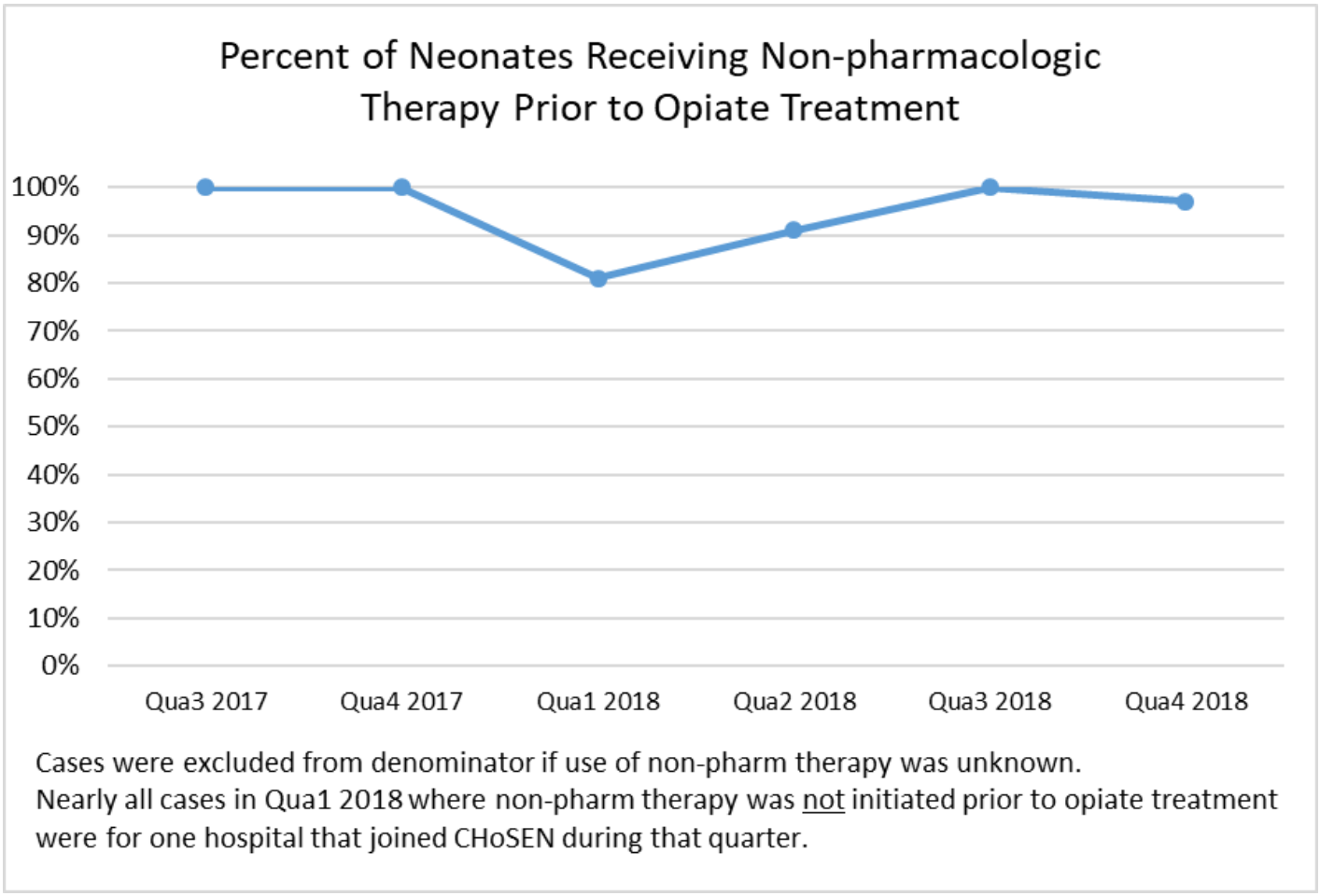

Maternal and Fetal Exposures by Type of Substance
160
140
120
100
80
60
40
20
0
Heroin
Amphetamines/Methamphetamines
Methadone, prescribed
Nicotine
Marijuana
Buprenorphine, prescribed
Other opioids, prescribed
Other opioids, illicit
Cocaine
Other opioids, unknown source
Alcohol
Benzodiazepine
Unable to determine
Other
SSRI
Methadone, unknown source
Buprenorphine, illicit
Buprenorphine, unknown source
Methadone, illicit

