- Question to answer:
  - See if there's a connection between maternal obesity and NICU admission rate.
- Data
  - 11404 Mother-baby pairs (including twins and triplets)
  - NICU admission: babies with procedure codes 99468, 99471, 99477
  - BMI
    - first 12 weeks of pregnancy
    - if no explicit BMI, calculate from weight/height, recover ~300
  - 6904 pairs to work with

DELIVERY_DEPARTMENT_NAME	FACILITY	COUNTS
MC AW 11 LABOR & DELIVERY UNIT	Wake Forest	4606
HPMC 05 LABOR & DELIVERY UNIT	High Point Regional Medical Center	3814
MC AW 11 OB PERIOP	Wake Forest	1788
WRMC 02 LABOR & DELIVERY UNIT	Wilkes	596
LMC LABOR & DELIVERY UNIT	Lexington	328
WRMC 02 OB PERIOP	Wilkes	171
NULL	NULL	57
LMC POSTPARTUM UNIT	Lexington	13
MC AW 10 ANTEPARTUM UNIT	Wake Forest	10
LMC MAIN PERIOP	Lexington	5
HPMC 03 MAIN PERIOP	High Point Regional Medical Center	5
HPMC EMERGENCY DEPARTMENT	High Point Regional Medical Center	3
WRMC 02 OBSTETRICS & GYNECOLOGY UNIT	Wilkes	3
MC NT 01 MAIN PERIOP	Wake Forest	3
WRMC 01 MAIN PERIOP	Wilkes	1
MC AW 04 CATH LAB	Wake Forest	1

	Underweight BMI < 18.5 N = 175	Healthy 18.5 < BMI < 25 N = 2,118	Overweight 25 < BMI < 30 N = 1,834	Obese 1 30 < BMI < 35 N = 1,308	Obese 2 35 < BMI < 40 N = 790	Obese 3 BMI > 40 N = 679
NICU admission	15 (8.6%) p=0.81	193 (9.1%) ref	154 (8.4%) p=0.43	140 (10.7) p=0.13	94 (11.9%) p=0.03	98 (14.4%) P<0.001

	BMI < 30 N = 4,127	BMI >= 30 N = 2,777
NICU admission	362 (8.8%) ref	332 (12.0%) P<0.001

TABLE 2 | Delivery characteristics and outcomes of infants born to mothers without and with obesity.

	Infants born to Mothers with BMI <30 kg/m^2 (n = 7,459)	Infants born to Mothers with BMI ≥30 kg/m^2 (n = 4,151)	p-value	Adjusted odds ratio [95% CI]	p-value
Pre-term birth	1,374 (18.4%)	827 (19.9%)	<0.05	0.82 [0.74, 0.91]	<0.01
Cesarean delivery	2,741 (36.8%)	2,145 (51.7%)	<0.01	1.54 [1.42, 1.67]	<0.01
Gestational age (weeks)	37.5 (3.1)	37.3 (3.1)	<0.01		
Mean birth weight in grams (± SD)	3,034.3 (770.9)	3,103.4 (824.2)	<0.01		
Apgar score @ 5 mins					
0–3	93 (1.3%)	51 (1.2%)	] <0.01		
4–6	314 (4.2%)	231 (5.6%)			
7–10	7,034 (94.3%)	3,845 (92.6%)			
Assisted ventilation in delivery room	1,384 (18.6%)	942 (22.7%)	<0.01	1.01 [0.91, 1.12]	0.85
NICU admission	1,625 (21.8%)	1,026 (24.7%)	<0.01	0.89 [0.81, 0.98]	0.02