

SUPPLEMENTAL DIGITAL CONTENT**Association of labor neuraxial analgesia with maternal blood transfusion.**

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Supplemental Table 1	Conditions and procedures used to identify intrapartum cesarean deliveries
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This supplementary material has been provided by the authors to give readers additional information about their work.

Supplemental Table 1: Conditions and procedures used to identify intrapartum cesarean deliveries (n = 2,532,011). Conditions and procedures are not mutually exclusive.

	Count (%)
Antibiotics received by the mother during labor	1,649,669 (65.1%)
Trial of labor attempted if previous cesarean delivery (missing = 1,025)	1,225,924 (48.7%)
Induction of labor (missing = 477)	747,949 (29.5%)
Augmentation of labor	469,013 (18.5%)
Clinical chorioamnionitis diagnosed during labor or maternal temperature >38°C	87,774 (3.5%)

Supplemental Table 2: Variables included in the propensity score to estimate the individual probability of receiving labor neuraxial analgesia. The delivery mode (vaginal or intrapartum cesarean delivery) was not included in the propensity score. The propensity score was estimated for each year of the study period using a fixed-effect logistic regression with the hospital state identifier as a fixed effect. A complete case analysis was performed with 968,635 discharges excluded or 7.7%.

		Number of missing values
	<i>General characteristics</i>	
1	Age	0
2	Race or ethnicity	0
3	Education level	101,439
4	Health insurance	71,467
5	Body mass index	315,036
	<i>Residence county characteristics</i>	
6	Core base statistical area classification	1888
7	Percent persons in poverty	1888
8	Percent unemployed	1888
	<i>Comorbidities</i>	
9	Preexisting diabetes	0
10	Gestational diabetes	0
11	Preexisting hypertension	0
12	Gestational hypertension	0
	<i>Pregnancy, labor, and delivery</i>	
13	Previous cesarean section	0
14	Month prenatal care began	341,841
15	Number of prenatal visits	330,752
16	Delivery during a weekend	0
17	Mother transferred in	3739
18	Nulliparous	52,875
19	Gestational age at delivery	5688
20	Multiple gestation	0
21	Non-cephalic presentation	67,874
22	Induction of labor	2138
23	Augmentation of labor	0
24	Antibiotics during labor	0
25	Chorioamnionitis	0
26	Attendant at birth	4179
27	Birth weight	8648
	<i>Hospital county characteristics</i>	
28	Core base statistical area classification	897
29	Number of in-hospital births	897
30	Number of physician anesthesiologists	68,099
31	Number of certified registered nurse anesthetists	68,099
32	Number of obstetricians and gynecologists	68,099
	<i>Other</i>	
33	Hospital state identifier	0

Supplemental Table 3: Comparison of the hospital state of delivery between women who received and women who did not receive labor neuraxial analgesia, before and after propensity-score matching (United States, 2015-2018).