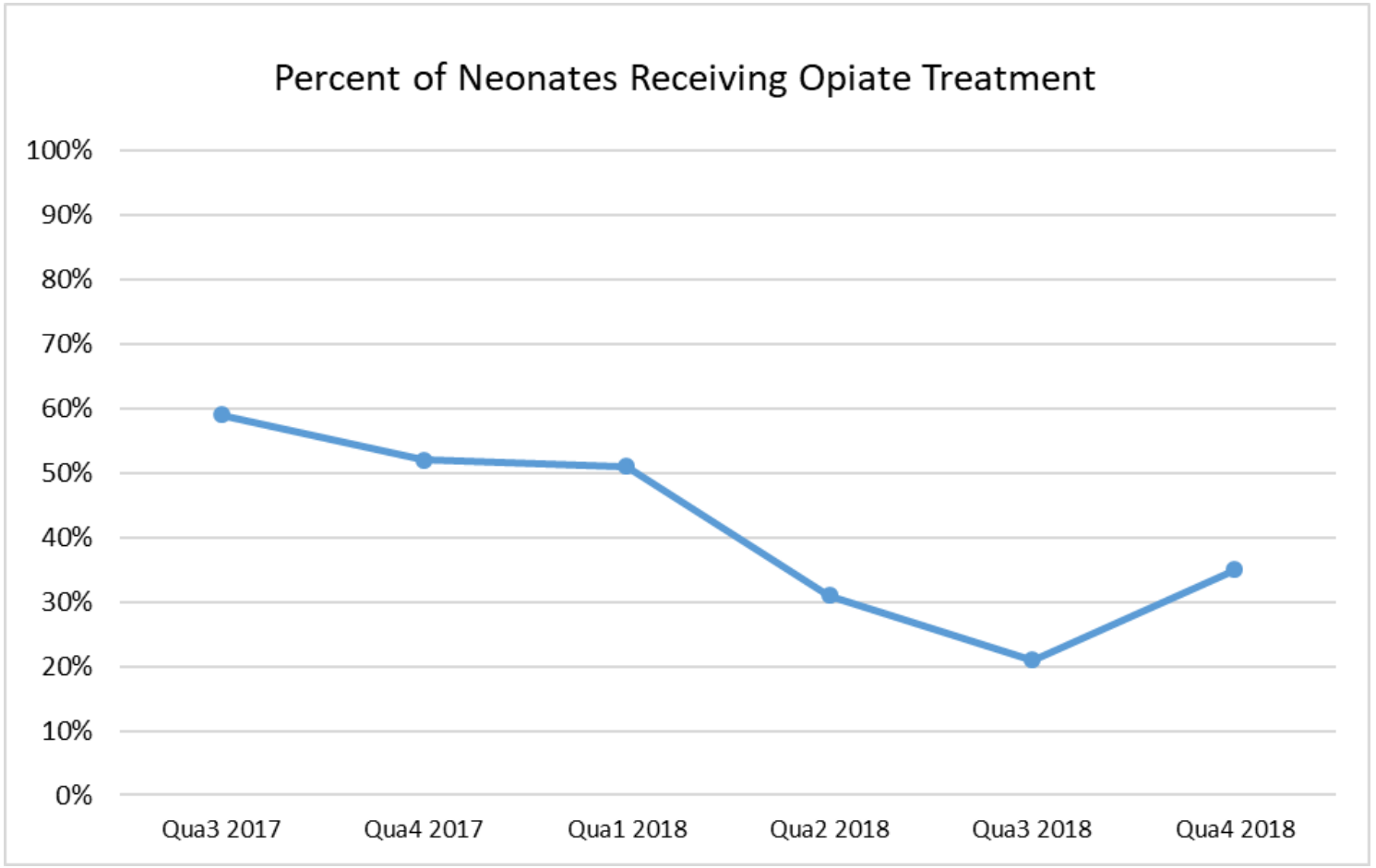

Median Length-of-Stay
14
12
10
8
6
4
2
0
days
10
10
13
6
6
6
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018
Neonates born under 35-0 weeks gestation and neonates transferred to another facility were excluded from the data.

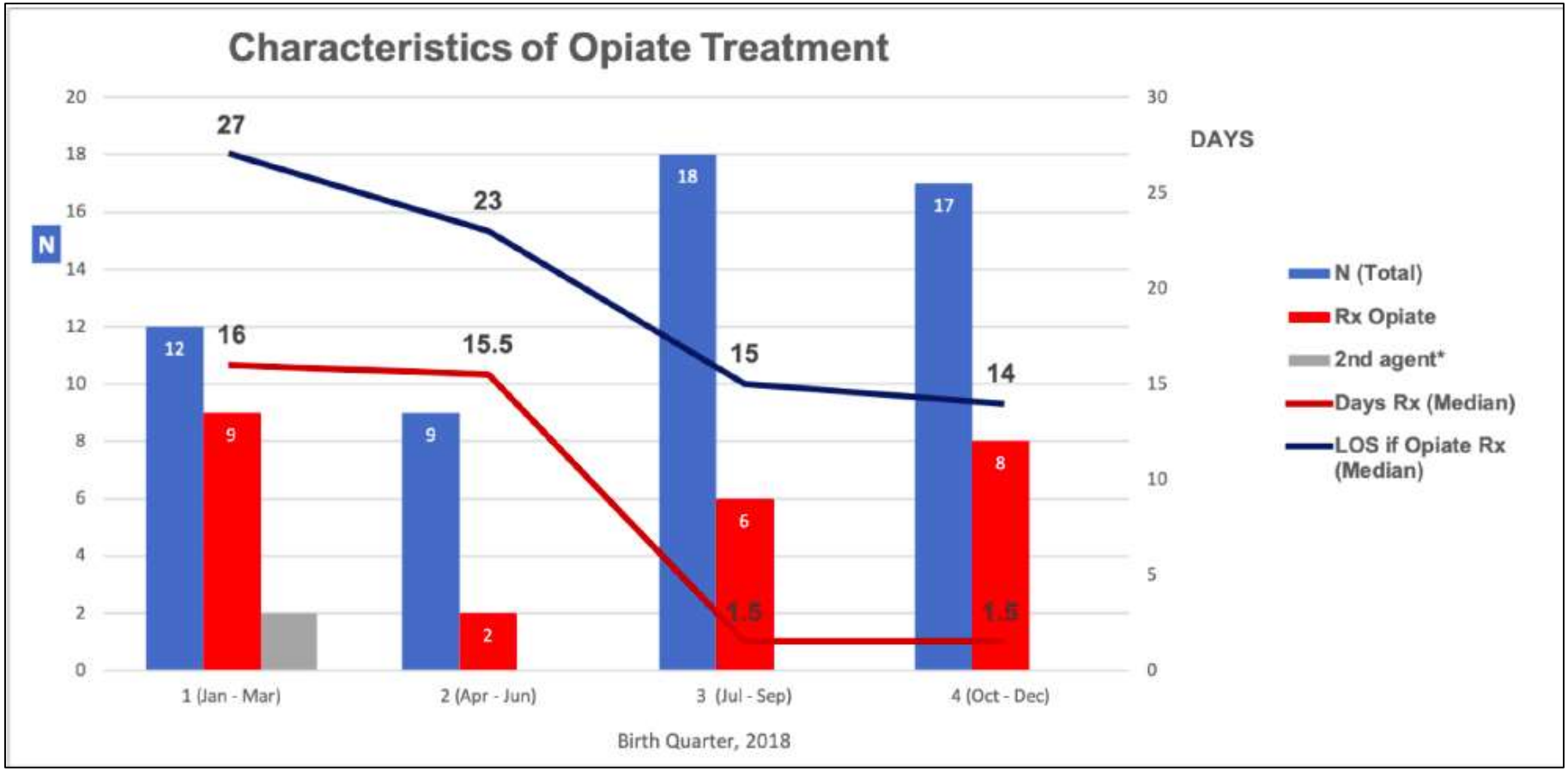
One Colorado Hospital


Percent of Substance-exposed Newborns Who Were Eligible for Mother's Own Milk Based on Hospital's Guidelines
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
44%
39%
49%
31%
51%
47%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018

