| **Characteristic** | **Vaginal deliveries**N=893,497Percent of all vaginal deliveries | **Vaginal deliveries with severe maternal morbidity**N=12,575Percent of vaginal deliveries with characteristic | **Adjusted odds ratios****(95% confidence limits)** |
| --- | --- | --- | --- |
| **Mother’s age**Less than 20 years old20 ≤ age ≤ 35Older than 35 |  64,161( 7.18%)715,238(80.05%)114,098(12.77%) | 1,393 ( 2.17%)9,469 ( 1.32%)1,713 ( 1.50%) | 0.97 (0.90-1.03)Referent1.26 (1.20-1.34) |
| **Race/ethnicity**White-non-HispanicBlack-non-HispanicOther including multiracialHispanicMissing | 429,579(48.08%)135,181(15.13%)111,655(12.50%)217,039(24.29%) 43( 0.00%) | 4,531 ( 1.05%)2,631 ( 1.95%)1,397 ( 1.25%)4,016 ( 1.85%) 0 ( 0.00%) | Referent1.08 (1.02-1.15)1.06 (0.99-1.13)1.26 (1.19-1.33) |
| **Education**Less than high schoolHigh school graduateCollege graduate or higherMissing | 190,800(21.35%)357,108(39.97%)340,590(38.12%) 4,999( 0.56%) | 3,658( 1.92%)5,056( 1.42%)3,738( 1.10%) 123( 2.46%) | 1.16 (1.10-1.21)Referent0.95 (0.91-1.00) |
| **Employment during pregnancy**YesNo Missing | 454,567(50.88%)437,924(49.01%) 1,006( 0.11%) | 5,580( 1.23%)6,966( 1.59%) 29( 2.88%) | Referent1.00 (0.96-1.04) |
| **Parity (number of previous births)**NoneOneTwo or moreMissing | 384,500(43.03%) 268,454(30.05%) 234,252(26.22%) 6,291( 0.70%) | 6,581( 1.71%)2,921( 1.09%) 3,005( 1.28%) 68( 1.08%) | 1.56 (1.49-1.63)Referent0.98 (0.93-1.03) |
| **Inferred marital status**Married or living with a partnerSingle-divorced or separatedMissing | 639,265(71.55%)253,743(28.40%) 489( 0.05%) | 7,884( 1.23%)4,683( 1.85%) 8( 1.64%) | Referent1.08 (1.03-1.13) |
| **Insurance**Medicaid Private insurance Self-pay or uninsured Other Missing | 437,049(48.91%) 406,081(45.45%)  13,422( 1.50%) 34,153( 3.82%) 2,792( 0.31%) | 7,133( 1.63%) 4,567( 1.12%)  316( 2.35%) 504( 1.48%) 55( 1.97%) | 1.19 (1.13-1.25)Referent1.41 (1.24-1.59)1.12 (1.01-1.23) |
| **Nativity: American born**Yes NoMissing | 565,620(63.30%)325,202(36.40%) 2,675( 0.30%) | 7,381( 1.30%)5,150( 1.58%) 44( 1.64%) | Referent1.24 (1.18-1.30) |
| **Location: New York City vs Rest of State**YesNo | 461,847(51.69%)431,650(48.31%) | 6,022( 1.30%)6,553( 1.52%) | 0.51 (0.48-0.53)Referent |
| **Prepregnancy Body Mass Index (kg/m2)**Underweight (BMI<18.5)Normal (18.5≤BMI<25)Overweight (25≤BMI<30)Obese (30≤BMI<50)Obese (50≤BMI)Missing |  45,238( 5.06%)473,784(53.03%)209,966(23.50%)139,961(15.66%) 1,750( 0.20%) 22,798( 2.55%) |  679( 1.50%)6,320( 1.33%)2,956( 1.41%)2,133( 1.52%) 52( 2.97%) 435( 1.91%) | 0.97 (0.92-1.01)Referent0.97 (0.92-1.01)0.96 (0.91-1.02)0.96 (0.91-1.02) |
| **Weight gain during pregnancy**20 lbs or less21-30 lbs31-40 lbs41-50 lbs51 lbs or moreMissing | 224,695(25.15%)268,799(30.08%)223,267(24.99%) 96,713(10.82%) 61,347( 6.87%) 18,676( 2.09%) | 3,618( 1.61%)3,523( 1.31%)2,821( 1.26%)1,315( 1.36%) 916( 1.49%) 382( 2.05%) | 1.07 (1.02-1.13)Referent0.99 (0.94-1.04)1.00 (0.94-1.07)1.01 (0.93-1.09) |
| **Prenatal care**IntensiveAdequateIntermediateInadequateNo prenatal careMissing information |   74,556( 8.34%)499,613(55.92%)211,134(23.63%) 53,065( 5.94%) 6,927( 0.78%) 48,202( 5.39%) |  1,156( 1.55%) 6,233( 1.25 %) 3,081( 1.46%) 920( 1.73 %) 252( 3.64 %) 933( 1.94 %) | 1.11 (1.04-1.19)Referent1.00 (0.95-1.05)1.03 (0.96-1.11)1.68 (1.26-2.22)0.96 (0.89-1.04) |
