

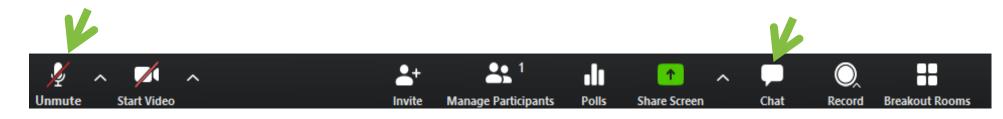
Neonatal Initiatives

Action Period Call February 28th, 2024 <u>12:00</u> – 1:00 PM CT

Welcome



- Please type your name and the organization you represent in the chat box and send to "Everyone."
- Please click on the three dots in the upper right corner of your Zoom image, click "Rename" and put your name and organization.
- Please also do for all those in the room with you viewing the webinar.
- Attendees are <u>automatically</u> muted to reduce background noise.
- You may enter questions/comments in the "chat" box during the presentation. We will have a Q&A session at the end.
- Slides will be available via email and at http://www.alpqc.org/initiatives/nhp
- We will be recording this call to share, along with any slides.



Agenda



Activity	Time
Welcome, Updates, & Reminders	12:00-12:10
Breakout Session	12:10-12:15
Why Hypothermia Matters	12:15-12:30
REDCap Data Entry	12:30-12:40
Q&A	12:40-12:50
NOWS Sustainability Data	12:50-12:55
Next Steps	12:55-1:00





Updates

Updates & Reminders

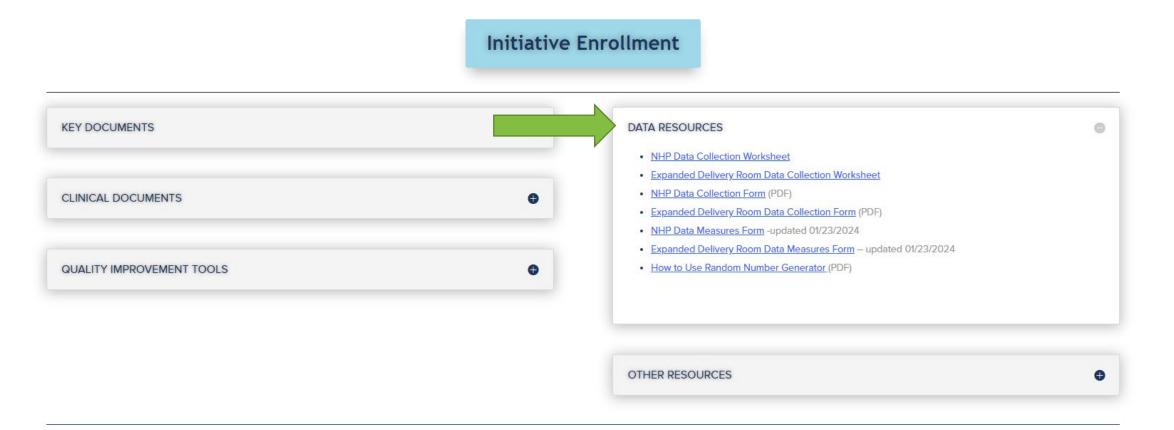


- Enrollment is still open for the neonatal initiatives, see alpqc.org for link to enrollment and additional information
- Baseline data (Dec-Feb) due March 31, 2024
 - Survey sent out on February 14th
 - Surveys to be sent out on the 15th of every month going forward
- Be sure and check out our website for resources and information on data collection as you begin the initiative

Data Resources

www.alpqc.org/initiatives/nhp





NHP Hospital Enrollment

Ascension St. Vincent's	Decatur Morgan Hospital
Brookwood Baptist Health	Helen Keller Hospital
East Alabama Medical Center	USA Providence
Huntsville Hospital Women & Children	Baptist Medical Center East
Madison Hospital	Crestwood Medical Center
Medical West Hospital	Flowers Hospital
Russell Medical	Jackson Hospital
UAB	Grandview Medical Center
USA	DCH Regional Medical Center
Marshall Medical Center North	Northport Medical Center
Marshall Medical Center South	Baptist Medical Center South
Gadsden Regional	Medical Center Enterprise



Breakout Session

Global Aims

To optimize care delivery practices for infants born in the state of Alabama.

SMART Aims

By July 1, 2025, in infants born at 1) Level I-II and 2) Level III+

 Outcome measure: Reduce the proportion of infants that are hypothermic on admission by 20%
 Balancing measure: Maintain the proportion of infants that are hyperthermic at delivery

Population

Infants born at delivery hospitals in the state of Alabama.



