**Supplemental Table S1:** Associations of sedentary time (comparing the 75th to the 25th percentile; IQR=2 hr/day) and mean bout duration (comparing the 75th to the 25th percentile; IQR=2.8 minutes) with new-onset diabetes diagnosis, by selected participant characteristics; OPACH (2012-2018)

		No.	Sedentary Time		Mean Bout Duration	
	n	Cases	HR* (95% CI)	P-interaction	HR* (95% CI)	P-interaction
Total sample	4839	342	1.18 (1.00-1.40)		1.10 (0.99-1.23)	_
Age				0.62		0.77
< 80 Years	2351	181	1.09 (0.87-1.36)		1.01 (0.82-1.26)	
≥ 80 Years	2488	161	1.30 (1.01-1.66)		1.13 (1.01-1.28)	
BMI				0.08		0.41
$< 30 \text{ kg/m}^2$	3293	203	1.29 (1.03-1.60)		1.18 (0.99-1.39)	
$\geq 30 \text{ kg/m}^2$	1238	120	0.94 (0.70-1.26)		1.10 (0.90-1.34)	
Physical functioning				0.78		0.78
RAND-36 score < 75	2387	169	1.19 (0.94-1.50)		1.09 (0.96-1.23)	
RAND-36 score $\geq 75$	2401	170	1.18 (0.95-1.48)		1.12 (0.90-1.40)	
MVPA				0.69		0.64
< 43 minutes/day	2419	189	0.99 (0.76-1.30)		1.04 (0.90-1.20)	
≥ 43 minutes/day	2420	153	1.20 (0.92-1.56)		1.20 (0.91-1.58)	
Race-ethnicity <sup>†</sup>				0.82		0.16
White	2568	170	1.24 (0.97-1.57)		1.22 (1.05-1.42)	
Black	1469	116	1.13 (0.85-1.49)		0.95 (0.74-1.22)	
Hispanic	802	56	1.16 (0.79-1.70)		1.03 (0.68-1.54)	
Family history				0.11		0.31
No	3218	207	1.12 (0.91-1.38)		1.08 (0.92-1.28)	
Yes	1599	131	1.29 (0.99-1.68)		1.11 (0.97-1.27)	

Abbreviations: HR = hazard ratio; CI = confidence interval; BMI = body mass index; MVPA = moderate-to-vigorous physical activity; IQR = interquartile range; RAND-36 = RAND 36-Item Short Form Health Survey.

<sup>\*</sup> Model 2 was used for all hazard ratios; adjusted for age, race-ethnicity, education, smoking status, alcohol use, family history of diabetes, multimorbidity, physical functioning, and self-rated health. Physical functioning and MVPA were split at the median.

<sup>†</sup> Models for each level of race-ethnicity were not mutually adjusted for race-ethnicity.

**Supplemental Table S2:** Associations of sedentary time (comparing the 75th to the 25th percentile; IQR=2 hr/day) and mean bout duration (comparing the 75th to the 25th percentile; IQR=2.8 minutes) with new-onset diabetes diagnosis in models that are mutually adjusted for sedentary behavior, MVPA and BMI, by selected participant characteristics; OPACH (2012-2018)

		No.	Sedentary Time		Mean Bout Duration	
	n	Cases	HR* (95% CI)	P-interaction	HR* (95% CI)	P-interaction
Total Sample	4839	342	1.03 (0.84-1.27)		1.07 (0.93-1.24)	
Age				0.22		0.62
< 80 Years	2351	181	0.78 (0.59-1.05)		0.86 (0.67-1.11)	
≥ 80 Years	2488	161	1.29 (0.92-1.79)		1.20 (1.01-1.42)	
BMI				0.09		0.47
$< 30 \text{ kg/m}^2$	3293	203	1.04 (0.80-1.36)		1.07 (0.88-1.29)	
$\geq 30 \text{ kg/m}^2$	1238	120	0.91 (0.62-1.32)		1.12 (0.90-1.39)	
Physical functioning				0.65		0.22
RAND-36 score < 75	2387	169	1.01 (0.73-1.39)		1.09 (0.91-1.29)	
RAND-36 score $\geq 75$	2401	170	0.95 (0.70-1.28)		1.01 (0.78-1.32)	
MVPA				0.82		0.85
< 43 minutes/day	2419	189	1.00 (0.75-1.33)		1.08 (0.91-1.27)	
≥ 43 minutes/day	2420	153	1.12 (0.85-1.49)		1.18 (0.89-1.58)	
Race-ethnicity <sup>†</sup>				0.34		0.06
White	2568	170	1.22 (0.89-1.67)		1.22 (1.03-1.44)	
Black	1469	116	0.86 (0.59-1.24)		0.84 (0.61-1.15)	
Hispanic	802	56	0.64 (0.37-1.12)		0.69 (0.42-1.14)	
Family history				0.15		0.09
No	3218	207	0.90 (0.68-1.19)		1.01 (0.83-1.22)	
Yes	1599	131	1.15 (0.81-1.64)		1.18 (0.95-1.47)	

Abbreviations: HR = hazard ratio; CI = confidence interval; BMI = body mass index; MVPA = moderate-to-vigorous physical activity; IQR = interquartile range; RAND-36 = RAND 36-Item Short Form Health Survey.

<sup>\*</sup> Model 3c was used for all hazard ratios; adjusted for age, race-ethnicity, education, smoking status, alcohol use, family history of diabetes, multimorbidity, physical functioning, self-rated health, BMI, and MVPA. Physical functioning and MVPA were split at the median. Models stratified by BMI were not further adjusted for BMI and models stratified by MVPA were not further stratified by MVPA.

<sup>†</sup> Models for each level of race-ethnicity were not mutually adjusted for race-ethnicity.