| **Type of pregnancy**Singleton babyTwo or more babiesMissing | 887,046(99.28%) 6,065( 0.68%) 386( 0.04%) | 12,128( 1.37%) 443( 7.30%) 4( 1.04%) | Referent2.98 (2.65-3.35) |
| **Fetal presentation**CephalicBreech OtherUnknownMissing | 883,038(98.83%)  2,113( 0.24%)  5,486( 0.61%)  2,454( 0.27%) 406( 0.05%) | 12,362( 1.40%)  123( 5.82%)  67( 1.22%)  19( 0.77%)  4( 0.99%) | Referent2.07 (1.68-2.55)0.91 (0.71-1.17)0.64 (0.40-1.01) |
| **Primary provider for prenatal care**MDClinicOtherNo informationNo providerIndeterminate Missing | 627,028(70.18%) 200,410(22.43%)  46,847( 5.24%)  8,157( 0.91%)  7,851( 0.88%)  2,783( 0.31%)  421( 0.05%) |  7,080( 1.13%)  4,379( 2.19%)  614( 1.31%)  150( 1.84%)  213( 2.71%)  135( 4.85%) 4( 0.95%) | Referent1.32 (1.26-1.39)1.04 ( 0.95-1.14)0.78 (0.65-0.93)1.01 (0.82-1.26)1.04 (0.74-1.46) |
| **Pregnancy hospitalizations**YesNo |  16,237( 1.82%)877,260(98.18%) |  804 ( 4.95%)11,771( 1.34%) | 1.91 (1.75-2.07)Referent |
| **Preterm labor**YesNo | 104,449(11.69%)789,048(88.31%) |  3,344( 3.20%) 9,231( 1.17%) | 1.94 (1.85-2.03)Referent |
| **Delivery hospital: designated level of perinatal care**1 or 23Regional perinatal centerNon-birthing facility | 309,083(34.59%)331,928(37.15%)249,967(27.98%) 2,519( 0.28%) |  2,740( 0.89%) 5,418( 1.63%) 4,407( 1.76%) 10( 0.40%) | Referent1.95 (1.84-2.06)1.95 (1.85-2.06)0.84 (0.45-1.57) |
| **Day of Hospital Admission**WeekdayWeekend | 651,558(72.92%) 241,939(27.08%)  |  9,278( 1.42%) 3,297( 1.36%) | Referent0.96 (0.92-1.00) |
| **Depression during pregnancy**Not depressed at allA little depressedModerately depressedVery depressedVery depressed and had to get helpMissing | 638,446(71.45%)134,553(15.06%) 28,887( 3.23%) 4,588( 0.51%) 4,055( 0.45 %) 82,968( 9.29%) |  8,601( 1.35%) 2,045( 1.52%) 462( 1.60%) 116( 2.53%) 81( 2.00%) 1,270( 1.53%) | Referent1.02 (0.97-1.07)0.99 (0.90-1.09)1.43 (1.18-1.73)1.08 (0.86-1.36) |
| **Cardiac disease** |  3,690( 0.41%) |  153 ( 4.15%) | 2.60 (2.18-3.11) |
| **Renal disease** |  347( 0.04%) |  39 (11.24%) | 3.06 (2.01-4.66) |
| **Musculoskeletal disease** |  2,022( 0.23%) |  58( 2.87%) | 1.66 (0.54-5.09) |
| **Digestive disorder** |  752( 0.08%) |  16( 2.13%) | 1.21 (0.69-2.14) |
| **Diseases of the blood and all blood-forming organs** | 70,961( 7.94%) |  4,103( 5.78%) | 4.95 (4.75-5.15) |
| **Mental disorders** | 35,556( 3.98%) |  861( 2.42%) | 1.18 (1.09-1.28) |
| **Disorders of the central nervous system** |  7,413( 0.83%) |  202( 2.72%) | 1.41 (1.21-1.65) |
| **Rheumatic heart disease** |  261( 0.03%) |  24( 9.20%) | 3.20 (1.88-5.45) |
| **Placentation disorder** |  5,453( 0.61%) |  442( 8.11%) | 3.73 (3.33-4.17) |
| **Chronic hypertension** |  8,509( 0.95%) |  237( 2.79%) | 1.45 (1.25-1.67) |
| **Pregnancy hypertension** | 25,986( 2.91%) |  1,616( 6.22%) | 3.39 (3.19-3.60) |
| **Collagen/vascular disorder** |  257( 0.03%) |  6( 2.33%) | 0.80 (0.24-2.67) |
| **Rheumatoid arthritis** |  782( 0.09%) |  15( 1.92%) | 0.67 (0.20-2.17) |
| **Pulmonary conditions** | 35,435( 3.97%) |  698( 1.97%) | 1.00 (0.92-1.08) |
| **Diabetes** |  3,353( 0.38%) |  118( 3.52%) | 1.06 (0.79-1.41) |
| **Diabetes complicating pregnancy** |  7,190( 0.80%) |  189( 2.63%) | 1.41 (1.13-1.76) |
| **Lupus** |  1,012( 0.11%) |  38(3.75%) | 0.77 (0.25-2.39) |