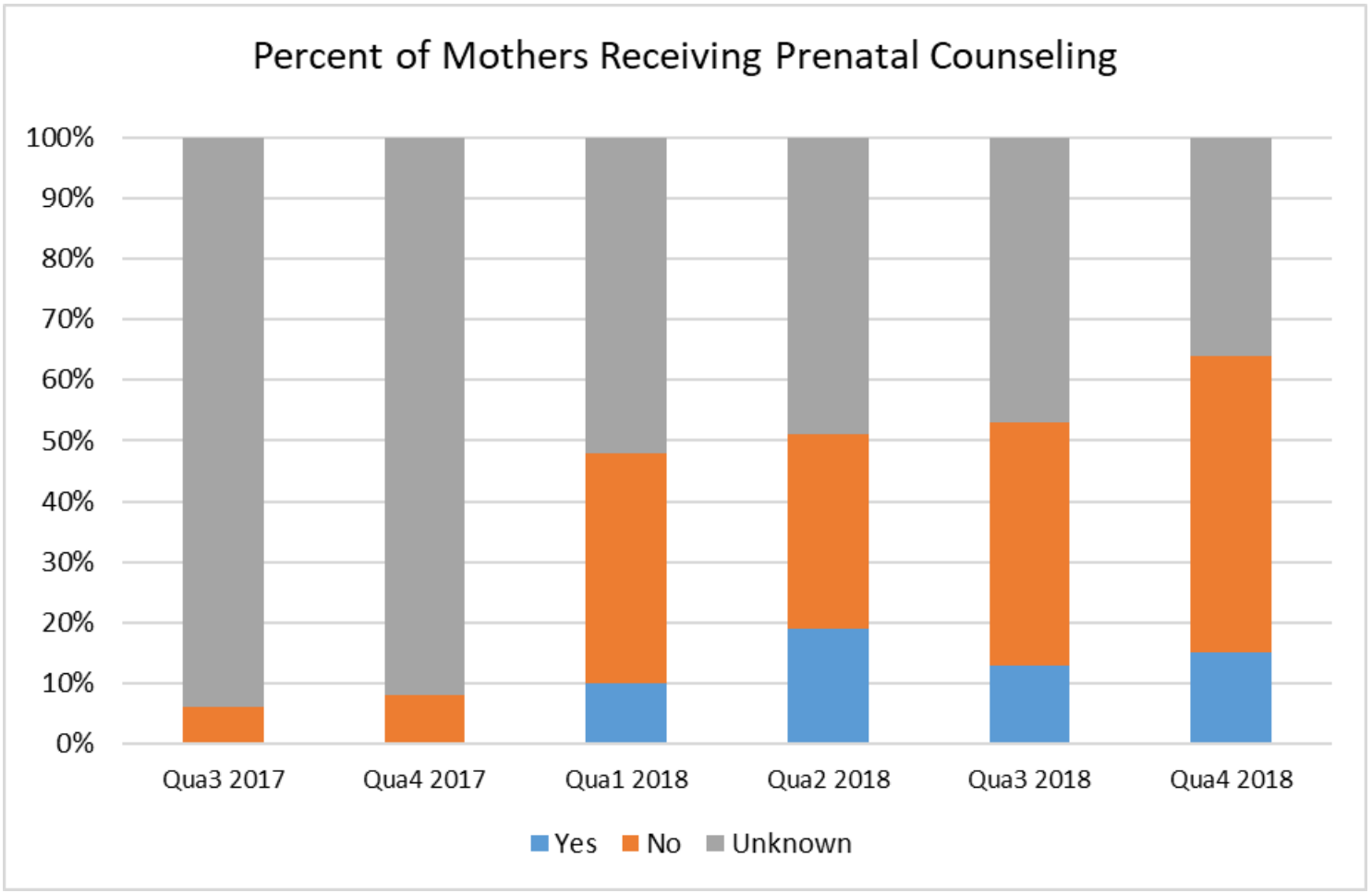

Percent of Substance-exposed Newborns Who Received Mother's Own Milk (MOM) if Eligible
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
88%
78%
86%
73%
89%
83%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018

