## *Table 2.* **Examples of Highly Variable Risk Ratios for Black Versus White Adults From the 2013 PCEs Versus Our Proposed Alternative, Model Set 2\***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Example** | **Predictor Variables** | | | | | | | | | | | | | **Original 2013 PCEs** | | | | | **Model Set 2** | | | |
|  | **Age, *y*** | **Sex** | **Systolic BP, *mm Hg*** | **BP Treatment** | **Total Cholesterol Level** | | | **HDL Cholesterol Level** | | **Smokes Tobacco** | | **Diabetes** | | **ASCVD 10-y Risk per 2013 PCEs, *%*** | | | **Black–White Risk Ratio per 2013 PCEs** | | **ASCVD 10-y Risk per Model Set 2, *%*** | | **Black–White Risk Ratio per Model Set 2** | |
|  |  |  |  |  | ***mmol/L*** | ***mg/dL*** | ***mmol/L*** | | ***mg/dL*** | |  | |  | **If White** | **If Black** |  | | **If White** | | **If Black** | |  |
| **Black–white estimated risk ratios <0.7 per 2013 PCEs** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 46 | Male | 108 | No | 6.79 | 262 | 0.85 | | 33 | | Yes | | No | 10.9 | 6.7 | 0.61 | | 9.8 | | 5.7 | | 0.58 |
| 2 | 68 | Male | 115 | No | 5.08 | 196 | 1.04 | | 40 | | No | | No | 14.6 | 9.7 | 0.66 | | 11.5 | | 7.4 | | 0.65 |
| 3 | 43 | Female | 111 | No | 7.28 | 281 | 2.07 | | 80 | | Yes | | No | 1.9 | 0.5 | 0.26 | | 2.0 | | 2.3 | | 1.15 |
| 4 | 76 | Female | 132 | Yes | 3.63 | 140 | 1.73 | | 67 | | No | | No | 24.4 | 13.2 | 0.54 | | 18.2 | | 13.2 | | 0.73 |
| 5 | 70 | Male | 138 | No | 3.96 | 153 | 0.96 | | 37 | | No | | No | 20.4 | 13.5 | 0.66 | | 18.7 | | 12.3 | | 0.66 |
|  |  |  |  |  |  |  |  | |  | |  | |  |  |  |  | |  | |  | |  |
| **Black–white estimated risk ratios ≥2.5 per 2013 PCEs** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 41 | Male | 123 | Yes | 4.82 | 186 | 1.27 | | 49 | | No | | Yes | 2.4 | 9.3 | 3.88 | | 6.2 | | 10.9 | | 1.75 |
| 2 | 41 | Female | 186 | Yes | 4.09 | 158 | 1.17 | | 45 | | Yes | | No | 6.3 | 26.7 | 4.24 | | 12.8 | | 19.2 | | 1.5 |
| 3 | 41 | Male | 133 | Yes | 4.82 | 186 | 1.66 | | 64 | | No | | Yes | 1.9 | 9.9 | 5.21 | | 5.8 | | 12.1 | | 2.06 |
| 4 | 53 | Female | 147 | No | 4.64 | 179 | 1.45 | | 56 | | No | | Yes | 3.5 | 8.9 | 2.54 | | 9.5 | | 11.2 | | 1.18 |
| 5 | 47 | Female | 163 | Yes | 3.65 | 141 | 1.09 | | 42 | | No | | No | 1.8 | 8.9 | 4.94 | | 4.3 | | 6.2 | | 1.42 |

ASCVD = atherosclerotic cardiovascular disease; BP = blood pressure; HDL = high-density lipoprotein; PCE = pooled cohort equation.

\* Examples are from NHANES (National Health and Nutrition Examination Survey) 2013–2014 participants aged 40–79 y, excluding those who had a history of cardiovascular disease, received statins, or had missing or extreme values for input parameters (HDL cholesterol level <0.52 or >2.59 mmol/L [<20 or >100 mg/dL], total cholesterol level <3.37 or >8.29 mmol/L [<130 or >320 mg/dL], or systolic blood pressure <90 or >200 mm Hg).