Hypothermia Prevention Key Driver Diagram

Readiness: Optimize preparation prior to delivery

Drivers

Management: Optimize support throughout delivery

Debrief: Real time identification of opportunities for improvement

Education: Provide resources to staff, patients, and families.

Interventions

Standardize delivery room temperatures

Checklist of supplies for delivery

Pre-warm radiant warmer to 100%

Use of warm towel to receive baby

Timely application of head cap

Temperature check at 10 min

Complete a debrief form for hypothermic deliveries

In hypothermic infants, check temperature every 10 minutes until normothermic

Systematic dissemination of best care practices to stakeholders

Systematic dissemination of hypothermia prevention performance

Breakout Session – 5 Minutes



- Breakout groups are categorized by level of care.
 - You should be assigned to a specific breakout room. Please see following slide for room assignments
- Please introduce yourselves and share:
 - How are you collecting data for this initiative?
 - IT reports, chart review?
 - Which initial intervention(s) are you considering for hypothermia prevention?
- Please turn on your camera if possible

Breakout Rooms

Room 1: Russell Medical Center Medical Center Enterprise Marshall Medical Center North Marshall Medical Center South USA Providence

Room 2: UAB Med West Flowers Jackson Gadsden Room 3: Madison Helen Keller Decatur Morgan Crestwood

Room 4: UAB Grandview St. Vincent's Brookwood USA Huntsville

<u>Room 5:</u>

DCH Regional Medical Center Northport Baptist East Baptist South EAMC





Why Hypothermia Matters

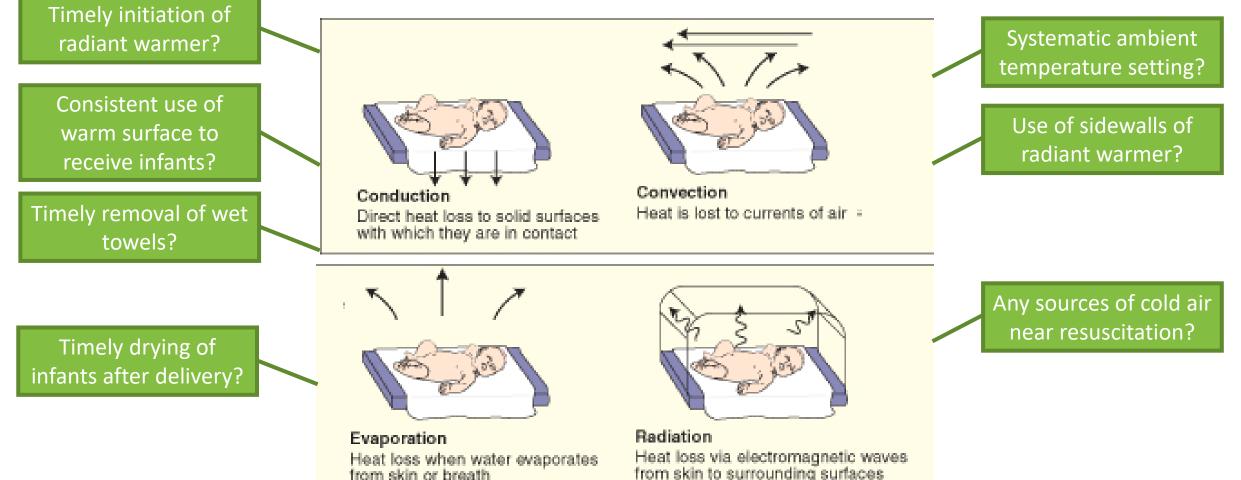
Why Do Babies Get Cold?



Because babies lack protective mechanisms, it is up to us the providers to prevent them from getting cold

How Do Babies Get Cold?