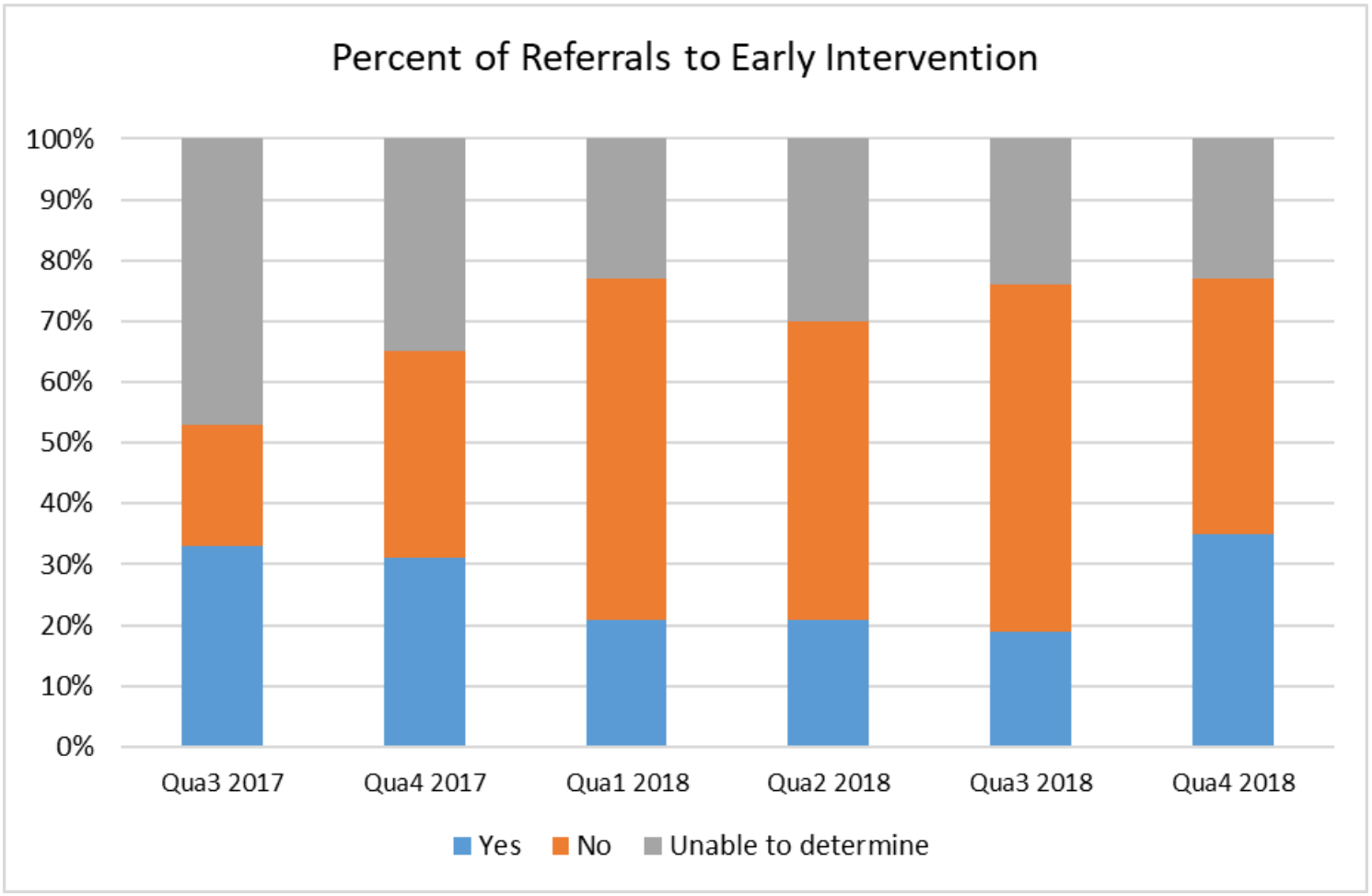

Percent of Neonates Receiving Non-pharmacologic Therapy Prior to Opiate Treatment
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018
Cases were excluded from denominator if use of non-pharm therapy was unknown.
Nearly all cases in Qua1 2018 where non-pharm therapy was not initiated prior to opiate treatment were for one hospital that joined CHoSEN during that quarter.

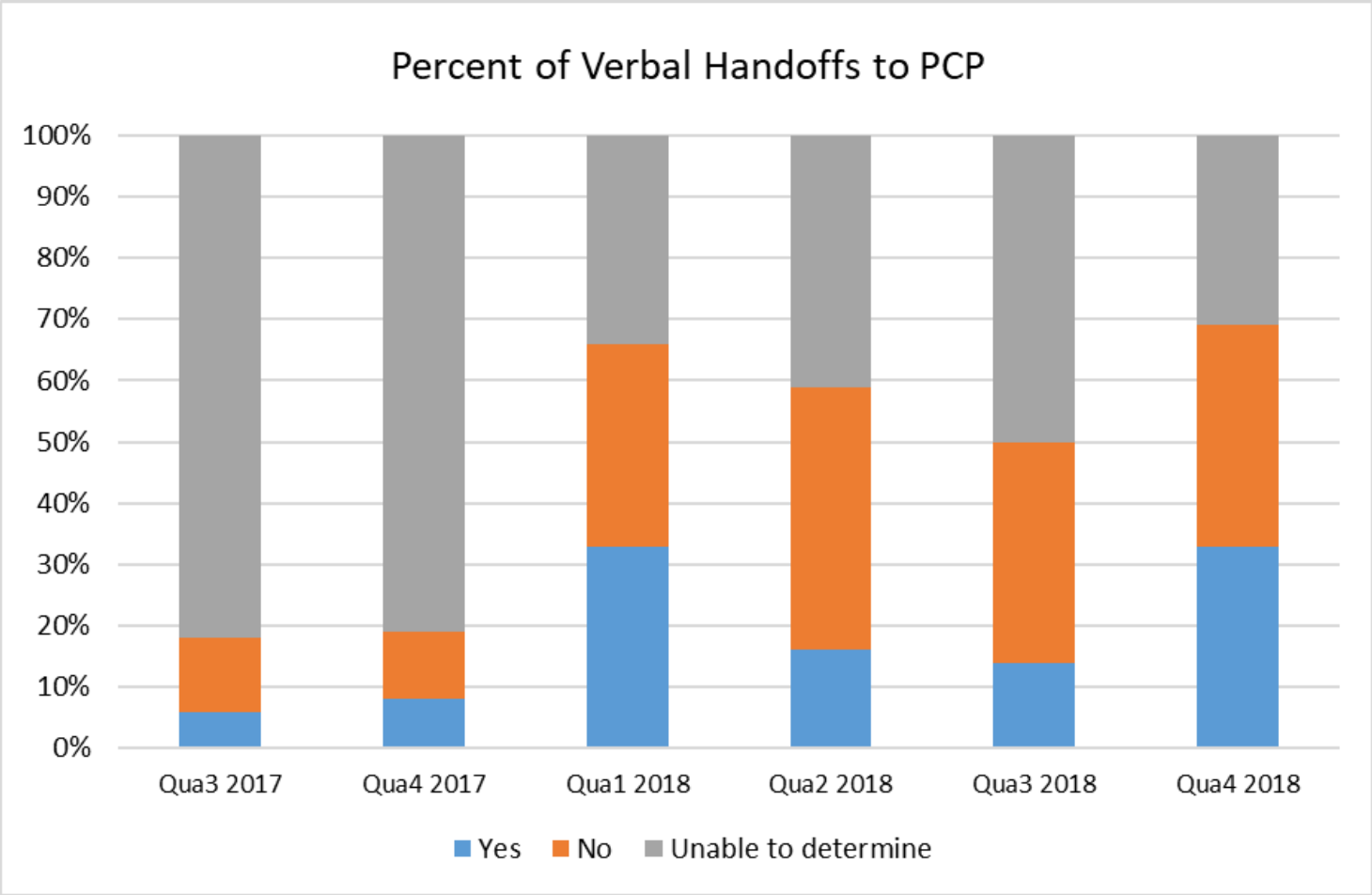

Percent of Neonates Receiving Opiate Treatment
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018



One Colorado Hospital


Percent of Mothers Receiving Prenatal Counseling
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018
Yes
No
Unknown


Percent of Referrals to Early Intervention
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018
Yes
No
Unable to determine


Percent of Verbal Handoffs to PCP
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Qua3 2017
Qua4 2017
Qua1 2018
Qua2 2018
Qua3 2018
Qua4 2018
Yes
No
Unable to determine

Based on the data, what next?

