Supplementary Online Content

Reeves A, Elliott MR, Lewis TT, Karvonen-Gutierrez CA, Herman WH, Harlow SD. Study selection bias and racial or ethnic disparities in estimated age at onset of cardiometabolic disease among midlife women in the US. JAMA Netw Open. 2022;5(11):e2240665. doi:10.1001/jamanetworkopen.2022.40665

**eTable 1.** Missing Patterns in the Study of Women’s Health Across the Nation (SWAN) Across 4 Cardiometabolic Outcomes, 1995-2016 (N = 3302)

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This supplementary material has been provided by the authors to give readers additional information about their work.
**eTable 1. Missing Patterns in the Study of Women’s Health Across the Nation (SWAN) Across 4 Cardiometabolic Outcomes, 1995-2016 (N = 3302)**

|                           | Observed$^a$ | Missing Interval | Loss to Follow Up |
|----------------------------|-------------|------------------|-------------------|
|                            | % (n)       | % (n)            | % (n)             |
| **Hypertension**           |             |                  |                   |
| Overall                    | 67.9 (2241) | 8.5 (279)        | 23.7 (782)        |
| Racial/Ethnic Group        |             |                  |                   |
| Black                      | 76.3 (713)  | 8.4 (78)         | 15.3 (143)        |
| Chinese                    | 70.8 (177)  | 4.8 (12)         | 24.4 (61)         |
| Hispanic                   | 45.5 (130)  | 17.5 (50)        | 37.1 (106)        |
| Japanese                   | 70.1 (197)  | 4.6 (13)         | 25.3 (71)         |
| White                      | 66.0 (1024) | 8.1 (126)        | 25.9 (401)        |
| **Isolated Systolic HTN**  |             |                  |                   |
| Overall                    | 64.6 (2132) | 8.9 (293)        | 26.6 (877)        |
| Racial/Ethnic Group        |             |                  |                   |
| Black                      | 72.4 (676)  | 9.5 (89)         | 18.1 (169)        |
| Chinese                    | 70.4 (176)  | 4.4 (11)         | 25.2 (63)         |
| Hispanic                   | 33.6 (96)   | 21.7 (62)        | 44.8 (128)        |
| Japanese                   | 66.9 (188)  | 5.0 (14)         | 28.1 (79)         |
| White                      | 64.2 (996)  | 7.5 (117)        | 28.2 (438)        |
| **Insulin Resistance**     |             |                  |                   |
| Overall                    | 61.5 (2029) | 8.5 (280)        | 30.1 (993)        |
| Racial/Ethnic Group        |             |                  |                   |
| Black                      | 63.6 (594)  | 13.3 (124)       | 23.1 (216)        |
| Chinese                    | 54.0 (135)  | 7.6 (19)         | 38.4 (96)         |
| Hispanic                   | 47.6 (136)  | 11.2 (32)        | 41.3 (118)        |
| Japanese                   | 56.2 (158)  | 6.1 (17)         | 37.7 (106)        |
| White                      | 64.9 (1006) | 5.7 (88)         | 29.5 (457)        |
| **Diabetes**               |             |                  |                   |
| Overall                    | 66.2 (2186) | 1.9 (64)         | 31.9 (1052)       |
| Racial/Ethnic Group        |             |                  |                   |
| Black                      | 66.3 (619)  | 1.9 (18)         | 31.8 (297)        |
| Chinese                    | 78.0 (195)  | 0.0 (0)          | 22.0 (55)         |
| Hispanic                   | 39.2 (112)  | 9.4 (27)         | 51.4 (147)        |
| Japanese                   | 73.7 (207)  | 0.0 (0)          | 26.3 (74)         |
| White                      | 67.9 (1053) | 1.2 (19)         | 30.9 (479)        |