*Appendix Table.* **Example Calculation for Model Set 2, the Proposed Revision of the PCEs for Estimating ASCVD Risk\***

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Coefficient** | **Example Value** | **Coefficient × Value** |
| **Women** | | | |
| (Intercept) | -11.938468 | – | -11.938468 |
| Age | 0.106501 | 55 | 5.857555 |
| Black race (1/0 for black/white) | 0.119399 | 1 | 0.119399 |
| Systolic blood pressure (mm Hg) squared | 0.000056 | 14 400 | 0.806400 |
| Systolic blood pressure | 0.017666 | 120 | 2.119920 |
| Taking blood pressure medication (1/0 for yes/no) | 0.731678 | – | 0.000000 |
| Diabetes mellitus (1/0 for yes/no) | 0.943970 | – | 0.000000 |
| Current smoker (1/0 for yes/no) | 1.009790 | – | 0.000000 |
| Ratio of total cholesterol (mg/dL) to high-density lipoprotein cholesterol (mg/dL) | 0.151318 | 4.26 | 0.644615 |
| Age if black (0 if not) | −0.008580 | 55 | −0.471900 |
| Systolic blood pressure if taking blood pressure medication (0 if not) | −0.003647 | – | 0.000000 |
| Systolic blood pressure if black (0 if not) | 0.006208 | 120 | 0.744960 |
| Black race and taking blood pressure medication (1/0 for yes/no) | 0.152968 | – | 0.000000 |
| Age × systolic blood pressure | −0.000153 | 6600 | −1.009800 |
| Black race and diabetes mellitus (1/0 for yes/no) | 0.115232 | – | 0.000000 |
| Black race and current smoker (1/0 for yes/no) | –0.092231 | – | 0.000000 |
| Ratio of total cholesterol to high-density lipoprotein cholesterol if black | 0.070498 | 4.26 | 0.300321 |
| Systolic blood pressure if black and taking blood pressure medication (0 if not) | −0.000173 | – | 0.000000 |
| Age × systolic blood pressure if black (0 if not) | −0.000094 | 6600 | −0.620400 |
| Sum of terms | – | – | −3.447398 |
| 10-y probability of ASCVD event = | – | – | 0.030847 (3.1%) |
|  | | | |
| **Men** | | | |
| (Intercept) | -11.219734 | – | -11.219734 |
| Age | 0.064200 | 55 | 3.531000 |
| Black race (1/0 for black/white) | 0.315986 | 1 | 0.315986 |
| Systolic blood pressure (mm Hg) squared | −0.000061 | 14 400 | −0.878400 |
| Systolic blood pressure | 0.038950 | 120 | 4.674000 |
| Taking blood pressure medication (1/0 for yes/no) | 2.055533 | – | 0.000000 |
| Diabetes mellitus (1/0 for yes/no) | 0.842209 | – | 0.000000 |
| Current smoker (1/0 for yes/no) | 0.895589 | – | 0.000000 |
| Ratio of total cholesterol (mg/dL) to high-density lipoprotein cholesterol (mg/dL) | 0.193307 | 4.26 | 0.823448 |
| Systolic blood pressure if taking blood pressure medication (0 if not) | −0.014207 | – | 0.000000 |
| Systolic blood pressure if black (0 if not) | 0.011609 | 120 | 1.393080 |
| Black race and taking blood pressure medication (1/0 for yes/no) | −0.119460 | – | 0.000000 |
| Age × systolic blood pressure | 0.000025 | 6600 | 0.165000 |
| Black race and diabetes mellitus (1/0 for yes/no) | −0.077214 | – | 0.000000 |
| Black race and current smoker (1/0 for yes/no) | −0.226771 | – | 0.000000 |
| Ratio of total cholesterol to high-density lipoprotein cholesterol if black | −0.117749 | 4.26 | −0.501611 |
| Systolic blood pressure if black and taking blood pressure medication (0 if not) | 0.004190 | – | 0.000000 |
| Age × systolic blood pressure if black (0 if not) | −0.000199 | 6600 | −1.313400 |
| Sum of terms | – | – | −3.010591 |
| 10-y probability of ASCVD event *=* | – | – | 0.046950 (4.7%) |

ASCVD = atherosclerotic cardiovascular disease; PCE = pooled cohort equation.

\* Example is shown for a nonsmoking black adult aged 55 y without diabetes who has a total cholesterol level of 5.52 mmol/L (213 mg/dL), high-density lipoprotein cholesterol level of 1.29 mmol/L (50 mg/dL), and untreated systolic blood pressure of 120 mm Hg. An online calculator is available at https://sanjaybasu.shinyapps.io/ascvd.