CHoSEN QIC Next Steps

- Move beyond birth hospitalization
  - Focused effort on understanding and improving prenatal counseling of mothers (Parkview Medical Center)
- Qualitative interviews of mothers, hospital staff, and outpatient providers about their experiences in caring for opioid exposed newborns
- Increase hospital participation in CHoSEN QIC within and beyond Colorado

Barriers (or Opportunities)

- Physical and conceptual separation of the maternal-infant dyad
- Lack of linked data systems
  - Mother - Infant
  - Prenatal - Birth Hospitalization – Postnatal Care
  - Hospital care - social service utilization
  - Maternal medical care – Mental health care – SUD Treatment

"Isolation is the Enemy of Improvement."

Acknowledgements

Illuminate Colorado

Jillian Adams

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CPCQC

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Nancy Griffith

Rachel Wright

CHoSEN QIC Steering Committee

Ann Hall

Susan Hwang

Jessica Scott

Danielle Smith

Colleen Wheeler

Erica Wymore

Funders

Colorado Office of the Attorney General

COPIC

Colorado Medicaid UPL

Hospitals
Denver Health
Lutheran Medical Center
McKee Medical Center
Medical Center of the Rockies
Memorial Hospital
North Colorado Medical Center
North Suburban Medical Center
Parkview Medical Center
Parker Adventist
Platte Valley
Poudre Valley
San Luis Valley Health
St. Joseph Hospital
St. Mary's Medical Center
St. Vincent Healthcare
University Hospital
Valley View Hospital

ESC 101: Practical tips for Implementation

Colleen Wheeler, PA-C

CHoSEN QIC Committee Member

February 19, 2019

KEYS TO IMPLEMENTATION

- Team Development
- Hospital support
- Team training
- Monitoring impact

NAS/ESC COMMITTEE

- Multidisciplinary NAS committee
  - Nurses, Physicians, NNPs, pharmacists, social workers, OB providers
- Team champions identified
- Goals
- QI efforts (Smart AIM statement)
- Collaboration
  - Ideally among nurse champions from area hospitals

IDEAL GOALS OF QI EFFORT

- Engage with mothers affected by SUD during prenatal period
- Fully support normal newborn behavior
- Treat less infants with opioids
- Empower families to take care of their infants

TRAINING

- Participate in ESC webinar/attend informational sessions
- Educate ALL staff on ESC methods
  - Create brief PowerPoint/other resources for general information
- Provide training on ESC assessment methods to appropriate providers
  - Bedside nursing, neonatologists and pediatricians caring for infants with NAS

NURSING EDUCATION

- Goal is to train all nurses and providers
- Assign learning modules with training videos followed by case study and quiz (aim for 80% accuracy)
- Give fast talks to explain current practices and rationale for new approach
- Make learning materials widely available

ESC TRAINING VIDEO

- Describes each component of ESC care assessment tool
- Reviews non-pharm care
- Reviews when team huddle is necessary
- Includes case study/quiz

HOSPITAL SYSTEMS/SUPPORT

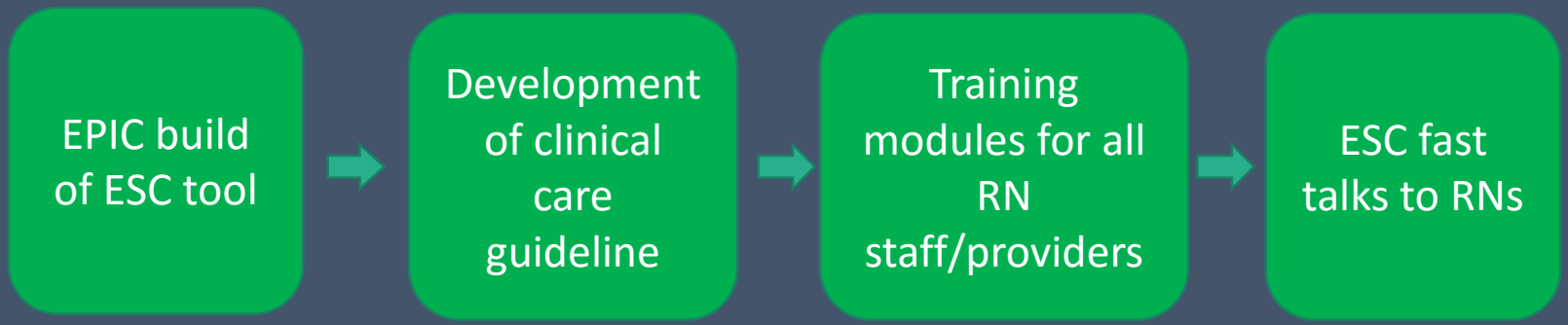
- Team champions obtain support from hospital administration for improving care to families affected by Substance Use Disorder
- Create appropriate system in EMR to allow for ESC documentation
- Modify appropriate policies and guidelines to incorporate ESC assessment
  - Should apply to both well baby nursery and NICU