**Note:** HTN = hypertension.

$^a$Observed fully or carried forward (due to no change in status through interval).
### eTable 2. Percentage Difference in Age at Onset and Estimated Median Age at Onset of Hypertension (Stage 2) by Racial or Ethnic Group in the Study of Women’s Health Across the Nation

|                | Hypertension | Isolated Systolic HTN |
|----------------|--------------|-----------------------|
|                | Diff in Age of Onset | Predicted Median Age of Onset | Diff in Age of Onset | Predicted Median Age of Onset |
|                | %   | LCI | UCI | p-value | Median | LCI | UCI | Bias | LCI | UCI | p-value | Median | LCI | UCI | Bias | LCI | UCI |
| **Model 1 - Unadjusted** | | | | | | | | | | | | | | | | |
| Overall Racial/Ethnic Group | | | | | | | | | | | | | | | | |
| Black | -9.3 | -12.0 | -6.5 | 0.001 | 56.1 | 54.0 | 58.3 | -19.5 | -27.6 | -10.5 | 0.006 | 77.3 | 66.3 | 88.2 | | | |
| Chinese | 3.5 | -1.4 | 8.5 | 0.10 | 64.0 | 60.5 | 67.6 | -7.8 | -21.7 | 8.7 | 0.18 | 88.6 | 70.2 | 106.9 | | | |
| Hispanic | -3.1 | -9.5 | 3.7 | 0.19 | 60.0 | 55.7 | 64.2 | -2.7 | -27.1 | 29.9 | 0.43 | 93.4 | 64.2 | 122.7 | | | |
| Japanese White | -2.7 | -6.6 | 1.3 | 0.11 | 60.2 | 57.3 | 63.1 | -7.9 | -20.8 | 7.1 | 0.16 | 88.4 | 71.7 | 105.1 | | | |
| **Model 2 - Incorporating Left Censored** | | | | | | | | | | | | | | | | |
| Overall Racial/Ethnic Group | | | | | | | | | | | | | | | | |
| Black | -14.9 | -17.9 | -11.9 | 0.000 | 48.5 | 46.2 | 50.8 | -7.6 | -7.7 | -7.6 | | | | | | | |
| Chinese | 5.2 | -1.0 | 11.8 | 0.07 | 60.0 | 55.8 | 64.1 | -4.1 | -4.7 | -3.5 | | | | | | | |
| Hispanic | -16.7 | -22.4 | -10.5 | 0.003 | 47.5 | 43.9 | 51.1 | -12.5 | -11.8 | -13.1 | | | | | | | |
| Japanese White | -1.5 | -6.6 | 3.8 | 0.28 | 56.1 | 52.6 | 59.6 | -4.1 | -4.6 | -3.5 | | | | | | | |
| **Model 3 - Additionally Accounting for Right Censoring** | | | | | | | | | | | | | | | | |
| Overall Racial/Ethnic Group | | | | | | | | | | | | | | | | |
| Black | -12.1 | -14.1 | -10.2 | 0.000 | 50.0 | 48.7 | 51.3 | -6.1 | -5.2 | -7.0 | | | | | | | |
| Chinese | 4.9 | 1.5 | 8.2 | 0.003 | 59.7 | 57.4 | 62.0 | -4.3 | -3.1 | -5.6 | | | | | | | |
| Hispanic | -10.0 | -13.2 | -6.8 | 0.000 | 51.2 | 49.4 | 53.1 | -8.7 | -6.3 | -11.2 | | | | | | | |
| Japanese White | -0.9 | -3.9 | 2.1 | 0.28 | 56.4 | 54.5 | 58.4 | -3.8 | -2.8 | -4.7 | | | | | | | |
| **Model 4 - Additionally Adjusted for Left Truncation** | | | | | | | | | | | | | | | | |
| Overall Racial/Ethnic Group | | | | | | | | | | | | | | | | |
| Black | -9.7 | -12.5 | -7.0 | 0.000 | 50.3 | 48.7 | 52.0 | -5.8 | -5.3 | -6.4 | | | | | | | |
| Chinese | 6.0 | 1.8 | 10.2 | 0.003 | 59.1 | 56.1 | 62.1 | -5.0 | -4.4 | -5.5 | | | | | | | |
| Hispanic | -9.8 | -13.8 | -5.9 | 0.000 | 50.3 | 48.1 | 52.4 | -9.7 | -7.6 | -11.8 | | | | | | | |
| Japanese White | -1.0 | -6.4 | 4.4 | 0.35 | 55.2 | 51.7 | 58.6 | -5.0 | -5.6 | -4.5 | | | | | | | |

