Appendix Table 1. Characteristics of study participants

	Premenopausal women (n=11,609)	**Age-matched men (n=11,609)**	**Postmenopausal women (n=11,067)**
Age, mean SD	35.51 (0.13)	36.89 (0.13)	61.79 (0.15)
Race/ethnicity, n %			
Non-Hispanic whites	4397 (62.77)	4471 (63.82)	4992 (75.03)
Non-Hispanic blacks	2434 (12.78)	2318 (11.00)	2213 (10.11)
Hispanics	3228 (16.75)	3094 (17.64)	2655 (9.22)
Others	1215 (7.70)	1215 (7.55)	817 (5.63)
≤High school, n %	4587 (34.10)	5476 (42.36)	5717 (44.32)
Low income (income to poverty ratio<1), n %	2487 (17.33)	1967 (13.04)	1758 (11.14)
Insured, n %	8270 (79.12)	7312 (73.35)	9329 (91.07)
Married, n %	5443 (51.76)	5625 (53.06)	5162 (56.26)
BMI (mean, SD)	28.50 (0.11)	28.45 (0.09)	29.28 (0.10)
Current smoker, n, %	3347 (37.35)	4839 (49.00)	3676 (42.17)
Low physical activity [1], n, %	8611 (73.50)	9239 (76.03)	7049 (49.02)
High calorie intake [2], n %	3532 (40.68)	4364 (54.08)	2185 (29.49)
Anti-hypertension meds, n %	1205 (67.88)	1357 (63.93)	5172 (92.16)
Lipid-lowering meds, n %	566 (12.48)	999 (24.33)	3580 (48.44)
Self-reported diabetes, n %	458 (3.23)	559 (4.12)	1815 (12.53)
Self-reported diabetes medications, n %	322 (2.21)	414 (3.16)	1449 (9.92)
Fasting glucose mg/dL, mean SD	96.94 (0.32)	103.45 (0.47)	108.25 (0.57)
Fasting glucose 100-126 mg/dL, n %	1072 (8.99)	1874 (17.15)	1943 (18.39)
Fasting glucose ≥126 mg/dL, n %	234 (1.56)	356 (2.63)	789 (5.60)
Oral glucose tolerance mg/dL, mean SD	106.80 (0.84)	106.51 (1.16)	128.84 (1.37)
Oral glucose tolerance 140-200 mg/dL, n %	306 (2.42)	277 (2.22)	506 (4.44)
Oral glucose tolerance ≥200 mg/dL, n %	88 (0.58)	92 (0.71)	239 (1.92)
A1c %, mean SD	5.33 (0.01)	5.44 (0.01)	5.78 (0.01)
A1c 5.7-6.5%, n %	945 (6.95)	1234 (8.52)	2899 (23.30)
A1c ≥6.5%, n %	444 (2.85)	590 (4.29)	1536 (9.96)
Age-adjusted prevalence of pre-DM	0.230 (0.009)	0.313 (0.009)	0.305 (0.008)
Age-adjusted prevalence of diagnosed DM	0.052 (0.005)	0.065 (0.004)	0.102 (0.006)

Age-adjusted prevalence of undiagnosed DM	0.025 (0.003)	0.032 (0.004)	0.003 (0.003)

[1]Low physical activity was defined as moderate-to-vigorous physical activity (<150 minutes/week).
All percentages have accounted for survey weights
[2]High calorie intake was defined as total calorie intake (≥2500 kcal per day in men; ≥2000 kcal per day in women), and

Appendix Table 2. Characteristics of study participants by diabetes diagnosis status

