Supplemental Table 1. Missing information among 2005-2018 NHANES participants with diabetes excluding 2009-2010 survey year: n=4,235)

Variable	Missing, n (%)
Age	0 (0)
Sex	0 (0)
Race	0 (0)
Family income	449 (10.6)
Education	**8 (0.2)**
Health insurance	**21 (0.5)**
Body mass index	120 (2.8)
Smoking	0 (0)
HbA1c	194 (4.6)
Duration of diabetes	**58 (1.4)**
Antidiabetes medication	**3 (0.07)**
Hypertension	**2 (0.05)**
Hypercholesterolemia	**48 (1.1)**
Cardiovascular disease	**35 (0.8)**
Chronic kidney disease	249 (5.9)
Depression	370 (8.7)
N after excluding 166 (3.9%) participants with missing information if missing is less than 2%	**4,069**

Supplemental Table 2. Prevalence and odds ratios of receipt of ADA guideline-recommended care among US adults with self-reported diabetes (NHANES 2005-2018[*])

	OR (95% CI)	
	Model 1 **Model without education**	**Model 2** **Model without family income**
Age, years		
20-39	1 (ref)	1 (ref)
40-64	1.65 (0.98-2.77)	1.74 (1.06-2.87)
≥65	2.01 (1.18-3.40)	2.40 (1.45-3.99)
Sex		
Male	1 (ref)	1 (ref)
Female	0.97 (0.80-1.18)	0.98 (0.81-1.18)
Race/ethnicity		
Non-Hispanic White	1 (ref)	1 (ref)
Non-Hispanic Black	0.84 (0.66-1.06)	0.83 (0.66-1.05)
Mexican American	0.68 (0.51-0.90)	0.78 (0.59-1.04)
Other	0.80 (0.57-1.13)	0.79 (0.56-1.12)
Family income		
Below poverty threshold	1 (ref)	N/A
≥1 times poverty threshold	1.86 (1.37-2.53)	N/A
Missing	1.34 (0.82-2.19)	N/A
Education		
<High school	N/A	1 (ref)
High school degree	N/A	1.71 (1.23-2.37)
>High school degree	N/A	2.39 (1.67-3.41)
Health insurance		
No insurance	1 (ref)	1 (ref)
Public insurance	3.35 (2.12-5.29)	3.13 (1.97-4.97)
Private insurance	3.30 (2.12-5.13)	3.36 (2.14-5.26)
BMI, kg/m^2		
<25	1 (ref)	1 (ref)
25 to <30	1.11 (0.77-1.58)	1.07 (0.74-1.54)
≥30	1.32 (0.96-1.81)	1.28 (0.93-1.78)
Missing	0.96 (0.45-2.04)	0.91 (0.43-1.95)
Current smoker		
Yes	1 (ref)	1 (ref)
No	1.40 (1.02-1.91)	1.39 (1.02-1.90)
HbA1c categories		
<7 % (<53 mmol/mol)	1 (ref)	1 (ref)
7-8 % (53-64 mmol/mol)	1.33 (1.03-1.71)	1.36 (1.06-1.75)
8-9 % (64-75 mmol/mol)	0.94 (0.65-1.35)	0.94 (0.65-1.35)
>9 % (>75 mmol/mol)	0.87 (0.62-1.22)	0.86 (0.61-1.21)
Missing	1.22 (0.65-2.32)	1.26 (0.67-2.40)
Time since diabetes diagnosis		
0 to <5 years	1 (ref)	1 (ref)
5 to <15 years	1.39 (1.07-1.81)	1.35 (1.04-1.77)
≥15 years	1.92 (1.44-2.56)	1.88 (1.41-2.51)
Diabetes medication		
None	1 (ref)	1 (ref)
Non-insulin agents only	1.95 (1.38-2.75)	1.98 (1.40-2.80)
Insulin	3.06 (2.15-4.35)	3.12 (2.18-4.48)
Hypertension		