**Note:** HTN = Hypertension, Diff = Difference.

aAccelerated failure time survival model that is left-censored, right-censored and unadjusted for left-truncation (nHTN = 1360, nISH = 647).
bInterval censored accelerated failure time survival model to incorporate left censored cases (nHTN = 2084, nISH = 1986).
cInterval censored accelerated failure time survival model with multiply imputed data (nHTN = 3302, nISH = 3302).
dWeighted interval censored accelerated failure time survival model with multiply imputed data (nHTN = 3302, nISH = 3302).
ePercent difference in age of onset calculated as \( \exp(\beta) - 1 \) * 100. Models adjusted for covariates including educational level, self-reported health, waist circumference, smoking status, alcohol use and physical activity score.
fCovariates set to: educational level (some college), self-reported health (very good), waist circumference (86.34 cm), smoking status (never), alcohol use (moderate) and physical activity score (7.65).
gBias is median age of onset in model adjusted for selection minus median age of onset unadjusted for selection (model 1).
eTable 3. Percentage Difference in Age at Onset and Estimated Median Age at Onset of Metabolic Outcomes by Racial or Ethnic Group in the Study of Women’s Health Across the Nation

|                      | Insulin Resistance                                                                 | Diabetes                                                                 |
|----------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|                      | **Diff in Age of Onset**a | **Predicted Median Age of Onset**a | **Diff in Age of Onset**a | **Predicted Median Age of Onset**a |
|                      | % LCI UCI p-value | Median LCI UCI | Bias LCI UCI | % LCI UCI p-value | Median LCI UCI | Bias LCI UCI |
| **Model 1 - Unadjusted**a |                        |                        |                      |                        |                        |
| Overall               | NA                      | 100.2 90.5 109.8 NA   | -5.4 -10.0 -0.6 0.04 | 90.6 84.1 97.1 NA     |
| Racial/Ethnic Group  |                        |                        |                      |                        |                        |
| Black                 | -9.1 -14.6 -3.3 0.02   | 94.9 85.6 104.1 NA    | -7.4 -14.9 0.8 0.06  | 88.9 82.2 95.6 NA     |
| Chinese               | 5.7 -8.6 22.1 0.23     | 110.3 91.9 128.8 NA   | -1.7 -11.4 9.2 0.37  | 87.1 78.4 95.7 NA     |
| Hispanic              | -18.0 -27.0 -8.0 0.011 | 85.6 74.5 96.6 NA     | 10.8 87.4 116.3 NA   | 92.4 81.7 103.1 NA    |
| Japanese              | -2.4 -13.3 9.8 0.34    | 101.8 87.4 116.3 NA   | -13.7 -20.1 -6.8 0.007 | 81.1 73.8 88.4 NA     |
| White                 |                         | 104.4 94.0 114.8     |                         | 94.0 86.9 101.1     |
| **Model 2 - Incorporating Left Censored**a |                        |                        |                      |                        |                        |
| Overall               | NA                      | 101.1 90.5 111.7 0.9 -0.1 1.8 | -8.4 -14.1 -2.3 0.02 | 101.5 92.0 111.0 10.9 7.9 13.9 |
| Racial/Ethnic Group  |                        |                        |                      |                        |                        |
| Black                 | -10.1 -16.4 -3.3 0.02   | 96.1 85.7 106.5 1.3 0.1 2.4 | -3.2 -13.8 8.6 0.29  | 98.1 88.6 107.7 9.2 6.3 12.1 |
| Chinese               | 9.1 -7.7 28.9 0.16      | 116.6 94.7 138.6 6.3 2.7 9.8 | -13.2 -23.2 -1.8 0.04 | 103.6 89.5 117.8 16.6 11.1 22.1 |
| Hispanic              | -27.2 -35.7 -17.6 0.003 | 77.8 66.9 88.7 -7.7 -7.5 -8.0 | -12.2 -21.2 -2.3 0.03 | 93.0 80.4 105.7 0.6 -1.3 2.6 |
