Repeat Steps 1-5 twice

6. Manual review of remaining flagged pregnancies.

4. Pregnancies with only 2 weights available: Calculate lbs/week gain. If >5 lbs/week then delete pregnancy.

5. Pregnancies with >2 weights available: Calculate % weight difference between individual weight and within-person mean weight. Delete weight if difference >20.

3. Flag pregnancies with COV>10 (our determined cut-point).

2. Calculate the within-person Coefficient of Variation (COV = standard deviation/mean). Based on distribution of COV over population, determine a cut-point to flag pregnancies with possible erroneous weights.

1. Calculate the within-person mean weight and standard deviation using all available weights (12 months prior to conception through 42 days after conception) for each pregnancy.

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristic** | **Excluded** | **Included** | **P-value**a  |
| **N=39,896** | **N=16,227** |  |
|  | No. with available data | %  | % |  |
| **Body Mass Index** | 15,322 |  |  | .36 |
| Underweight (<18.5 kg/m2) |  | 1.9 | 2.1 |  |
| Normal weight (18.5-24.9) |  | 45.0 | 45.3 |  |
| Overweight (25-29.9) |  | 27.2 | 26.4 |  |
| Class I Obesity (30-34.9) |  | 13.8 | 13.8 |  |
| Class II/III Obesity (35+) |  | 12.1 | 12.4 |  |
| **Age (years)** | 39,895 |  |  | <.001 |
| 18-24 |  | 28.2 | 23.5 |  |
| 25-29 |  | 31.2 | 32.4 |  |
| 30-34 |  | 26.0 | 28.6 |  |
| 35-39 |  | 12.0 | 12.7 |  |
| 40+  |  | 2.8 | 2.9 |  |
| **Race/ethnicity**  | 39,895 |  |  | <.001 |
| Hispanic (any race) |  | 11.1 | 10.2 |  |
| White (non-Hispanic) |  | 70.3 | 74.9 |  |
| Black (non-Hispanic) |  | 3.7 | 3.3 |  |
| Asian/Pacific Islander (non-Hispanic) |  | 10.2 | 7.6 |  |
| American Indian/Alaska Native (non-Hispanic) |  | 0.7 | 0.8 |  |
| Multiple/Other/Unknown |  | 4.1 | 3.2 |  |
| **Enrolled in Medicaid or Washington basic health plan**  | 39,416 | 8.1 | 5.4 | <.001 |
| **Number of weight measures in year prior to pregnancy** b | 39,895 |  |  | NA |
| 0 |  | 41.4 | 0 |  |
| 1 |  | 27.4 | 0 |  |
| 2 |  | 9.7 | 31.1 |  |
| 3+ |  | 21.6 | 68.9 |  |
| **Prenatal care entry** | 39,895 |  |  | <.001 |
| First trimester (<14 weeks) |  | 80.5 | 95.8 |  |
| Second trimester (14-28) |  | 14.9 | 3.8 |  |
| Third trimester (>28 weeks) |  | 4.7 | 0.4 |  |
| **Pregnancy outcome, live birth, or stillbirth**  | 39,895 | 90.4 | 89.7 | .02 |

a P-value based on generalized estimating equation analysis that account for pregnancies to the same woman.

b Study inclusion criteria required at least 2 measured weights; statistical test for comparison to excluded pregnancies not conducted.