No	1 (ref)	1 (ref)
Yes	1.16 (0.91-1.47)	1.18 (0.93-1.49)
Hypercholesterolemia		
No	1 (ref)	1 (ref)
Yes	1.98 (1.60-2.45)	1.94 (1.57-2.39)
Cardiovascular disease		
No	1 (ref)	1 (ref)
Yes	1.08 (0.84-1.39)	1.10 (0.85-1.42)
Chronic kidney disease		
No	1 (ref)	1 (ref)
Yes	0.86 (0.70-1.06)	0.88 (0.71-1.08)
Missing	0.91 (0.55-1.53)	0.91 (0.54-1.52)
Depressive symptoms		
No	1 (ref)	1 (ref)
Yes	1.02 (0.75-1.37)	1.01 (0.75-1.37)
Missing	0.88 (0.58-1.34)	0.92 (0.60-1.40)

*2009-2010 survey cycle was not included.

Model 1: adjusted for age, sex, race/ethnicity, family income, and health insurance

Model 2: adjusted for age, sex, race/ethnicity, education, and health insurance

NHANES; National Health and Nutrition Examination Survey; OR, odds ration; SE, standard error; BMI, body mass index; HbA1c, hemoglobin A1c

Supplemental Table 3. [†]Adjusted odds ratios of receipt of each component of ADA guideline-recommended care among US adults with self-reported diabetes (NHANES 2005-2018[*])

	Diabetes doctor	HbA1c testing	Eye exam	Foot exam	Cholesterol testing
	Adjusted odds ratio (95% confidence interval) from the model without education variable				
Age, years					
20-39	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
40-64	1.85 (1.31-2.61)	1.01 (0.68-1.52)	1.42 (1.00-2.00)	1.20 (0.86-1.69)	2.36 (1.50-3.70)
≥65	1.49 (1.03-2.14)	0.95 (0.59-1.54)	2.27 (1.57-3.30)	1.60 (1.14-2.25)	3.24 (2.06-5.11)
Sex					
Male	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Female	1.10 (0.91-1.34)	1.02 (0.84-1.25)	1.03 (0.86-1.23)	0.94 (0.77-1.15)	1.08 (0.86-1.36)
Race/ethnicity					
Non-Hispanic White	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Non-Hispanic Black	1.09 (0.90-1.32)	0.55 (0.43-0.69)	1.11 (0.88-1.39)	1.01 (0.78-1.31)	0.71 (0.55-0.93)
Mexican American	0.70 (0.57-0.86)	0.49 (0.39-0.61)	0.81 (0.63-1.05)	0.64 (0.51-0.80)	0.59 (0.46-0.76)
Other	1.00 (0.72-1.39)	1.08 (0.74-1.59)	0.98 (0.72-1.35)	0.84 (0.63-1.13)	0.76 (0.54-1.08)
Family income					
Below poverty threshold	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
≥1 times poverty threshold	1.45 (1.13-1.85)	1.88 (1.54-2.31)	1.64 (1.32-2.04)	1.33 (1.03-1.72)	1.34 (1.05-1.72)
Missing	1.58 (1.10-2.27)	1.13 (0.75-1.70)	1.12 (0.81-1.55)	0.95 (0.67-1.36)	1.69 (1.16-2.47)
Health insurance					
No insurance	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Public insurance	2.84 (2.12-3.81)	2.76 (2.06-3.71)	2.81 (2.13-3.71)	2.67 (2.06-3.47)	3.07 (2.16-4.36)
Private insurance	2.42 (1.84-3.17)	3.34 (2.37-4.72)	2.11 (1.57-2.84)	2.45 (1.81-3.33)	3.98 (2.79-5.66)
BMI, kg/m²					
<25	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
25 to <30	1.14 (0.84-1.56)	1.46 (1.09-1.97)	0.92 (0.67-1.25)	0.85 (0.60-1.21)	1.07 (0.78-1.47)
≥30	1.57 (1.18-2.09)	1.57 (1.19-2.07)	1.12 (0.83-1.51)	0.96 (0.68-1.34)	1.21 (0.93-1.58)
Missing	1.35 (0.73-2.50)	0.96 (0.57-1.61)	0.98 (0.54-1.80)	0.75 (0.37-1.54)	0.72 (0.37-1.39)
Current smoker					
Yes	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
No	1.18 (0.95-1.46)	1.25 (0.99-1.57)	1.54 (1.26-1.89)	1.16 (0.89-1.51)	1.32 (0.99-1.74)
HbA1c categories					
<7 % (<53 mmol/mol)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
7-8 % (53-64 mmol/mol)	2.12 (1.70-2.64)	1.59 (1.23-2.06)	1.21 (0.90-1.61)	1.59 (1.13-2.23)	1.04 (0.78-1.37)
8-9 % (64-75 mmol/mol)	1.79 (1.33-2.41)	1.49 (1.01-2.18)	1.01 (0.72-1.41)	1.50 (1.02-2.22)	0.89 (0.59-1.32)
>9 % (>75 mmol/mol)	1.21 (0.90-1.63)	1.21 (0.95-1.55)	0.94 (0.69-1.27)	1.17 (0.88-1.54)	0.71 (0.53-0.97)
Missing	1.30 (0.75-2.26)	0.77 (0.44-1.36)	1.02 (0.62-1.67)	1.06 (0.59-1.89)	1.38 (0.72-2.63)