	Before matching (Absolute standardized difference = 34.0%)			After matching (Absolute standardized difference = 103.2%)		
	All women n = 12,503,042	No labor neuraxial analgesia n= 3,023,751	Labor neuraxial analgesia n=9,479,291	All women n = 5,178,986	No labor neuraxial Analgesia n = 2,589,493	Labor neuraxial Analgesia n = 2,589,493
AK	33,507 (0.3%)	16,201 (0.5%)	17,306 (0.2%)	26,085 (0.5%)	10,225 (0.4%)	15,860 (0.6%)
AL	180,219 (1.4%)	25,143 (0.8%)	155,076 (1.6%)	170,664 (3.3%)	23,424 (0.9%)	147,240 (5.7%)
AR	113,947 (0.9%)	29,811 (1.0%)	84,136 (0.9%)	92,520 (1.8%)	20,442 (0.8%)	72,078 (2.8%)
AZ	291,815 (2.3%)	62,148 (2.1%)	229,667 (2.4%)	263,618 (5.1%)	57,338 (2.2%)	206,280 (8.0%)
CA	1,517,621 (12.1%)	504,694 (16.7%)	1,012,927 (10.7%)	1,229,763 (23.7%)	415,870 (16.1%)	813,893 (31.4%)
CO	221,297 (1.8%)	56,682 (1.9%)	164,615 (1.7%)	160,593 (3.1%)	49,898 (1.9%)	110,695 (4.3%)
CT	84,102 (0.7%)	22,920 (0.8%)	61,182 (0.6%)	60,511 (1.2%)	20,903 (0.8%)	39,608 (1.5%)
DC	28,368 (0.2%)	10,501 (0.3%)	17,867 (0.2%)	20,979 (0.4%)	8390 (0.3%)	12,589 (0.5%)
DE	36,301 (0.3%)	14,007 (0.5%)	22,294 (0.2%)	29,400 (0.6%)	11,533 (0.4%)	17,867 (0.7%)
FL	690,107 (5.5%)	173,413 (5.7%)	516,694 (5.5%)	413,330 (8.0%)	142,715 (5.5%)	270,615 (10.5%)
GA	410,520 (3.3%)	90,116 (3.0%)	320,404 (3.4%)	197,054 (3.8%)	77,238 (3.0%)	119,816 (4.6%)
HI	60,895 (0.5%)	16,822 (0.6%)	44,073 (0.5%)	31,771 (0.6%)	13,542 (0.5%)	18,229 (0.7%)
IA	118,138 (0.9%)	40,068 (1.3%)	78,070 (0.8%)	84,023 (1.6%)	35,031 (1.4%)	48,992 (1.9%)
ID	72,968 (0.6%)	17,342 (0.6%)	55,626 (0.6%)	37,233 (0.7%)	16,189 (0.6%)	21,044 (0.8%)
IL	478,545 (3.8%)	122,027 (4.0%)	356,518 (3.8%)	217,895 (4.2%)	103,849 (4.0%)	114,046 (4.4%)
IN	273,742 (2.2%)	62,096 (2.1%)	211,646 (2.2%)	107,110 (2.1%)	57,926 (2.2%)	49,184 (1.9%)
KS	121,453 (1.0%)	23,840 (0.8%)	97,613 (1.0%)	40,136 (0.8%)	22,857 (0.9%)	17,279 (0.7%)
KY	170,256 (1.4%)	31,913 (1.1%)	138,343 (1.5%)	47,031 (0.9%)	28,281 (1.1%)	18,750 (0.7%)
LA	196,072 (1.6%)	29,529 (1.0%)	166,543 (1.8%)	36,976 (0.7%)	26,263 (1.0%)	10,713 (0.4%)
MA	227,397 (1.8%)	56,721 (1.9%)	170,676 (1.8%)	93,641 (1.8%)	50,088 (1.9%)	43,553 (1.7%)
MD	212,579 (1.7%)	51,048 (1.7%)	161,531 (1.7%)	72,179 (1.4%)	42,419 (1.6%)	29,760 (1.1%)
ME	39,934 (0.3%)	18,393 (0.6%)	215,41 (0.2%)	25,855 (0.5%)	13,692 (0.5%)	12,163 (0.5%)
MI	372,268 (3.0%)	105,101 (3.5%)	267,167 (2.8%)	155,883 (3.0%)	91,885 (3.5%)	63,998 (2.5%)
MN	219,627 (1.8%)	72,741 (2.4%)	146,886 (1.5%)	110,583 (2.1%)	62,518 (2.4%)	48,065 (1.9%)
MO	244,433 (2.0%)	45,029 (1.5%)	199,404 (2.1%)	47,301 (0.9%)	36,714 (1.4%)	10,587 (0.4%)

Supplemental Table 3 (continued)