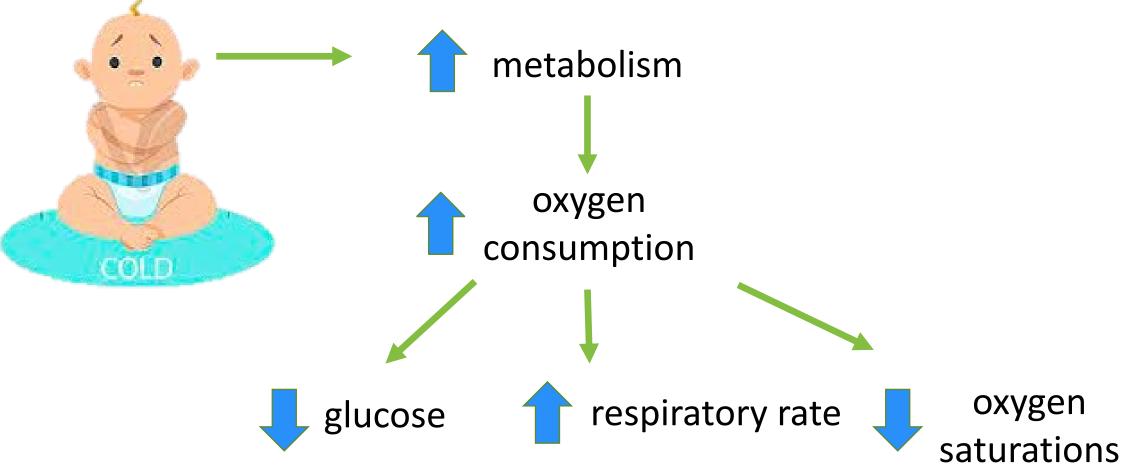




from skin or breath



What Happens When They're Cold



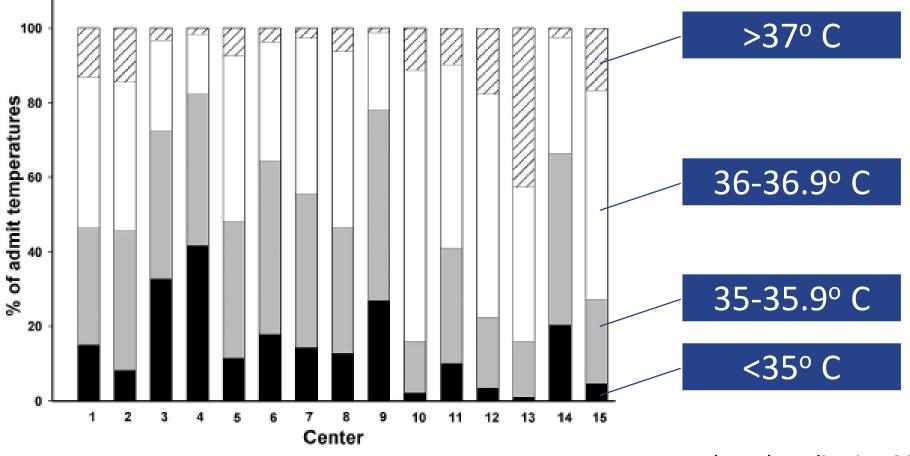
What About in Our Smallest Infants?



- Study within 15 centers of the Neonatal Research Network
- 5277 infants were included with an average gestation of 28 weeks
- Related first admission temperature to neonatal outcomes
- Outcomes:
 - Late onset sepsis
 - Necrotizing enterocolitis
 - Grade III or IV intraventricular hemorrhage
 - Death after 12 hours
- Adjusted for baseline differences using multivariable regressions



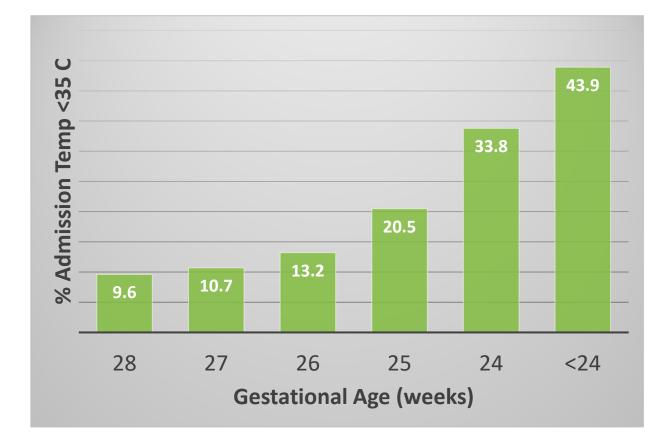
Hypothermia Outcomes by Center



Laptook et al. Pediatrics. 2007



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Laptook et al. Pediatrics. 2007





Admission temperature inversely related to mortality: 28% increase per 1°C

Laptook et al. Pediatrics. 2007





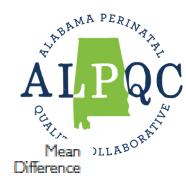
Given that hypothermia impacts infants' outcomes, what are the most evidence based strategies for prevention?