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristic** | **Excluded due to no linkage to birth certificate** **N=3,735** | **Included N=12,492** | **P-value**b  |
|  | No. with available data | % | % |  |
| **Body Mass Index** | 3,735 |  |  | .57 |
| Underweight (<18.5 kg/m2) |  | 2.1 | 2.2 |  |
| Normal weight (18.5-24.9) |  | 44.3 | 45.7 |  |
| Overweight (25-29.9) |  | 26.5 | 26.3 |  |
| Class I Obesity (30-34.9) |  | 14.2 | 13.6 |  |
| Class II/III Obesity (35+) |  | 12.9 | 12.3 |  |
| **Age (years)** | 3,735 |  |  | <.001 |
| 18-24 |  | 23.9 | 23.4 |  |
| 25-29 |  | 28.5 | 33.5 |  |
| 30-34 |  | 27.9 | 28.8 |  |
| 35-39 |  | 14.4 | 12.1 |  |
| 40+  |  | 5.2 | 2.2 |  |
| **Enrolled in Medicaid or Washington basic health plan** | 3,735 | 94.9 | 94.6 | .36 |
| **Race/ethnicity**  | 3,735 |  |  | <.001 |
| Hispanic (any race) |  | 9.6 | 10.4 |  |
| White (non-Hispanic) |  | 70.3 | 76.3 |  |
| Black (non-Hispanic) |  | 3.8 | 3.2 |  |
| Asian/Pacific Islander (non-Hispanic) |  | 6.6 | 7.9 |  |
| American Indian/Alaska Native (non-Hispanic) |  | 0.6 | 0.9 |  |
| Multiple/Other/Unknown |  | 9.2 | 1.1 |  |
| **Education (years)**  | 909 |  |  | <.001 |
| <12 |  | 3.6 | 6.4 |  |
|  12 |  | 22.8 | 22.8 |  |
| >12  |  | 73.5 | 70.8 |  |
| **Married**  | 909 | 82.9 | 81.4 | .25 |
| **Parity**  | 903 | 55.0 | 56.8 | .31 |
|  0 |  | 45.0 | 43.2 |  |
| 1+ |  | 55.0 | 56.8 |  |
| **Smoked anytime in year prior to pregnancy**  | 187 | 4.8 | 7.4 | .10 |
| **Number times weight measured in year prior to pregnancy (proxy of weight knowledge)** | 3,735 |  |  |  |
| 2 |  | 29.2 | 31.6 |  |
| 3+ |  | 70.8 | 68.4 | .40 |
| **Prenatal care entry** | 3,735 |  |  | <.001 |
| First trimester (<14 weeks) |  | 96.8 | 95.5 |  |
| Second trimester (14-28) |  | 2.7 | 4.1 |  |
| Third trimester (>28 weeks) |  | 0.5 | 0.4 |  |

a Self-reported weight was collected on average at 9.0 (SD 3.0) weeks of gestation and closest measured weight at 4.8 (SD 8.0) weeks prior to conception.

b P-value based on 2 (categorical variables) or t-test (continuous variables; BMI, age, number of weight measures).

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristic** | **Excluded** | **Included** | **P-value**a  |
| **N=4,805** | **N=3,943** |  |
|  | n | %  | %  |  |
| **Body Mass Index** | 2,003 |  |  | .64 |
| Underweight (<18.5 kg/m2) |  | 2.4 | 2.1 |  |
| Normal weight (18.5-24.9) |  | 43.4 | 42.3 |  |
| Overweight (25-29.9) |  | 26.1 | 26.1 |  |
| Obesity (30+) |  | 26.2 | 29.6 |  |
| Class I (30-34.9) |  | 15.0 | 15.3 |  |
| Class II/III (35+) |  | 13.2 | 14.3 |  |
| **Age (years)** | 4,805 |  |  | .03 |
| 18-24 |  | 22.7 | 21.7 |  |
| 25-29 |  | 29.5 | 27.6 |  |
| 30-34 |  | 29.5 | 32.5 |  |
| 35-39 |  | 15.1 | 15.3 |  |
| 40+  |  | 3.3 | 3.0 |  |
| **Race/ethnicity**  | 4,805 |  |  | .001 |
| Hispanic (any race) |  | 11.7 | 13.2 |  |
| White (non-Hispanic) |  | 72.0 | 71.4 |  |
| Black (non-Hispanic) |  | 2.9 | 3.5 |  |
| Asian/Pacific Islander (non-Hispanic) |  | 9.1 | 7.3 |  |
| American Indian/Alaska Native (non-Hispanic) |  | 0.3 | 0.6 |  |
| Multiple/Other/Unknown |  | 4.0 | 3.9 |  |
| **Enrolled in Medicaid or Washington basic health plan**  | 4,667 | 14.8 | 12.3 | <.001 |
| **Number of weight measures in year prior to pregnancy** b | 4,805 |  |  | NA |
| 0 |  | 40.1 | 0 |  |
| 1 |  | 31.2 | 0 |  |
| 2 |  | 7.2 | 25.9 |  |
| 3+ |  | 21.6 | 74.1 |  |
| **Prenatal care entry** |  |  |  | <.001 |
| First trimester (≤13 weeks) |  | 83.9 | 97.3 |  |
|  Second trimester (14-28) |  | 11.2 | 2.3 |  |
|  Third trimester (>28 weeks) |  | 5.0 | 0.4 |  |
| **Pregnancy outcome, live birth, or stillbirth** | 4,805 | 81.9 | 85.7 | <.001 |

a P-value based on generalized estimating equation analysis that account for pregnancies to the same woman.

b Study inclusion criteria required at least 2 measured weights; statistical test for comparison to excluded pregnancies not conducted.