	Before matching (Absolute standardized difference = 34.0%)			After matching (Absolute standardized difference = 103.2%)		
	All women n = 12,503,042	No labor neuraxial analgesia n= 3,023,751	Labor neuraxial analgesia n=9,479,291	All women n = 5,178,986	No labor neuraxial Analgesia n = 2,589,493	Labor neuraxial Analgesia n = 2,589,493
MS	104,197 (0.8%)	37,519 (1.2%)	66,678 (0.7%)	56,849 (1.1%)	31,847 (1.2%)	25,002 (1.0%)
MT	39,162 (0.3%)	9796 (0.3%)	29,366 (0.3%)	13,704 (0.3%)	9105 (0.4%)	4599 (0.2%)
NC	404,610 (3.2%)	104,969 (3.5%)	299,641 (3.2%)	140,554 (2.7%)	93,645 (3.6%)	46,909 (1.8%)
ND	35,748 (0.3%)	9049 (0.3%)	26,699 (0.3%)	10,968 (0.2%)	7702 (0.3%)	3266 (0.1%)
NE	86,893 (0.7%)	18,705 (0.6%)	68,188 (0.7%)	22,126 (0.4%)	16,892 (0.7%)	5234 (0.2%)
NH	36,158 (0.3%)	13,092 (0.4%)	23,066 (0.2%)	16,871 (0.3%)	10,548 (0.4%)	6323 (0.2%)
NJ	290,274 (2.3%)	70,141 (2.3%)	220,133 (2.3%)	84,671 (1.6%)	63,819 (2.5%)	20,852 (0.8%)
NM	78,041 (0.6%)	30,177 (1.0%)	47,864 (0.5%)	35,860 (0.7%)	21,818 (0.8%)	14,042 (0.5%)
NV	111,224 (0.9%)	23,854 (0.8%)	87,370 (0.9%)	25,912 (0.5%)	21,225 (0.8%)	4687 (0.2%)
NY	771,040 (6.2%)	119,760 (4.0%)	651,280 (6.9%)	121,149 (2.3%)	108,844 (4.2%)	12,305 (0.5%)
OH	487,498 (3.9%)	92,663 (3.1%)	394,835 (4.2%)	97,249 (1.9%)	85,266 (3.3%)	11,983 (0.5%)
OK	169,668 (1.4%)	30,460 (1.0%)	139,208 (1.5%)	31,446 (0.6%)	27,903 (1.1%)	3543 (0.1%)
OR	139,864 (1.1%)	44,646 (1.5%)	95,218 (1.0%)	56,977 (1.1%)	39,122 (1.5%)	17,855 (0.7%)
PA	444,640 (3.6%)	110,119 (3.6%)	33,4521 (3.5%)	103,821 (2.0%)	87,299 (3.4%)	16,522 (0.6%)
RI	33,523 (0.3%)	7235 (0.2%)	26,288 (0.3%)	5180 (0.1%)	4208 (0.2%)	972 (<0.1%)
SC	177,837 (1.4%)	27,088 (0.9%)	150,749 (1.6%)	26,751 (0.5%)	25,107 (1.0%)	1644 (0.1%)
SD	41,393 (0.3%)	15,675 (0.5%)	25,718 (0.3%)	18,794 (0.4%)	12,475 (0.5%)	6319 (0.2%)
TN	276,370 (2.2%)	49,327 (1.6%)	227,043 (2.4%)	39,803 (0.8%)	36,938 (1.4%)	2865 (0.1%)
TX	126,2516 (10.1%)	253,126 (8.4%)	1,009,390 (10.6%)	264,295 (5.1%)	240,641 (9.3%)	23,654 (0.9%)
UT	171,465 (1.4%)	22,749 (0.8%)	148,716 (1.6%)	20,889 (0.4%)	20,615 (0.8%)	274 (<0.1%)
VA	315,208 (2.5%)	69,943 (2.3%)	245,265 (2.6%)	52,614 (1.0%)	48,543 (1.9%)	4071 (0.2%)
VT	17,018 (0.1%)	6852 (0.2%)	10,166 (0.1%)	7288 (0.1%)	5137 (0.2%)	2151 (0.1%)
WA	288,306 (2.3%)	78,638 (2.6%)	209,668 (2.2%)	74,960 (1.4%)	63,591 (2.5%)	11,369 (0.4%)
WI	228,948 (1.8%)	64,798 (2.1%)	164,150 (1.7%)	63,034 (1.2%)	54,199 (2.1%)	8835 (0.3%)
WV	54,434 (0.4%)	9506 (0.3%)	44,928 (0.5%)	9057 (0.2%)	8562 (0.3%)	495 (<0.1%)
WY	20,896 (0.2%)	5558 (0.2%)	15,338 (0.2%)	6030 (0.1%)	5212 (0.2%)	818 (<0.1%)

Supplemental Table 4: Univariate comparison before and after inverse propensity-score weighting (United States, 2015-2018). Weights are stabilized and truncated at 1% and 99%.