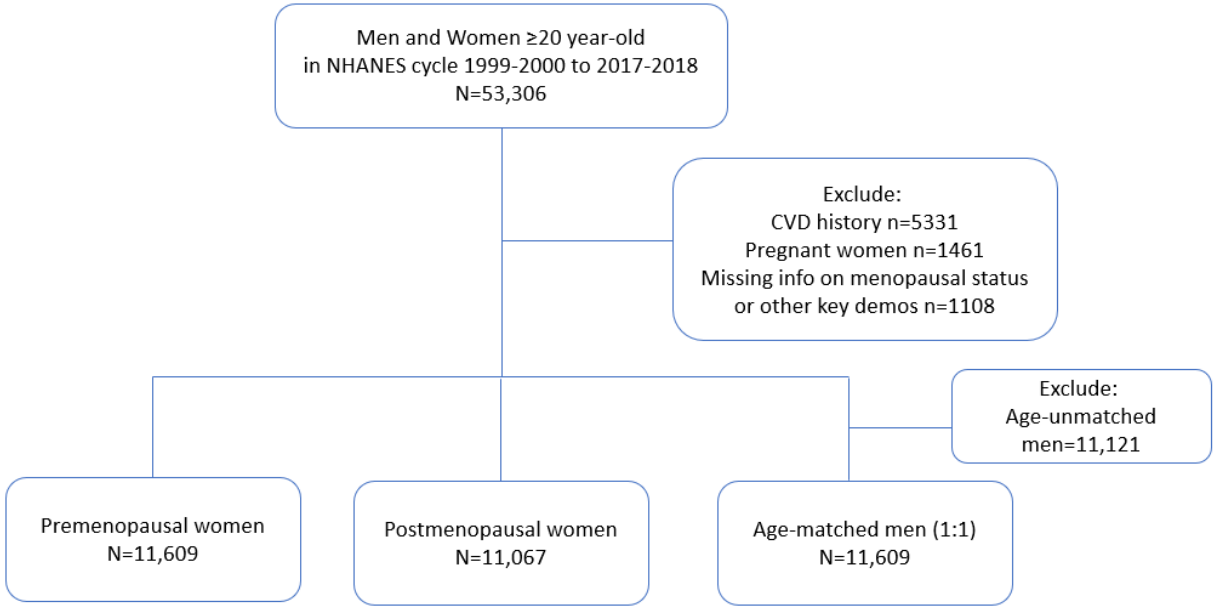
Premenopausal women (n=11,609)				
	Normglycemia (n=8357)	**Pre-DM (n=2283)**	**Diagnosed DM (n=741)**	**Undiagnosed DM (n=250)**
Age, mean SD	34.44 (0.14)	38.85 (0.27)	40.83 (0.38)	41.15 (0.48)
Race/ethnicity, n %	3545 (65.82)	702 (53.98)	185 (45.92)	63 (43.62)
Non-Hispanic whites	1687 (11.58)	568 (16.14)	200 (19.09)	62 (18.52)
Non-Hispanic blacks	2277 (15.64)	725 (19.63)	260 (24.26)	86 (24.61)
Hispanics	848 (6.96)	288 (10.25)	96 (10.73)	39 (13.25)
Others				
≤High school, n %	3211 (32.13)	1050 (39.98)	382 (45.43)	140 (51.85)
Low income (income to poverty ratio<1), n %	1763 (16.33)	548 (19.91)	204 (23.79)	69 (25.45)
Insured, n %	6168 (79.72)	1629 (76.75)	549 (78.14)	167 (71.70)
Married, n %	3975 (51.09)	1162 (54.79)	363 (51.90)	121 (48.13)
BMI (mean, SD)	27.23 (0.11)	32.23 (0.25)	35.95 (0.37)	36.50 (0.53)
Current smoker, n, %	2481 (37.11)	674 (37.81)	224 (39.98)	78 (39.05)
Low physical activity [1], n, %	1962 (33.48)	799 (43.79)	286 (50.45)	110 (56.85)
High calorie intake [2], n %	2546 (40.73)	799 (41.12)	232 (38.28)	92 (39.13)
Anti-hypertension meds, n %	596 (58.89)	376 (77.22)	262 (90.33)	64 (85.78)
Lipid-lowering meds, n %	202 (7.78)	171 (15.96)	214 (48.74)	35 (31.52)
Age-matched men (n=11,609)				
	Normglycemia (n=7009)	**Pre-DM (n=3319)**	**Diagnosed DM (n=876)**	**Undiagnosed DM (n=307)**
Age, mean SD	35.16 (0.17)	39.47 (0.22)	44.22 (0.36)	43.18 (0.53)
Race/ethnicity, n %	3061 (66.54)	1166 (59.48)	282 (54.59)	92 (54.35)
Non-Hispanic whites	1415 (10.41)	733 (11.99)	198 (13.25)	63 (12.19)
Non-Hispanic blacks	1822 (16.21)	1016 (19.89)	290 (22.69)	112 (22.71)
Hispanics	711 (6.85)	404 (8.64)	106 (9.46)	40 (10.75)
Others				
≤High school, n %	3307 (40.82)	1768 (45.77)	471 (45.92)	175 (49.36)