|  |  |  |
| --- | --- | --- |
|  | **Self-reported vs weight measured CLOSEST to conceptiona****N=3,943** | **Self-reported vs measured USUAL weightb****N=3,101** |
| **Characteristic** | **Mean difference:****Self-reported minus CLOSEST weight (kg)** | **Adjustedc** | **Mean difference: Self-reported minus USUAL weight (kg)** | **Adjustedc** |
|  | Mean (SD) | beta [95% CI] | Mean (SD) | beta [95% CI] |
| **Overall** | -0.72 (2.7) | -- | -0.63 (2.6) | -- |
| **Body Mass Index** |  |  |  |  |
| Underweight | -0.01 (1.7) | 0.57 [0.18, 0.95] | -0.49 (1.1) | 0.06 [-0.25, 0.37] |
| Normal weight | -0.62 (1.8) | Referenced | -0.59 (1.7) | Referenced |
| Overweight | -0.88 (2.5) | -0.26 [-0.43, -0.08] | -0.86 (2.4) | -0.26 [-0.45, -0.07] |
| Class I Obesity | -0.78 (2.6) | -0.17 [-0.39, 0.06] | -0.74 (2.7) | -0.15 [-0.41, 0.10] |
| Class II/III Obesity  | -0.77 (4.6) | -0.15 [-0.54, 0.24] | -0.24 (4.6) | 0.37 [-0.05, 0.78] |
| **Age (years)** |  |  |  |  |
| 18-24 | -0.61 (3.1) | 0.06 [-0.20, 0.31] | -0.39 (2.9) | 0.21 [-0.07, 0.48] |
| 25-29 | -0.65 (2.5) | Reference | -0.55 (2.3) | Referenced |
| 30-34 | -0.80 (2.1) | -0.18 [-0.37, 0.01] | -0.73 (2.1) | -0.19 [-0.40, 0.01] |
| 35-39 | -0.79 (3.4) | -0.12 [-0.44, 0.19] | -0.80 (3.7) | -0.24 [-0.63, 0.15] |
| 40+ | -1.03 (2.5) | -0.36 [-0.83, 0.11] | -0.98 (2.0) | -0.36 [-0.78, 0.07] |
| **Race/ethnicity** |  |  |  |  |
| Hispanic (any race) | -0.65 (2.6) | 0.10 [-0.15, 0.35] | -0.50 (2.4) | 0.14 [-0.13, 0.42] |
| White (non-Hispanic) | -0.72 (2.8) | Reference | -0.65 (2.7) | Reference |
| Black (non-Hispanic) | -0.86 (2.3) | -0.05 [-0.47, 0.36] | -0.83 (2.7) | -0.13 [-0.65, 0.40] |
| Asian/Pacific Islander (non-Hispanic) | -0.70 (1.9) | 0.02 [-0.22, 0.25] | -0.57 (1.8) | 0.17 [-0.08, 0.42] |
| American Indian/Alaska Native (non-Hispanic) | -1.6 (2.4) | -0.83 [-1.8, 0.14] | -0.78 (2.6) | -0.17 [-1.4, 1.1] |
| Multiple/Other/Unknown | -0.80 (2.5) | -0.08 [-0.48, 0.32] | -0.55 (2.9) | 0.08 [-0.42, 0.58] |
| **Enrolled in Medicaid or Washington basic health plan** |  |  |  |  |
| Yes | -0.90 (3.6) | -0.23 [-0.59, 0.13] | -0.71 (4.0) | -0.18 [-0.60, 0.23] |
| No | -0.70 (2.5) | Reference | -0.62 (2.4) | Reference |
| **Number times weight measured in year prior to pregnancy (proxy of weight knowledge)** |  |  |  |  |
| 2 | -0.82 (3.0) | -0.14 [-0.35, 0.07] | -0.78 (2.5) | -0.15 [-0.38, 0.08] |
| 3+ | -0.69 (2.5) | Reference | -0.60 (2.7) | Reference |
| **Prenatal care entry** |  |  |  |  |
| First trimester | -0.71 (2.6) | Referenced | -0.61 (2.6) | Reference |
| Second trimester | -0.91 (2.9) | -0.26 [-0.86, 0.34] | -1.1 (3.6) | -0.61 [-1.5, 0.25] |
| Third trimester | -3.7 (3.9) | -3.0 [-5.0, -1.0] | -3.1 (4.6) | -2.4 [-5.1, 0.24] |
| **Pregnancy Outcome** |  |  |  |  |
| Live or stillborn | -0.70 (2.7) | Reference | -0.60 (2.7) | Reference |
| Other | -0.85 (2.6) | -0.14 [-0.38, 0.10] | -0.82 (2.6) | -0.21 [-0.47, 0.05] |

a Measured weight closest to date of conception between 6-months-prior-to (≤182 days) and ≤42-days-after conception.

b Average of all available measured weights between 6-months-prior-to (≤182 days) and ≤42-days-after conception.

c Based on linear regression and adjusted for all other covariates in table.

d Main effect p<.05