Plastic Wrap in Term Infants

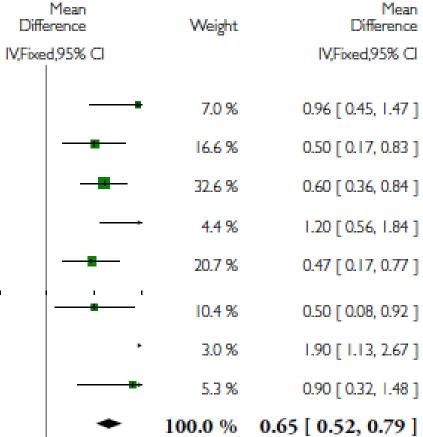
Plas	stic wrap	Rou	tine care	Mean Difference	Weight	Mean Difference
N	Mean(SD)	N	Mean(SD)	Fixed, 95% CI		Fixed, 95% CI
ed weeks' ge	station)					
30	36.5 (0.4)	30	36.2 (0.4)	-+	16.38%	0.3[0.1,0.5]
19	36.5 (0.4)	19	35.7 (0.5)	-+	7.53%	0.8[0.51,1.09]
20	36.6 (0.4)	20	35.6 (0.9)	— , = ,	3.71%	1.02[0.61,1.43]
30	36.4 (0.4)	30	35.6 (0.4)	-+	15.94%	0.75[0.55,0.95]
41	36.5 (0.8)	47	36 (0.8)	+	5.7%	0.5[0.17,0.83]
49	36.5 (0.5)	55	36.1 (0.6)	-+-	13.96%	0.4[0.19,0.61]
404	36.3 (1.5)	397	35.7 (1.9)		11.2%	0.6[0.36,0.84]
50	35.8 (0.8)	60	34.8 (1)	-+	5.52%	1[0.66,1.34]
43	36.3 (0.7)	49	35.8 (0.8)	-+	7.11%	0.47[0.17,0.77]
32	36.4 (0.7)	32	36 (0.8)		4.43%	0.44[0.06,0.82]
32	35.8 (0.9)	32	35.3 (0.8)		3.59%	0.5[0.08,0.92]
27	36.8 (0.6)	32	36.1 (1.2)		3.09%	0.7[0.25,1.15]
27	36.5 (0.8)	26	35.6 (1.3)		- 1.83%	0.9[0.32,1.48]
804		829		•	100%	0.58[0.5,0.66]
.04, df=12(P=0); I ² =58.68%					
P<0.0001)						
	N sed weeks' ge 30 19 20 30 41 49 404 50 43 32 32 32 32 27 27 27 804	N Mean(SD) 30 36.5 (0.4) 19 36.5 (0.4) 30 20 36.6 (0.4) 30 30 36.4 (0.4) 30 41 36.5 (0.8) 36.4 (0.4) 49 36.5 (0.8) 36.3 (1.5) 50 35.8 (0.8) 36.3 (0.7) 32 36.4 (0.7) 32 35.8 (0.9) 27 36.8 (0.6) 27 36.5 (0.8) 36.5 (0.8) 804 36.5 (0.8) 36.5 (0.8)	N Mean(SD) N 30 36.5 (0.4) 30 19 36.5 (0.4) 19 20 36.6 (0.4) 20 30 36.4 (0.4) 30 41 36.5 (0.8) 47 49 36.5 (0.5) 55 404 36.3 (1.5) 397 50 35.8 (0.8) 60 43 36.3 (0.7) 49 32 35.8 (0.8) 60 43 36.3 (0.7) 49 32 35.8 (0.8) 60 43 36.3 (0.7) 32 32 35.8 (0.8) 32 32 35.8 (0.9) 32 32 35.8 (0.9) 32 27 36.5 (0.8) 26 804 829 829	N Mean(SD) N Mean(SD) 30 36.5 (0.4) 30 36.2 (0.4) 19 36.5 (0.4) 19 35.7 (0.5) 20 36.6 (0.4) 20 35.6 (0.9) 30 36.4 (0.4) 30 35.6 (0.4) 41 36.5 (0.8) 47 36 (0.8) 49 36.5 (0.5) 55 36.1 (0.6) 404 36.3 (1.5) 397 35.7 (1.9) 50 35.8 (0.8) 60 34.8 (1) 43 36.3 (0.7) 49 35.8 (0.8) 32 36.4 (0.7) 32 36 (0.8) 32 35.8 (0.9) 32 35.3 (0.8) 32 35.8 (0.9) 32 35.3 (0.8) 32 35.8 (0.8) 26 35.6 (1.3) 304 829 35.4 (0.7) 32	N Mean(SD) N Mean(SD) Fixed, 95% CI red weeks' gestation) 30 $36.5 (0.4)$ 30 $36.2 (0.4)$ + 19 $36.5 (0.4)$ 19 $35.7 (0.5)$ + 20 $36.6 (0.4)$ 20 $35.6 (0.9)$ + 30 $36.4 (0.4)$ 30 $35.6 (0.4)$ + 41 $36.5 (0.5)$ 55 $36.1 (0.6)$ + 49 $36.5 (0.5)$ 55 $36.1 (0.6)$ + 50 $35.8 (0.8)$ 60 $34.8 (1)$ + 43 $36.3 (0.7)$ 49 $35.8 (0.8)$ + 32 $35.4 (0.7)$ 32 $36.0 (0.8)$ + 32 $36.4 (0.7)$ 32 $36.0 (0.8)$ + 32 $35.8 (0.9)$ 32 $35.3 (0.8)$ + 32 $35.6 (0.8)$ 26 $35.6 (1.3)$ + 304 829 + + + $404, df=12(P=0); l^$	N Mean(SD) N Mean(SD) Fixed, 95% CI red weeks' gestation) 30 $36.5 (0.4)$ 30 $36.2 (0.4)$ + 16.38% 19 $36.5 (0.4)$ 19 $35.7 (0.5)$ + 7.53% 20 $36.6 (0.4)$ 20 $35.6 (0.9)$ + 16.38% 30 $36.4 (0.4)$ 30 $35.6 (0.9)$ + 15.94% 41 $36.5 (0.8)$ 47 $36 (0.8)$ + 5.7% 49 $36.5 (0.5)$ 55 $36.1 (0.6)$ + 13.96% 404 $36.3 (0.7)$ 49 $35.8 (0.8)$ 60 $34.8 (1)$ + 11.2% 50 $35.8 (0.8)$ 60 $34.8 (1)$ + 7.11% 32 $36.4 (0.7)$ 32 $36.0.8$ + 3.59% 27 $36.8 (0.6)$ 32 $36.1 (1.2)$ - 3.09% 27 $36.6 (0.8)$ 26 $35.6 (1.3)$ + 1.83%