Low income (income to poverty ratio<1), n %	1213 (12.77)	608 (13.24)	165 (15.59)	48 (13.94)
Insured, n %	4620 (73.00)	2155 (73.47)	606 (76.30)	184 (67.18)
Married, n %	3318 (50.25)	1835 (57.49)	534 (63.48)	188 (66.03)
BMI (mean, SD)	27.44 (0.09)	30.03 (0.16)	32.74 (0.34)	33.66 (0.49)
Current smoker, n, %	2988 (48.01)	1473 (50.55)	429 (52.87)	147 (54.49)
Low physical activity [1], n, %	975 (22.21)	650 (24.44)	234 (37.53)	88 (41.88)
High calorie intake [2], n %	2736 (55.01)	1348 (53.09)	315 (48.85)	115 (50.52)
Anti-hypertension meds, n %	549 (55.70)	508 (66.59)	330 (85.76)	62 (75.25)
Lipid-lowering meds, n %	366 (17.63)	372 (26.84)	275 (54.52)	29 (30.55)
Postmenopausal women (n=11,067)				
	Normglycemia (n=4234)	**Pre-DM (n=4240)**	**Diagnosed DM (n=2551)**	**Undiagnosed DM (n=630)**
Age, mean SD	59.63 (0.21)	63.56 (0.21)	64.41 (0.28)	66.09 (0.44)
Race/ethnicity, n % Non-Hispanic whites Non-Hispanic blacks Hispanics Others	2402 (81.49) 721 (7.48) 854 (6.80) 257 (4.24)	1917 (73.06) 880 (10.56) 1073 (10.02) 370 (6.36)	833 (61.90) 677 (16.07) 821 (14.17) 220 (7.86)	254 (68.16) 145 (13.33) 185 (12.76) 46 (5.74)
≤High school, n %	2052 (39.11)	2254 (45.98)	1618 (55.44)	392 (53.49)
Low income (income to poverty ratio<1), n %	580 (9.23)	677 (10.07)	567 (16.79)	129 (14.59)
Insured, n %	3731 (91.16)	3684 (90.93)	2220 (91.19)	536 (89.72)
Married, n %	2153 (59.44)	2016 (54.39)	1145 (50.67)	282 (48.62)
BMI (mean, SD)	27.52 (0.13)	29.88 (0.16)	32.93 (0.20)	32.07 (0.35)
Current smoker, n, %	1555 (43.58)	1399 (41.06)	833 (40.54)	216 (42.23)
Low physical activity [1], n, %	1214 (45.23)	1750 (52.27)	1226 (61.66)	291 (61.41)
High calorie intake [2], n %	819 (29.38)	984 (31.29)	448 (24.58)	120 (24.24)
Anti-hypertension meds, n %	1520 (88.29)	2113 (93.06)	1757 (96.28)	387 (94.47)
Lipid-lowering meds, n %	952 (37.60)	1447 (48.63)	1339 (72.47)	244 (60.04)

[1]Low physical activity was defined as moderate-to-vigorous physical activity (<150 minutes/week).

All percentages have accounted for survey weights
[2]High calorie intake was defined as total calorie intake (≥2500 kcal per day in men; ≥2000 kcal per day in women), and

Appendix Figure 1. Sample selection for regression analysis



APPENDIX TEXT 1

We adopted SAS macro at http://www.biostat.umn.edu/~greg-g/match_cc.sas to identify age-matched men for premenopausal women.

First, we created two data sets, one data set containing premenopausal women and a second data set containing all men. The program selects one case (premenopausal women with a specific age in years) at a time and then searches through the man dataset (randomly ordered) for an age match. When a match was found, the case and the matched man were written to a data set and the potential man data set is updated removing the used man cases. If no match was found then the case was written to a separate – no-match – data set. The process is repeated for all premenopausal women.