Time since diabetes diagnosis					
0 to <5 years	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
5 to <15 years	1.43 (1.12-1.83)	1.45 (1.15-1.82)	1.24 (0.93-1.65)	1.37 (1.09-1.72)	0.82 (0.61-1.09)
≥15 years	1.20 (0.95-1.52)	1.88 (1.44-2.45)	1.75 (1.27-2.42)	1.90 (1.46-2.47)	0.94 (0.69-1.28)
Diabetes medication					
None	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Non-insulin agents only	3.32 (2.51-4.40)	1.94 (1.55-2.43)	1.46 (1.11-1.93)	1.97 (1.50-2.59)	2.22 (1.58-3.12)
Insulin	5.17 (3.88-6.89)	3.92 (2.92-5.26)	2.22 (1.59-3.10)	3.59 (2.54-5.08)	1.91 (1.33-2.74)
Hypertension					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1.23 (1.01-1.49)	1.27 (1.01-1.60)	1.02 (0.84-1.24)	1.22 (0.98-1.52)	1.34 (1.06-1.70)
Hypercholesterolemia					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1.44 (1.15-1.82)	1.58 (1.31-1.91)	1.27 (1.04-1.56)	1.40 (1.15-1.71)	2.83 (2.30-3.48)
Cardiovascular disease					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1.06 (0.81-1.40)	0.77 (0.61-0.96)	1.22 (0.97-1.55)	1.20 (0.95-1.51)	1.38 (1.09-1.75)
Chronic kidney disease					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0.92 (0.74-1.14)	0.91 (0.75-1.10)	1.01 (0.81-1.25)	1.12 (0.90-1.39)	0.73 (0.58-0.93)
Missing	0.91 (0.60-1.40)	0.95 (0.60-1.51)	1.05 (0.67-1.66)	0.86 (0.55-1.35)	0.66 (0.40-1.10)
Depressive symptoms					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0.79 (0.61-1.04)	0.85 (0.68-1.07)	0.98 (0.78-1.24)	0.95 (0.73-1.24)	0.90 (0.69-1.18)
Missing	1.06 (0.75-1.50)	0.61 (0.45-0.82)	0.86 (0.61-1.23)	1.10 (0.79-1.55)	1.11 (0.77-1.59)

*2009-2010 survey cycle was not included.

†adjusted for age, sex, race/ethnicity, family income, and health insurance

NHANES; National Health and Nutrition Examination Survey; BMI, body mass index; HbA1c, hemoglobin A1c

Supplemental Table 4. [†]Adjusted odds ratios of receipt of each component of ADA guideline-recommended care among US adults with self-reported diabetes (NHANES 2005-2018[*])