McCall et al. Cochrane Database Syst Rev. 2018



Plastic Wrap in ELBW Infants

Study or subgroup	Plastic wrap		Routine care					
	N	Mean(SD)	N	Mean(SD)				
2 < 28 completed weeks' gestation								
Farhadi 2012	9	36.56 (0.28)	9	35.6 (0.73)				
Knobel 2005	41	36.5 (0.79)	47	36 (0.79)				
Reilly 2015	404	36.3 (1.53)	397	35.7 (1.86)				
Rohana 2011	16	35.6 (I)	21	34. <mark>4 (</mark> 0.96)				
Smith 2013	43	36.26 <mark>(</mark> 0.68)	49	35.79 (0.77)				
Trevisanuto 2010	32	35.8 (0.9)	32	35.3 (0.8)				
Vohra 1999	8	36.94 (0.56)	10	35.04 (1.08)				
Vohra 2004	27	36.5 (0.8)	26	35.6 (1.3)				
Subtotal (95% CI)	580		591					
Heterogeneity: Chi ² = 17.86 . df = 7 (P = 0.01); $1^2 = 61\%$								



1

Heterogeneity: $Chi^2 = 17.86$, df = 7 (P = 0.01); $I^2 = 61\%$

Test for overall effect: Z = 9.50 (P < 0.00001)