	Before weighting			After weighting			
	Missing	No labor neuraxial analgesia n = 3,023,751	Neuraxial analgesia n = 9,479,291	Absolute standardized difference	No labor neuraxial analgesia n = 2,626,611	Neuraxial analgesia n = 8,796,641	Absolute standardized difference
<i>General characteristics</i>							
Age (year)	0			3.4%			1.1%
≤ 19		165,113 (5.5%)	579,733 (6.1%)		159,137 (6.1%)	521,137 (5.9%)	
20-29		1,525,142 (50.4%)	4,834,847 (51.0%)		1,347,466 (51.3%)	4,479,409 (50.9%)	
30-39		1,246,573 (41.2%)	3,808,509 (40.2%)		1,048,598 (39.9%)	3,556,835 (40.4%)	
≥ 40		86,923 (2.9%)	256,202 (2.7%)		71,409 (2.7%)	239,260 (2.7%)	
Race or ethnicity	0			20.6%			1.6%
White		1,378,413 (45.6%)	5,128,373 (54.1%)		1,368,268 (52.1%)	4,622,995 (52.6%)	
Black		447,217 (14.8%)	1,354,148 (14.3%)		373,199 (14.2%)	123,5291 (14.0%)	
Hispanic		897,500 (29.7%)	2,074,383 (21.9%)		633,732 (24.1%)	2,082,304 (23.7%)	
Asian and Pacific Islander		200,404 (6.6%)	650,659 (6.9%)		172,000 (6.5%)	596,422 (6.8%)	
Native American		37,384 (1.2%)	62,602 (0.7%)		21,543 (0.8%)	67,504 (0.8%)	
More than one race		62,833 (2.1%)	209,126 (2.2%)		57,867 (2.2%)	192,125 (2.2%)	
Education level	101,439			23.8%			2.2%
Less than high school		177,715 (5.9%)	216,920 (2.3%)		85,248 (3.2%)	265,753 (3.0%)	
High-school with no diploma		383,634 (12.8%)	916,568 (9.7%)		279,686 (10.6%)	909,999 (10.3%)	
High school graduate or general educational diploma		817,835 (27.3%)	2,374,954 (25.2%)		684,826 (26.1%)	2,252,811 (25.6%)	
College and higher		1,611,188 (53.9%)	5,902,789 (62.7%)		1,576,850 (60.0%)	5,368,078 (61.0%)	
Health insurance	71,467			20.8%			2.3%
Medicaid		1,462,514 (48.7%)	3,946,677 (41.9%)		1,157,816 (44.1%)	3,797,272 (43.2%)	
Private		1,263,737 (42.1%)	4,854,450 (51.5%)		1,275,208 (48.5%)	4,372,659 (49.7%)	
Self-pay (uninsured)		154,252 (5.1%)	267,327 (2.8%)		89,076 (3.4%)	286,316 (3.3%)	
Other		121,681 (4.1%)	360,937 (3.8%)		104,510 (4.0%)	340,394 (3.9%)	
Body mass index (kg/m ²)	315,036			7.8%			<0.1%
≤ 18.4		112,902 (3.9%)	325,944 (3.5%)		96,041 (3.7%)	314,653 (3.6%)	
18.5-24.9		1,361,675 (46.5%)	4,109,496 (44.4%)		1,179,881 (44.9%)	3,944,283 (44.8%)	
25.0-29.9		773,205 (26.4%)	2,416,486 (26.1%)		684,884 (26.1%)	2,301,473 (26.2%)	
30.0-34.9		396,969 (13.6%)	1,323,496 (14.3%)		370,508 (14.1%)	1,243,831 (14.1%)	
≥ 35		280,976 (9.6%)	1,086,857 (11.7%)		295,296 (11.2%)	992,401 (11.3%)	
<i>County of residence</i>							
Core base statistical area classification (a)	1888			9.2%			2.2%
Metropolitan		2,556,456 (84.6%)	8,315,894 (87.7%)		2,257,009 (85.9%)	7,624,253 (86.7%)	
Micropolitan		287,815 (9.5%)	731,251 (7.7%)		231,858 (8.8%)	738,511 (8.4%)	
Non-metropolitan and non-micropolitan		178,173 (5.9%)	431,565 (4.6%)		137,744 (5.2%)	433,877 (4.9%)	
Percent persons in poverty (a)	1888	14.6 (1 sd, 5.2)	14.3 (1 sd, 5.1)	5.8%	14.4 (1 sd, 5.1)	14.3 (1 sd, 5.2)	1.4%
Percent unemployed (a)	1888	5.1 (1 sd, 1.7)	4.8 (1 sd, 1.4)	14.0%	4.9 (1 sd, 1.5)	4.9 (1 sd, 1.5)	2.8%
<i>Comorbidities</i>							
Preexisting diabetes	0	17,297 (0.6%)	78,234 (0.8%)	3.0%	19,838 (0.8%)	67,067 (0.8%)	<0.1%
Gestational diabetes	0	155,631 (5.1%)	589,522 (6.2%)	4.6%	157,272 (6.0%)	530,150 (6.0%)	<0.1%
Preexisting hypertension	0	35620 (1.2%)	175,708 (1.9%)	5.5%	43,745 (1.7%)	148,675 (1.7%)	<0.1%
Gestational hypertension	0	118727 (3.9%)	661,735 (7.0%)	13.5%	162,254 (6.2%)	556,514 (6.3%)	<0.1%