	Diabetes doctor	HbA1c testing	Eye exam	Foot exam	Cholesterol testing
	Adjusted odds ratio (95% confidence interval) from the model without family income variable				
Age, years					
20-39	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
40-64	1.90 (1.35-2.68)	1.11 (0.76-1.62)	1.46 (1.04-2.06)	1.23 (0.88-1.73)	2.45 (1.57-3.83)
≥65	1.65 (1.13-2.40)	1.23 (0.78-1.96)	2.58 (1.78-3.74)	1.74 (1.24-2.44)	3.61 (2.28-5.72)
Sex					
Male	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Female	1.10 (0.91-1.34)	1.04 (0.85-1.27)	1.02 (0.86-1.22)	0.94 (0.77-1.15)	1.09 (0.87-1.37)
Race/ethnicity					
Non-Hispanic White	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Non-Hispanic Black	1.08 (0.90-1.31)	0.55 (0.44-0.69)	1.07 (0.85-1.35)	0.99 (0.77-1.28)	0.72 (0.55-0.95)
Mexican American	0.72 (0.57-0.90)	0.64 (0.51-0.79)	0.83 (0.65-1.06)	0.67 (0.53-0.83)	0.63 (0.48-0.82)
Other	0.99 (0.71-1.37)	1.07 (0.73-1.57)	0.95 (0.69-1.30)	0.83 (0.61-1.12)	0.75 (0.53-1.06)
Education					
<High school	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
High school degree	1.04 (0.80-1.35)	1.73 (1.33-2.26)	1.15 (0.90-1.47)	1.19 (0.91-1.56)	0.95 (0.69-1.32)
>High school degree	1.31 (0.97-1.76)	3.61 (2.56-5.07)	1.43 (1.11-1.83)	1.36 (1.03-1.80)	1.45 (1.09-1.92)
Health insurance					
No insurance	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Public insurance	2.75 (2.03-3.72)	2.54 (1.85-3.48)	2.66 (2.01-3.53)	2.58 (1.99-3.36)	2.96 (2.08-4.22)
Private insurance	2.51 (1.89-3.32)	3.24 (2.26-4.65)	2.22 (1.66-2.98)	2.50 (1.86-3.38)	3.95 (2.78-5.61)
BMI, kg/m²					
<25	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
25 to <30	1.13 (0.83-1.53)	1.39 (1.02-1.91)	0.91 (0.67-1.25)	0.85 (0.61-1.19)	1.05 (0.76-1.43)
≥30	1.54 (1.16-2.05)	1.49 (1.14-1.95)	1.13 (0.83-1.52)	0.96 (0.69-1.34)	1.17 (0.90-1.53)
Missing	1.32 (0.72-2.42)	0.91 (0.54-1.53)	0.97 (0.52-1.81)	0.74 (0.36-1.51)	0.72 (0.36-1.41)
Current smoker					
Yes	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
No	1.18 (0.96-1.45)	1.22 (0.98-1.51)	1.56 (1.28-1.91)	1.17 (0.90-1.53)	1.28 (0.97-1.68)
HbA1c categories					
<7 % (<53 mmol/mol)	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
7-8 % (53-64 mmol/mol)	2.15 (1.72-2.69)	1.66 (1.29-2.13)	1.21 (0.91-1.62)	1.59 (1.14-2.23)	1.06 (0.80-1.40)
8-9 % (64-75 mmol/mol)	1.79 (1.33-2.40)	1.53 (1.05-2.22)	0.99 (0.71-1.39)	1.49 (1.01-2.19)	0.90 (0.60-1.33)
>9 % (>75 mmol/mol)	1.20 (0.89-1.62)	1.22 (0.95-1.57)	0.93 (0.69-1.25)	1.16 (0.87-1.53)	0.72 (0.52-0.98)
Missing	1.35 (0.77-2.35)	0.81 (0.45-1.46)	1.03 (0.63-1.68)	1.06 (0.60-1.86)	1.46 (0.76-2.81)