MONITORING IMPACT

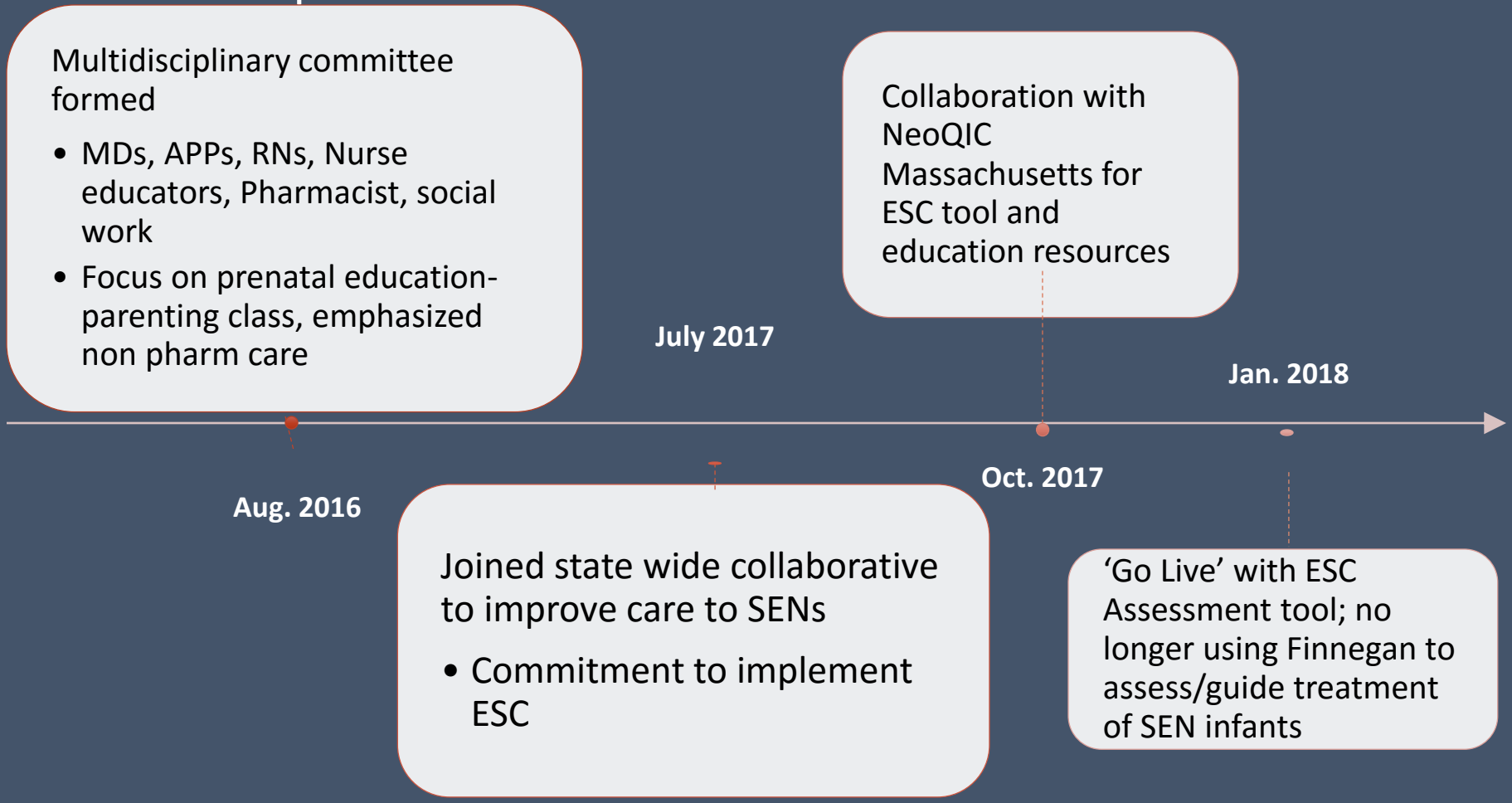
- Data Collection
  - Participate in data system such as Red Cap
  - Include past data if available
- Post implementation survey to all nursing staff/providers
  - Monitor staff preparedness and successes/challenges of ESC at your hospital

IMPLEMENTATION GUIDELINE

- NAS team leads and nurse champions identified
- Collaboration with all well baby/NICU providers, pharmacists, nurse educators
- Allow ~ 6 months for full implementation



ESC Implementation at Denver Health



OTHER CONSIDERATIONS

- Important to emphasize complete culture change
- Important to have ongoing prenatal education emphasizing non-pharm care.
- Where will substance exposed newborns stay??

  NBN? Level II unit? Peds ward?
- Consider use of cuddlers or other caregivers while parents are away
- Perform CQI (e.g. PDSA cycle)

It Takes A Village

A NICU cuddler helps out while parents are away

THANK YOU FOR YOUR ATTENTION

Partnering to Improve Health Care Quality
for Mothers and Babies

USING STANDARDIZED MEASUREMENT TOOLS IN NAS

Maya Balakrishnan & Karen Fugate

Standardized measurement tools

- Assist with data collection

And many more benefits…

- Supports standardization
- Helps communicate current practice
- Ensure practice is easily understood
- Process becomes repetitive and cyclical
- Baseline for improvement

Weaning opportunities

STUDY ID : ___ ___ ___

FPQC Neonatal Abstinence Syndrome (NAS) Initiative Data Collection Sheet

INCLUSION CRITERIA

NAS ☐ Infant w/ NAS signs ☐ Infant req. treatment in the hospital beyond observation period | **Admit type** ☐ Inborn ☐ Transfer in

ON INFANT ADMISSION

DOB | **DOA** | **GA** Weeks Days | **BW** grams

Sex ☐ Male ☐ Female

Type of insurance ☐ Medicaid ☐ Private ☐ Uninsured ☐ Unknown

Enrolled in MAT at delivery ☐ Yes ☐ No ☐ Unknown

Mother's Race ☐ White ☐ Black ☐ Asian ☐ Other: _____ ☐ Unknown

Mother's Ethnicity ☐ Hispanic ☐ Non-Hispanic ☐ Unknown

Barriers to visitation
☐ Incarcerated
☐ Inpatient MAT
☐ Adoption
☐ Foster care
☐ Supervised visits req.
☐ None
☐ Other:

DRUG EXPOSURE

☐ Mom / Infant +ve lab confirmation of opioid ☐ Mom +ve opioid history

Select any of the following if there is a maternal history OR positive maternal lab confirmation OR positive infant lab confirmation