 $3 \ge 28$ completed weeks' gestation



Plastic Bag + Mattress: Temp and Mortality

Study or subgroup		atic bag nattress	Pla	istic bag	Mean Difference	Weight	Mean Difference
	N	Mean(SD)	N	Mean(SD)	Fixed, 95% CI		Fixed, 95% CI
15.1.1 All Infants (< 31 completed	weeks' g	estation)					
Leslie 2007	23	37 (0.9)	24	36.7 (1)		27.41%	0.3[-0.24,0.84]
McCarthy 2013	37	37.4 (0.9)	35	37 (0.5)		72.59%	0.4[0.07,0.73]
Subtotal ***	60		59		-	100%	0.37[0.09,0.66]
Heterogeneity: Tau ² =0; Chi ² =0.09, d	f=1(P=0.7	6); I ² =0%					
Test for overall effect: Z=2.57(P=0.0)	1)						
15.1.2 < 28 completed weeks' ges	tation						
Leslie 2007	23	37 (0.9)	24	36.7 (1)		45.98%	0.3[-0.24,0.84]
McCarthy 2013	15	37.5 (0.9)	14	36.7 (0.4)		54.02%	0.8[0.3,1.3]
Subtotal ***	38		38			100%	0.57[0.2,0.94]
Heterogeneity: Tau ² =0; Chi ² =1.76, d	f=1(P=0.1	9); I ² =43.07%					
Test for overall effect: Z=3.03(P=0)							
15.1.3 28 to 30 completed weeks'	gestatio	n					
McCarthy 2013	22	37.3 (0.9)	21	37.2 (0.6)		100%	0.1[-0.36,0.56]
Subtotal ***	22		21			100%	0.1[-0.36,0.56]
Heterogeneity: Not applicable							
Test for overall effect: Z=0.43(P=0.6	7)						
Test for subgroup differences: ChI ² =	2.48, df=1	L (P=0.29), I ² =19.2	28%				
				Favours [bag]	-1 -0.5 0 0.5	1 Favours [ba	g + mattress]

McCall et al. Cochrane Database Syst Rev. 2018



A standardized implementation of multicenter quality improvement program of very low birth weight newborns could significantly reduce admission hypothermia and improve outcomes

Shu-yu Bi¹, Yong-hui Yu^{1,2*}, Cong Li^{3†}, Ping Xu³, Hai-yan Xu^{4†}, Jia-hui Li⁴, Qiong-yu Liu^{5†}, Min Li⁵, Xin-jian Liu^{6†} and Hui Wang⁶

ORIGINAL ARTICLE

Improvement in thermoregulation outcomes following the implementation of a thermoregulation bundle for preterm infants

Open Access

Tarun S Singh ^{[0, 1,2} Hannah Skelton, ^{1,3} Jane Baird, ¹ Ann-Maree Padernia, ¹ Rajesh Maheshwari, ^{1,2} Dharmesh M Shah, 1,2 Daphne D'Cruz, 1 Melissa Luig1 and Pranav Jani

¹Neonatal Intensive Care Unit, Westmead Hospital, ²Faculty of Medicine and Health, University of Sydney and ³School of Nursing and Midwifery, Western Sydney University, Sydney, New South Wales, Australia

RESEARCH ARTICLE

Quality Improvement Approach to Reducing Admission Hypothermia Among Preterm and Term Infants

Alicia Sprecher, MD,^a Kathryn Malin, RN, MSN, APNP, PhD,^b Deanna Finley, APNP,^b Paula Lembke, BSN, RN,^a Sally Keller, RN,^b Ann Grippe, MSN, RN,^a Genesee Hornung, MSN, RN, CNS, CPNP-PC,^b Nicholas Antos, MD,^a Michael Uhing, MD^a

DOI: 10.1111/apa.16009

REGULAR ARTICLE



A multimodal guality improvement approach to promote normothermia in very preterm infants

Aneurin Young¹ | Fameesh Azeez² | Santan Pawalu Godad² | Preethish Shetty³ Alok Sharma²

The Golden Hour: a quality improvement initiative for extremely premature infants in the neonatal intensive care unit

Sarah E. W. Croop^{1,2} · Suzanne M. Thoyre² · Sofia Aliaga¹ · Martin J. McCaffrey¹ · Sigal Peter-Wohl¹



Quality-Improvement Effort to Reduce Hypothermia Among High-**Risk Infants on a Mother-Infant Unit**

Christine Andrews, MD, MPH,^a Colleen Whatley, MSN, CNS-BC, RNC-OB,^b Meaghan Smith, MSN, RN-BC,^c Emily Caron Brayton, RN, ADN,^b Suzanne Simone, BSN,^b Alison Volpe Holmes, MD, MPH^{a,b}

Reducing Admission Hypothermia in Neonates Born at Less Than 32 Weeks or 1500 g

Milena Frazer, BS-RNC; Amy Ciarlo, BS-RNC; Katherine A. Hinderer, PhD, RN, CCRN-K, CNE; Carrie-Ellen Briere, PhD, RN, CLC

A Quality Improvement Intervention to Decrease Hypothermia in the Delivery Room Using a Checklist