Supplemental Table 4 (continued)

	Before weighting				After weighting		
	Missing	No labor neuraxial analgesia n = 3,023,751	Neuraxial analgesia n = 9,479,291	Absolute standardized difference	No labor neuraxial analgesia n = 2,626,611	Neuraxial analgesia n = 8,796,641	Absolute standardized difference
<i>Pregnancy, labor, and delivery</i>							
Previous cesarean section	0	139,116 (4.6%)	909,325 (9.6%)	19.5%	199,215 (7.6%)	735,414 (8.4%)	2.9%
Month prenatal care began	341,841			13.7%			1.3%
1 st -3 rd		2,150,999 (73.6%)	7,259,086 (78.6%)		2,027,256 (77.2%)	6,838,307 (77.7%)	
4 th -6 th		543,708 (18.6%)	1,470,546 (15.9%)		443,806 (16.9%)	1,452,171 (16.5%)	
≥ 7 th		148,467 (5.1%)	394,142 (4.3%)		117,506 (4.5%)	383,063 (4.4%)	
No prenatal care		77,462 (2.7%)	116,791 (1.3%)		38,042 (1.4%)	123,100 (1.4%)	
Number of prenatal visits	330,752	10.8 (1 sd, 4.2)	11.5 (1 sd, 4.0)	16.5%	11.3 (1 sd, 4.1)	11.4 (1 sd, 4.0)	1.5%
Delivery during a weekend	0	842,057 (27.8%)	2,570,093 (27.1%)	1.6%	716,830 (27.3%)	2,394,224 (27.2%)	<0.1%
Mother transferred in	3739	16,897 (0.6%)	40,378 (0.4%)	1.9%	11,916 (0.5%)	36,735 (0.4%)	<0.1%
Nulliparous	52,875	770,847 (25.6%)	3,442,982 (36.5%)	23.6%	854,639 (32.5%)	2,981,218 (33.9%)	2.9%
Gestational age at delivery	5688			7.0%			1.1%
≤ 33 weeks		111,692 (3.7%)	241,749 (2.6%)		74,103 (2.8%)	234,337 (2.7%)	
34-38 weeks		996,916 (33.0%)	3,067,886 (32.4%)		856,261 (32.6%)	2,851,452 (32.4%)	
≥ 39 weeks		1,911,272 (63.3%)	6,167,839 (65.1%)		1,696,246 (64.6%)	5,710,852 (64.9%)	
Multiple gestation	0	42,214 (1.4%)	251,783 (2.7%)	9.0%	55,502 (2.1%)	203,779 (2.3%)	1.4%
Non-cephalic presentation	67,874	66,883 (2.2%)	320,835 (3.4%)	7.1%	75,334 (2.9%)	269,783 (3.1%)	1.2%
Induction of labor	2138	582,867 (19.3%)	3,202,372 (33.8%)	33.3%	808,436 (30.8%)	2,716,566 (30.9%)	<0.1%
Augmentation of labor	0	510,137 (16.9%)	2,653,965 (28.0%)	26.9%	667,940 (25.4%)	2,254,165 (25.6%)	<0.1%
Antibiotics during labor	0	576,007 (19.0%)	3,124,974 (33.0%)	32.1%	741,737 (28.2%)	2,613,646 (29.7%)	3.2%
Chorioamnionitis	0	16,516 (0.5%)	214,771 (2.3%)	14.6%	32,463 (1.2%)	163,209 (1.9%)	5.0%
Attendant at birth	4179			26.5%			2.8%
Doctor of Medicine		2,271,294 (75.2%)	7,925,032 (83.6%)		2,113,844 (80.5%)	7,159,862 (81.4%)	
Doctor of Osteopathy		221,820 (7.3%)	732,536 (7.7%)		204,976 (7.8%)	681,368 (7.7%)	
Midwife		500,559 (16.6%)	776,342 (8.2%)		291,925 (11.1%)	906,094 (10.3%)	
Other		28,378 (0.9%)	42,902 (0.5%)		15,866 (0.6%)	49,317 (0.6%)	
Intrapartum cesarean delivery	0	233,701 (7.7%)	2,298,310 (24.2%)	46.3% (b)	319,229 (12.2%)	1,930,286 (21.9%)	28.4% (b)
Birth weight (grams)	8648			4.2%			<0.1%
≤ 2499 grams		234,206 (7.8%)	658,217 (6.9%)		187,725 (7.1%)	609,855 (6.9%)	
2500-4000 grams		2,578,578 (85.4%)	8,091,180 (85.4%)		2,245,204 (85.5%)	7,526,654 (85.6%)	
> 4000 grams		206,682 (6.8%)	725,531 (7.7%)		193,682 (7.4%)	660,133 (7.5%)	
Year of delivery	0			5.5%			5.5%
2015		802,715 (26.5%)	2,347,947 (24.8%)		687,197 (26.2%)	2,141,112 (24.3%)	
2016		783,620 (25.9%)	2,394,708 (25.3%)		680,175 (25.9%)	2,223,776 (25.3%)	
2017		739,860 (24.5%)	2,371,217 (25.0%)		647,408 (24.6%)	2,217,024 (25.2%)	
2018		697,556 (23.1%)	2,365,419 (25.0%)		611,830 (23.3%)	2,214,730 (25.2%)	