Time since diabetes diagnosis					
0 to <5 years	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
5 to <15 years	1.42 (1.11-1.82)	1.39 (1.10-1.76)	1.20 (0.90-1.60)	1.34 (1.07-1.68)	0.82 (0.62-1.09)
≥15 years	1.20 (0.95-1.51)	1.86 (1.42-2.44)	1.71 (1.24-2.35)	1.87 (1.43-2.43)	0.94 (0.69-1.29)
Diabetes medication					
None	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Non-insulin agents only	3.36 (2.55-4.43)	2.04 (1.62-2.58)	1.47 (1.12-1.94)	1.99 (1.51-2.61)	2.25 (1.61-3.13)
Insulin	5.19 (3.90-6.90)	4.17 (3.12-5.59)	2.21 (1.58-3.08)	3.59 (2.54-5.08)	1.93 (1.34-2.77)
Hypertension					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1.24 (1.02-1.51)	1.33 (1.06-1.67)	1.03 (0.84-1.25)	1.23 (0.99-1.53)	1.37 (1.09-1.74)
Hypercholesterolemia					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1.42 (1.13-1.80)	1.54 (1.27-1.88)	1.26 (1.03-1.53)	1.39 (1.14-1.70)	2.79 (2.28-3.42)
Cardiovascular disease					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1.07 (0.81-1.41)	0.79 (0.62-0.99)	1.22 (0.97-1.54)	1.20 (0.94-1.52)	1.41 (1.12-1.77)
Chronic kidney disease					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0.92 (0.74-1.14)	0.94 (0.77-1.13)	1.01 (0.81-1.26)	1.12 (0.90-1.40)	0.73 (0.58-0.93)
Missing	0.93 (0.60-1.43)	0.94 (0.59-1.52)	1.04 (0.65-1.65)	0.85 (0.54-1.32)	0.69 (0.41-1.13)
Depressive symptoms					
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0.79 (0.60-1.03)	0.87 (0.69-1.09)	0.97 (0.77-1.22)	0.95 (0.73-1.24)	0.91 (0.69-1.19)
Missing	1.10 (0.78-1.55)	0.67 (0.49-0.90)	0.86 (0.61-1.22)	1.10 (0.78-1.56)	1.20 (0.83-1.73)

*2009-2010 survey cycle was not included.

†adjusted for age, sex, race/ethnicity, education, and health insurance

NHANES; National Health and Nutrition Examination Survey; BMI, body mass index; HbA1c, hemoglobin A1c

Supplemental Table 5: Prevalence estimates (SE) and odds ratios (95% CIs) of achievement of treatment goals in the U.S. adult population with diabetes, by receipt of ADA guideline-recommended care (yes vs. no [reference]), NHANES 2005-2016[*]