Alexandra Vinci, MD, FAAP*+; Shahidul Islam, MPH, PStat®*+; Lyn Quintos-Alegheband, MD*+; Nazeeh Hanna, MD*+; Amrita Nayak, MD*+

Perinatal quality improvement bundle to decrease hypothermia in extremely low birthweight infants with birth weight less than 1000 g: single-center experience over 6 years

Dilip R Bhatt,¹ Nirupa Reddy,¹ Reynaldo Ruiz,² Darla V Bustos,³ Torria Peacock,¹ Roman-Angelo Dizon,¹ Sunjeeve Weerasinghe,¹ David X Braun,¹ Rangasamy Ramanathan 004



REDCap Data Entry

REDCap Access



- More than 1 person with access to survey is recommended in case of inability of primary person to enter data
 - REDCap only allows us to input one person, but you may send survey to additional people on your team
- Baseline Data form link sent by email
- Reminder email several days before close
 - Baseline due: March 31, 2024
- Issues, change in users, or need to change your response?
 - Email: info@alpqc.org

REDCap Data Entry – Levels 1 and 2

A PERIMA PERIMANA OE HUND COLLABORN	A A A € €
Please complete the survey below of UAB Women & Infa	nts Center.
Thank you!	
Please select the reporting period for which you are ente	ering data.
1. Reporting period	
Year	Month
2023 🗸	December 🗸
Outcome Measure	
O1a. Total number of newborns delivered during Deceml 2023: * must provide value	ber
Process Measures - Vaginal Delivery	/
Monthly. <u>randomly</u> sample* from the birth admission of 10 n cesarean section. Do not include PHI.	newborns delivered vaginally and 10 newborns delivered by
*See "How to use random number Generator" document under t	the "Data Resources" menu at <u>www.alpqc.org/initiatives/nhp</u>
Total number of newborns delivered vaginally at ≥32 weeks gestation	
You should report a random sample of 10 patients, however, if y	<i>rou</i>

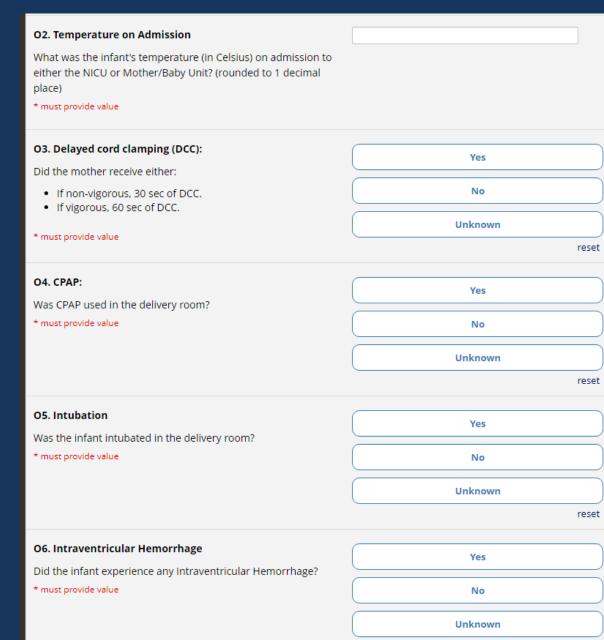
Vaginal Birth -	Patient #1
P1. Patient Race/Ethnicity	
Please select all that apply: * must provide value	
Asian	+ Black/African American
+ Hispanic	+ Multi Racial
Native American	Native Hawaiian/Pacific Islander
+ White	+ Other
Race Not Reported	+ Unknown
P2a. Gestational Age - Weeks What was the gestation age of the infant in weeks? (e.g. 31 weeks) * must provide value	
P2b. Gestational Age - Days What was the gestation age of the infant in days? (e.g. 5 days) * must provide value	
P3. Birth Weight What was the infant's birth weight in grams? * must provide value	
O2. Temperature on Admission What was the infant's temperature (in Celsius) on admission to either the NICU or Mother/Baby Unit? (rounded to 1 decimal place) * must provide value	

REDCap Data Entry – Levels 3 and 4

ALPRIMA PERIMANA OLENTINO COLLABORNIN NHP Monthly Data		A A A € Ξ
Please complete the survey below of UAB Women & Infa	nts Center.	
Thank you!		
Please select the reporting period for which you are ent	ering data.	
1. Reporting period		
Year	Month	
2023 🗸	December 🖌	
Outcome Measure		
O1b. Total number of newborns delivered at less than 3 weeks during December 2023: * must provide value	2	
Process Measures		
Monthly, <u>randomly</u> sample* from the birth admission of 15	newborns. Do not include PHI.	
*See "How to use random number Generator" document under	the "Data Resources" menu at <u>www.alpqc.org/initiatives/</u>	(nhp
Total number of newborns delivered less than 32 weeks du December 2023	ing v	
You should report a random sample of 15 patients, however, if have fewer than 15, please indicate the number of patients bein		