Supplemental Table 4 (continued)

	Before weighting				After weighting		
	Missing	No labor neuraxial analgesia n = 3,023,751	Neuraxial analgesia n = 9,479,291	Absolute standardized difference	No labor neuraxial analgesia n = 2,626,611	Neuraxial analgesia n = 8,796,641	Absolute standardized difference
<i>Hospital county characteristics</i>							
Core base statistical area classification (a)	897			13.0%			2.2%
Metropolitan		2,656,304 (87.9%)	8,680,751 (91.6%)		2,357,205 (89.7%)	7,951,567 (90.4%)	
Micropolitan		281,223 (9.3%)	657,840 (6.9%)		217,447 (8.3%)	685,153 (7.8%)	
Non-metropolitan and non-micropolitan		85,636 (2.8%)	140,391 (1.5%)		51,959 (2.0%)	159,921 (1.8%)	
Number of in-hospital births (a)	897	17,069 (1 sd, 26,520)	16,832 (1 sd, 23,429)	1.0%	16,341 (1 sd, 24,736)	16,801 (1 sd, 23,742)	1.9%
Number of physician Anesthesiologists (per 1000 hospital births) (a)	68,099	12.7 (1 sd, 14.9)	13.5 (1 sd, 15.0)	5.5%	12.8 (1 sd, 15.6)	13.0 (1 sd, 13.3)	1.6%
Number of certified registered nurse anesthetists (per 1000 hospital births) (a)	68,099	13.6 (1 sd, 29.0)	14.8 (1 sd, 33.0)	3.7%	13.8 (1 sd, 27.4)	13.9 (1 sd, 28.0)	<0.1%
Number of obstetricians and gynecologists (per 1000 hospital births) (a)	68,099	11.5 (1 sd, 24.4)	12.3 (1 sd, 28.5)	3.0%	11.4 (1 sd, 23.3)	11.6 (1 sd, 23.5)	<0.1%
<i>State characteristics</i>							
Hospital state	0	(c)	(c)	34.0%	(c)	(c)	5.8%

Abbreviations: sd: standard deviation.