☐ Methadone ☐ Subutex (Buprenorphine) ☐ Suboxone (Buprenorphine/Naloxone) ☐ Other opioid
☐ Benzodiazepine ☐ Barbiturates ☐ PCP ☐ Amphetamines
☐ Cocaine ☐ SSRI ☐ Tobacco ☐ Marijuana
☐ Alcohol ☐ Other:

DURING INFANT ADMISSION

INFANT NUTRITION

MOM contraindicated ☐ Yes ☐ No

MOM DOL 3 ☐ Yes ☐ No ☐ Transferred ≥DOL 3 ☐ Not documented

MOM initial disposition ☐ Yes ☐ No ☐ Not documented

PHARMACOLOGIC TREATMENT

Pharmacologic treatment received ☐ Yes ☐ No

	1st line	2nd line	3rd line	Start date	Stop date
Morphine	☐	☐	☐		
Methadone	☐	☐	☐		
Phenobarbital	☐	☐	☐		
Clonidine	☐	☐	☐		
Other:	☐	☐	☐		

Initiation correct ☐ Yes ☐ No ☐ Prior to admit

First dose correct ☐ Yes ☐ No ☐ Prior to admit

EACH weaning opportunity correct ☐ Yes ☐ No ☐ Documentation inconclusive ☐ No wean before initial disposition

Rooming-in (# of days where a caregiver was present for at least 6 hours per day): _____ days

ON INITIAL DISPOSITION

Discharged when medically cleared ☐ Yes ☐ No

Date medically cleared

Date initial disposition

Reason for delayed discharge ☐ Caregiver related ☐ Hospital related ☐ DCF related ☐ Other:

Initial disposition ☐ Mother ☐ Father/family member ☐ Foster ☐ Adoption ☐ Transfer to another hospital

Safe discharge plan

Caregiver education provided ☐ Safe sleep ☐ Postpartum depression ☐ NAS signs and nonpharmacologic management ☐ Shaken baby syndrome ☐ Expectations of hospital stay

DCF report filed ☐ Yes ☐ No

DCF discharge clearance determined ☐ Yes ☐ No

Pediatrician appointment ☐ Scheduled ☐ Instructed

Discharged outside FL ☐ Yes ☐ No

Outpt. NAS medication ☐ Yes ☐ No

Early Steps Referral ☐ Not offered ☐ Caregiver declined ☐ Referral made

Healthy Start Referral ☐ Not offered ☐ Caregiver declined ☐ Referral made

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FPQC Neonatal Abstinence Syndrome (NAS) Initiative Data Collection Definitions

Collect data on all infants with: 1) NAS signs AND 2) Infant requires treatment (nonpharmacologic or pharmacologic) > observation period

INCLUSION CRITERIA

NAS: Select all options that apply (Mom +ve history, Mom +ve drugs, Infant w/NAS signs, Infant req. treatment)

- **Infant w/NAS signs:** Infant has clinical signs not explained by another etiology (e.g., sepsis, intracranial hemorrhage, hypoglycemia). For details of symptoms, see FPQC NAS Definition algorithm located in the FPQC NAS toolkit.
- **Infant req. treatment:** Infant's severity of signs requires treatment for withdrawal with initial hospitalization for palliative non-pharmacologic care and/or pharmacologic treatment that extends beyond the facility's recommended observation period.

Admit type: Select one option that applies: **Inborn** (NAS infant is born in the hospital completing this data form) or **Transfer in** (NAS infant is transferred to the hospital completing this data form).

ON INFANT ADMISSION

DOB: Infant's date of birth. Collect in MM/DD/YY format.

DOA: Infant's date of admission to the unit managing NAS signs. Collect in MM/DD/YY format.

GA: Infant's birth gestational age. Collect in weeks and days. Infants must be ≥37 0/7 weeks to be included.

BW: Infant's birth weight. Collect in grams.

Type of insurance: Mother's insurance type as documented in the medical record.

MAT: Mother is enrolled in medication-assisted treatment (MAT) at the time of infant's birth.

Race & Ethnicity: Mother's race and ethnicity as documented in the medical record.

Barriers to visitation: Select any barrier that applies at any point in the infant's hospitalization. Mother is **incarcerated,** receiving **inpatient MAT**, **adoption, foster care** placement, or **supervised visits required**. Select and describe any other barriers to visitation that mother may have.

DRUG EXPOSURE

Mom / Infant +ve lab confirmation of opioid: Mom or infant have positive laboratory confirmation of opioid-containing drug(s).

Mom +ve opioid history: Mom has a positive history of recent use of opioid-containing drugs (prescription or illicit).

Select any that apply for the listed drugs (illicit or prescribed) based on maternal report or drug screen (mother, infant).

DURING INFANT ADMISSION

MOM contraindicated: Based on your hospital's policy or guideline, breastfeeding or mother's own milk (MOM) is contraindicated.

MOM DOL 3: Infant received any mother's own milk (MOM) on day of life (DOL) 3. Day of birth is counted as DOL 0. MOM can be provided as expressed breast milk or breastfeeding. Skip this measure if breastfeeding or MOM is contraindicated, mother is incarcerated or inpatient MAT, infant is to be adopted or placed in foster care.

MOM initial disposition: Infant received any mother's own milk (MOM) on initial disposition. Skip this measure if breastfeeding or MOM is contraindicated, mother is incarcerated or inpatient MAT, infant is to be adopted or placed in foster care.

Pharmacologic treatment: If no medication was administered for NAS management, skip this section.

- Check the box if any of the listed medications were administered to the infant for NAS management. Note if the medication was administered as a 1st, 2nd, or 3rd line medication, as well as the start and stop date(s) for each medication. If the infant is discharged on any of the listed medications, the stop date is the discharge date.
- **Initiation correct:** Infant was started on 1st line medication when treatment threshold was met, per your hospital's guideline. If infant was already started on medication prior to transfer to your hospital, select **prior to admit**.
- **1st dose correct:** Infant was started on 1st line medication at the correct dose, per your hospital's guideline. If infant was already started on medication prior to transfer to your hospital, select **prior to admit**.
- **EACH weaning opportunity correct:** Infant met ALL opportunities to be weaned per your hospital's guideline from "capture" to medication discontinuation or initial disposition (whichever comes first). Capture is defined as the time from peak dose of the the last added medication to 1st wean. Skip this measure if initial disposition happens before medication weaning occurs.