Patient #1				
P1. Patient Race/Ethnicity				
Please select all that apply: * must provide value				
+ Asian	Ð	Black/African American		
Hispanic	Ð	Multi Racial		
Native American	Ð	Native Hawaiian/Pacific Islander		
+ White	Ð	Other		
Race Not Reported	Ð	Unknown		
P2a. Gestational Age - Weeks				
What was the gestation age of the infant in weeks? (e.g. 31 weeks)				
* must provide value				
P2b. Gestational Age - Days				
What was the gestation age of the infant in days? (e.g. 5 day * must provide value	′S)			
* must provide value				
P3. Birth Weight				
What was the infant's birth weight in grams?				
* must provide value				
P4. Mode of delivery		Vaginal		
Vaginal or cesarean section * must provide value		Cesarean section		
must provide value				
		Unknown		

REDCap Data Entry – Levels 3 and 4 (continued)



REDCap Data Entry Comparison

ALEVELS 1 &		A A A ⊉ Ξ	ALPQC Perturn Collaboration	Levels 3 & 4
NHP Monthly Data			NHP Monthly Data	
Please complete the survey below of UAB Women & Infant	s Center.		Please complete the survey below of UAB Women & Inf	ants Center.
Thank you!			Thank you!	
Please select the reporting period for which you are enteri	ng data.		Please select the reporting period for which you are ent	ering data.
1. Reporting period			1. Reporting period	
Year	Month		Year	Month
2023 ~	December 🗸	_	2023 ~	December 🖌
Outcome Measure			Outcome Measure	
O1a. Total number of newborns delivered during December 2023: * must provide value	er		O1b. Total number of newborns delivered at less than 3 weeks during December 2023: * must provide value	2
Process Measures - Vaginal Delivery			Process Measures	
Monthly, <u>randomly</u> sample* from the birth admission of 10 new cesarean section. Do not include PHI.	wborns delivered vaginally and 10 newborns deliver	ed by	Monthly, <u>randomly</u> sample* from the birth admission of 15	
*See "How to use random number Generator" document under th	e "Data Resources" menu at www.alpac.org/initiatives/	nhp	*See "How to use random number Generator" document under	r the "Data Resources" menu at <u>www.alpqc.org/initiatives/nhp</u>
Total number of newborns delivered vaginally at ≥32 weeks' gestation	v		Total number of newborns delivered less than 32 weeks du December 2023	ring
You should report a random sample of 10 patients, however, if you	u		You should report a random sample of 15 patients, however, if have fewer than 15, please indicate the number of patients bei	

AAA • •





Please feel free to **unmute** and ask questions

You may also enter comments or questions in the "chat" box

Reminders



- Please enroll in the Neonatal Hypothermia Prevention Initiative if you have not already done so.
 - Enrollment form can be found at <u>www.alpqc.org/nhp</u>
- Remember to register for monthly Action Period Calls via Zoom
 - Action Period calls will take place on the 4th Wednesday of every month at 12pm
- Please register for your monthly 1:1 calls with ALPQC Quality RN
 - Requests went out at the beginning of the month
- Next NOWS Sustainability reporting will be due <u>April 30th</u> for Jan-Mar 2024
 - Please enter your Oct-Dec sustainability data if you have not done so already



NOWS Sustainability Data

October-December 2023

ALPQC NOWS Sustainability Data Dashboard

Measures	Initiative Average (April '22-Oct '23)	Sustainability Phase (Oct-Dec '23)
1 – Referred to addiction services (%yes)	39.29%	38.18%
2 – Narcan Counselling Documented (%yes)	35.53%	40.00%
3 – Days old at Discharge- Length of stay (days)	12.79	12.29
4 –Collaborative Discharge Plan completed (%yes)	89.88%	94.55%
*still missing data from 5 hospitals in the initiative		

Stay Connected!



Website: http://www.alpqc.org

> Email: info@alpqc.org

Twitter: @alpqc https://twitter.com/alpqc

Next Meeting



Wednesday, March 27th at 12pm





Thank you for all your hard work!! We will see you next month!