Results are presented as count (%) or mean (1 standard deviation). An absolute standardized difference greater than 10% indicates a clinically relevant imbalance between groups.

(a) Abstracted from the county-level Area Health Resource File for the year 2015 for births in 2015 and 2016, and for the year 2017 for births in 2017 and 2018.

(b) Delivery mode is not included in the propensity score.

(c) Results for the 51 state identifiers are not presented in this Table for clarity purpose.

Supplemental Table 5: Subgroups analyses for the adjusted odds ratios of blood transfusion associated with labor neuraxial analgesia. Adjusted odds ratios were estimated using the inverse propensity-score weighting method, with weights stabilized and truncated at 1% and 99%.

Low cesarean delivery risk (a)							
No labor neuraxial analgesia				Labor neuraxial analgesia			
No. of women	No. of events	Incidence (Per 10,000; 95% CI)	No. of women	No. of events	Incidence (Per 10,000; 95% CI)	Difference (Per 10,000)	Adjusted OR (95% CI) (b)
<i>Vaginal and intrapartum cesarean deliveries</i>							
692,559	2340	33.8 (32.0, 35.7)	2,467,490	7888	32.0 (31.3, 32.6)	-1.8	0.95 (0.90, 0.99)
<i>Vaginal deliveries</i>							
600,084	1678	28.0 (26.2, 29.8)	1,914,980	4843	25.3 (24.6, 26.0)	-2.7	0.90 (0.85, 0.95)
<i>Intrapartum cesarean deliveries</i>							
92,475	662	71.6 (64.1, 79.6)	552,510	3045	55.1 (53.3, 57.0)	-16.5	0.77 (0.71, 0.83)

Low infectious risk (c)							
No labor neuraxial analgesia				Labor neuraxial analgesia			
No. of women	No. of events	Incidence (Per 10,000; 95% CI)	No. of women	No. of events	Incidence (Per 10,000; 95% CI)	Difference (Per 10,000)	Adjusted OR (95% CI) (b)
<i>Vaginal and intrapartum cesarean deliveries</i>							
1,872,381	4749	25.4 (24.5, 26.2)	6,124,921	14,548	23.8 (23.4, 24.2)	-1.6	0.94 (0.91, 0.97)
<i>Vaginal deliveries</i>							
1,750,868	3778	21.6 (20.8, 22.4)	5,461,659	10,556	19.3 (18.9, 19.7)	-2.3	0.89 (0.86, 0.93)
<i>Intrapartum cesarean deliveries</i>							
121,513	971	79.9 (73.9, 86.2)	663,262	3992	60.2 (58.3, 62.1)	-19.7	0.75 (0.70, 0.81)

No diabetes or hypertensive disorders (d)							
No labor neuraxial analgesia				Labor neuraxial analgesia			
No. of women	No. of events	Incidence (Per 10,000; 95% CI)	No. of women	No. of events	Incidence (Per 10,000; 95% CI)	Difference (Per 10,000)	Adjusted OR (95% CI) (b)
<i>Vaginal and intrapartum cesarean deliveries</i>							
2,270,575	7071	31.1 (30.3, 32.0)	7,583,709	21,870	28.8 (28.5, 29.2)	-2.3	0.93 (0.90, 0.95)
<i>Vaginal deliveries</i>							
2,030,099	4660	23.0 (22.2, 23.7)	6,057,868	11,884	19.6 (19.3, 20.0)	-3.4	0.85 (0.83, 0.88)
<i>Intrapartum cesarean deliveries</i>							
240,476	2411	100.3 (95.2, 105.6)	1,525,841	9986	65.4 (64.2, 66.7)	-34.9	0.65 (0.62, 0.68)

Abbreviations: CI: confidence interval; No.: number; OR: odds ratio.

(a) Defined as singleton, head-first, term (37, 38, 49, 40, or 41 completed weeks) first births

(b) Estimated using weighted logistic regression models. No imbalance was observed after weighting.

(c) Defined as no antibiotics received by the mother during labor, no clinical chorioamnionitis diagnosed during labor, and no maternal temperature >38°C during labor.

(d) Defined as no pre-existing or gestational diabetes, no pre-existing or gestational hypertension, no pre-eclampsia, and no eclampsia