| Japanese              | 4.9 -10.2 22.6 0.27     | 112.2 92.1 132.2 10.3 4.8 15.9 | 94.0 82.2 105.8 12.9 8.4 17.5 |
| White                 |                         | 106.9 95.3 118.5 2.5 1.2 3.8 |                         | 107.1 96.5 117.8 13.1 9.6 16.7 |
| **Model 3 - Additionally Accounting for Right Censoring**a |                        |                        |                      |                        |                        |
| Overall               | NA                      | 78.0 73.3 82.7 -22.2 -17.2 -27.1 | -7.3 -10.9 -3.7 0.000 | 86.3 81.5 91.1 -2.6 -0.8 -4.5 |
| Racial/Ethnic Group  |                        |                        |                      |                        |                        |
| Black                 | -11.2 -15.2 -7.2 0.000 | 74.3 69.9 78.7 -20.6 -15.7 -25.4 | -3.5 -10.3 3.3 0.15  | 89.8 82.6 97.0 2.7 4.2 1.3 |
| Chinese               | -5.2 -17.2 6.7 0.18     | 79.4 73.9 120.9 -31.0 -54.0 -7.9 | -13.7 -19.2 -8.1 0.000 | 80.3 74.7 85.9 -12.1 -7.0 -17.2 |
| Hispanic              | -25.8 -32.2 -19.4 0.000 | 62.1 56.2 68.0 -23.5 -18.3 -28.6 | -5.0 -11.7 1.7 0.07   | 88.4 81.3 95.4 7.3 7.5 7.1 |
| Japanese              | -4.2 -12.7 -4.3 0.16    | 80.2 68.4 92.0 -21.7 -19.0 -24.4 | 93.0 87.8 98.3 -0.9 0.9 -2.8 |
| White                 |                         | 83.7 77.8 89.6 -20.7 -16.3 -25.2 |                         | 88.4 81.3 95.4 7.3 7.5 7.1 |
| **Model 4 - Additionally Adjusted for Left Truncation**a |                        |                        |                      |                        |                        |
| Overall               | NA                      | 75.2 67.5 82.9 -25.0 -23.0 -27.0 | -6.0 -12.1 0.1 0.02  | 85.3 75.0 95.5 -3.6 -7.2 -0.1 |
| Racial/Ethnic Group  |                        |                        |                      |                        |                        |
| Black                 | -6.2 -12.2 -0.2 0.02   | 75.2 67.1 83.3 -19.7 -18.6 -20.8 | 2.5 -6.3 11.3 0.29   | 93.0 81.0 105.0 6.0 2.6 9.3 |
| Chinese               | -4.2 -17.9 9.5 0.26    | 76.8 26.5 127.2 -33.5 -65.4 -1.6 | 16.1 -25.1 7.1 0.000 | 76.1 64.3 88.0 -16.3 -17.4 -15.2 |
| Hispanic              | -25.1 -34.2 -16.0 0.000 | 60.0 52.7 67.4 -25.5 -21.8 -29.3 | -0.2 -9.0 8.6 0.48   | 90.6 77.5 103.6 9.5 3.7 15.2 |
| Japanese              | -10.1 -27.4 27.1 0.11  | 72.0 55.7 88.3 -29.8 -31.6 -28.0 | 90.7 78.4 103.0 -3.3 -8.4 1.9 |
| White                 |                         | 81.0 70.1 89.8 -24.3 -23.5 -25.0 |                         |                         |

Note: Diff = Difference.

aAccelerated failure time survival model that is left censored, right censored and unadjusted for left truncation (nIR = 1620, nDiabetes = 1893).
bInterval censored accelerated failure time survival model to incorporate left censored cases (nIR = 1887, nDiabetes = 2033).
cInterval censored accelerated failure time survival model with multiply imputed data (nIR = 3302, nDiabetes = 3302).
dWeighted interval censored accelerated failure time survival model with multiply imputed data (nIR = 3302, nDiabetes = 3302).
ePercent difference in age of onset calculated as (exp(β)-1)*100. Models adjusted for covariates including educational level, self-reported health, waist circumference, smoking status, alcohol use and physical activity score.
fCovariates set to: educational level (some college), self-reported health (very good), waist circumference (86.34 cm), smoking status (never), alcohol use (moderate) and physical activity score (7.65).
gBias is median age of onset in model adjusted for selection minus median age of onset unadjusted for selection (model 1).
hSmall number of cases for Chinese (n with insulin resistance ~46, n with diabetes ~40) and Japanese (n with insulin resistance ~51, n with diabetes ~34) women.