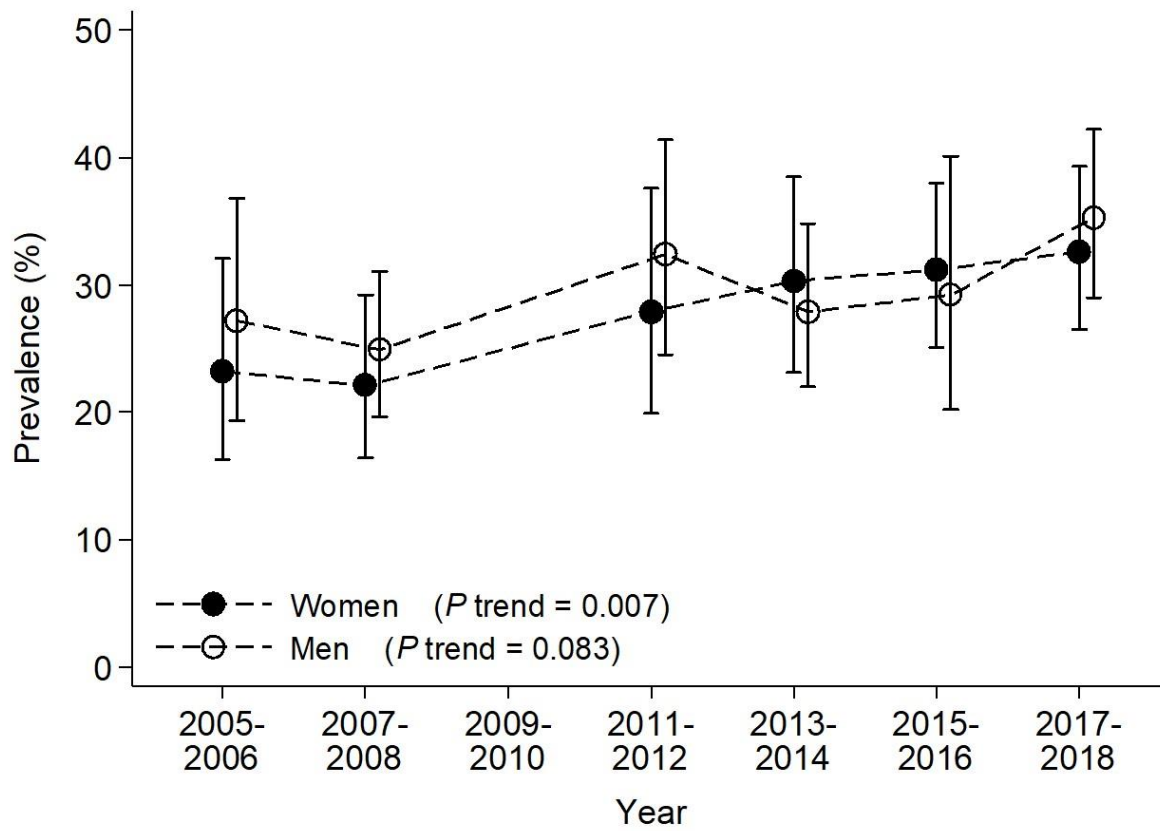| Achievement of treatment goals	Prevalence (SE)		Odds ratio (95% CI)	
	Receipt of ADA guideline-recommended care		Unadjusted model	Adjusted model[†]
	No	Yes	Receipt vs. no receipt	Receipt vs. no receipt
Glucose management (N=3,138)				
HbA1c <7% (<53 mmol/mol)	56.2 (1.5)	57.5 (2.3)	1.06 (0.85-1.31)	1.22 (0.95-1.56)
HbA1c <7.5% (58 mmol/mol)	66.0 (1.4)	71.9 (2.1)	1.32 (1.04-1.68)	**1.52 (1.17-1.98)**
HbA1c >9% (75 mmol/mol)	15.5 (1.1)	9.6 (1.1)	0.58 (0.42-0.79)	**0.59 (0.42-0.84)**
Blood pressure management (N=3,119)				
<140/90 mmHg	70.2 (1.3)	76.9 (2.2)	1.41 (1.08-1.85)	**1.47 (1.11-1.95)**
Cholesterol management				
HDL-cholesterol ≥40 mg/dL (1.0 mmol/L) in male and ≥50 mg/dL (1.3 mmol/L) in female (N=3,100)	54.8 (1.7)	55.1 (2.8)	1.01 (0.79-1.30)	0.94 (0.70-1.27)
LDL-cholesterol <100 mg/dL (2.6 mmol/L)[‡] (N=1,431)	52.6 (2.2)	65.7 (2.7)	1.73 (1.28-2.32)	**1.47 (1.03-2.10)**
LDL- cholesterol <70 mg/dL (1.8 mmol/L)[§] (N=350)	29.55 (3.49)	31.42 (4.19)	1.09 (0.67-1.79)	0.87 (0.48-1.58)
Receipt of cholesterol-lowering medication (N=2,624)	69.6 (1.6)	81.8 (2.3)	1.96 (1.42-2.71)	**1.79 (1.29-2.48)**

[*]2009-2010 survey cycle was not included.