Rooming-in: Number of days during infant's hospitalization, when a parent, other caregiver, or hospital "cuddler" visits with the infant for greater than or equal to 6 hours per day. This may occur at the infant's bedside and does not require a private room.

ON INITIAL DISPOSITION

Discharged when medically cleared: Infant was discharged timely after medically cleared for discharge.

Date medically cleared: Date when the infant was medically cleared. Collect in MM/DD/YY.

Reasons for delayed discharge: If the infant was not discharged timely after medically cleared, select the reason related to the delay.

Date of initial disposition: Date of infant's initial disposition. Collect in MM/DD/YY format.

Initial disposition: This is the infant's initial disposition from the hospital completing this form. Select the option that applies.

Discharged outside FL: the infant is being discharged outside the state of Florida.

Outpatient NAS med: An outpatient medication for NAS was prescribed at hospital discharge.

Safe discharge care plan: Select all options that apply: **Education provided** to the caregiver on safe sleep, shaken baby syndrome, postpartum depression, NAS signs and nonpharmacologic techniques, and expectations of hospital stay; **DCF report filed**; **DCF discharge clearance determined**; **Pediatrician appointment made** within 3 business days of infant discharge prior to hospital discharge. **Early Steps referral status** made prior to hospital discharge; **Healthy Start referral status** made prior to hospital discharge.

Weaning opportunities

Weaning Opportunities Documentation Form

	Mon		Tues		Wed		Thurs		Fri		Sat		Sun	
Date (MM/DD/YY)														
Finnegan scores (min-max)														
Wean	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
If WEANED by	20%	25%	20%	25%	20%	25%	20%	25%	20%	25%	20%	25%	20%	25%
If NOT WEANED, why?														

A: Scores too high. **B:** Not gaining weight well. **C:** Physician discomfort. **D:** Nurse discomfort. **E:** Patient discomfort.

After several PDSA cycles...

	Mon		Tues		Wed		Thurs		Fri		Sat		Sun	
Date (MM/DD/YY)														
Finnegan scores (min-max)														
Was Methadone initiation indicated? 2 consecutive scores ≥8 or any score ≥12)	Yes	No N/A	Yes	No N/A	Yes	No N/A	Yes	No N/A	Yes	No N/A	Yes	No N/A	Yes	No N/A
If Methadone indicated and not initiated – please indicate the reason														
Eligible for wean?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Weaned?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
If WEANED by	20%	25%	20%	25%	20%	25%	20%	25%	20%	25%	20%	25%	20%	25%
If NOT WEANED, why?														

Methadone initiation reasons: **1:** Infant easily consoled on my exam **2:** Parental reason **3:** Other – please specify

Weaning responses: **A:** Scores too high **B:** Not gaining weight well **C:** Physician discomfort **D:** Nurse discomfort **E:** Patient discomfort **F:** Not eligible for wean **G:** OTHER – fill in reason

Rooming-in hours

STUDY ID : ___ ___ ___

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ON INFANT ADMISSION

DOB **DOA** **GA** Weeks Days **BW** grams

Sex ☐ Male ☐ Female

Type of insurance ☐ Medicaid ☐ Private ☐ Uninsured ☐ Unknown

Enrolled in MAT at delivery ☐ Yes ☐ No ☐ Unknown

Mother's Race ☐ White ☐ Black ☐ Asian ☐ Other: _____ ☐ Unknown

Mother's Ethnicity ☐ Hispanic ☐ Non-Hispanic ☐ Unknown

Barriers to visitation ☐ Incarcerated ☐ Inpatient MAT ☐ Adoption ☐ Foster care ☐ Supervised visits req. ☐ None ☐ Other:

DRUG EXPOSURE

☐ Mom / Infant +ve lab confirmation of opioid ☐ Mom +ve opioid history

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Rooming-in hours

NAS Project: Rooming-in Data Collection Tool

Record estimated number of hours each shift that parent, any family member or friend, or cuddler spent with baby.

Date							
7A-7P hours							
7P-7A hours							
Total hours							

After several PDSA cycles...

Patient's name _____ Patient's MRN_____

Rooming-in Data Collection Tool

Record the estimated number of hours each shift that the parent, any family member, friend, cuddler, or any other caregiver spent with baby. This can include time outside of holding that they were in the room with the baby.

DATE: _____

7am-7pm Nurse: NICU Staff Nurse OR Float Nurse
7pm-7am Nurse: NICU Staff Nurse OR Float Nurse

SHIFT	PARENT	FAMILY MEMBER	BEDSIDE RN	OT / PT / Speech	CUDDLER	OTHERS
7A-7P						
7P-7A						

FPQC

Florida Perinatal Quality Collaborative

Partnering to Improve Health Care Quality
for Mothers and Babies

Q & A

If you have a question, please enter it in the Question box or Raise your hand to be un-muted.

We can only unmute you if you have dialed your Audio PIN (shown on the GoToWebinar side bar).

Save the Date: April 4-5, Tampa
FPQC 2019 Conference

- Racial/ethnic disparities in maternal mortality & morbidity – Elizabeth Howell, MD, MPP

  Professor of Population Health Sciences & Policy, Obstetrics, Gynecology, and Reproductive Science, & Psychiatry, Mount Sinai Health System

- Parent topic – Lelis Vernon

  NICU Mom, National Network of Perinatal Quality Collaboratives, Patient and Family Centered Care advocate

- Racial/ethnic disparities in NICU care quality – Jochen Profit, MD

  Associate Professor of Pediatrics (Neonatology), Stanford University

- Change Management– Bethany Robertson, DNP, CNM

  Assistant Professor Clinical, Emory University

For More Information, go to www.fpqc.org

THANK YOU!

Technical Assistance:

FPQC@health.usf.edu

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for Mothers and Babies