[†]Models were adjusted for age, sex, race/ethnicity, family income, education, insurance, BMI, smoking (except smoking outcome), HbA1c (except glucose management outcome), diabetes duration, diabetes medication, history of hypertension (except blood pressure management outcome), hypercholesterolemia (except cholesterol management outcome), cardiovascular disease, chronic kidney disease, and depressive symptom.
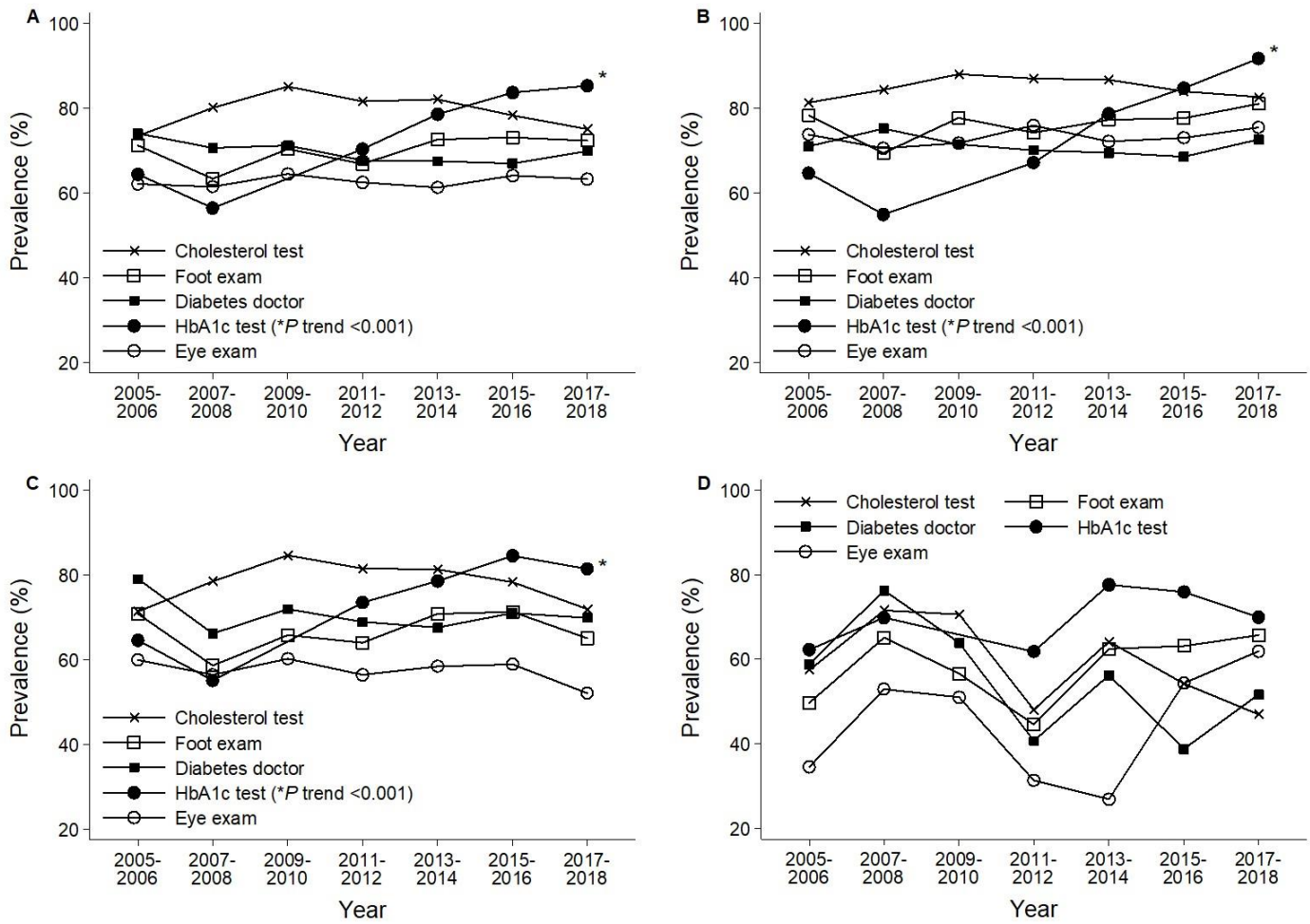
[‡]Among subset of participants having fasting lipid values. Fasting lab values are only available up to NHANES 2015-2016 at the time of analysis.

[§]Among subset of participants with cardiovascular disease having fasting lipid values.

Supplemental Figure 1. Trend in receipt of the ADA guideline-recommended care (all components) among US adults with self-reported diabetes, stratified by age (NHANES 2005-2018).

Supplemental Figure 2. Trend in receipt of the components of ADA guideline-recommended care among US adults with diabetes. (A) overall participants; (B) participants with age ≥65 years; (C) participants with age 40-64 years; (D) participants with age 20-39 years (NHANES 2005-2018). Data on HbA1c testing was not available in 2009-2010 survey cycle.