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APPENDICES

APPENDIX 41.1. Age- or Sex-Standardized Risk Factor Control Among Adults Age ≥ 20 Years With Diagnosed Diabetes, by Year and Race/Ethnicity, U.S., 1988–1994 and 1999–2010

RISK FACTORS	NHANES III 1988–1994			NHANES 1999–2004			NHANES 2005–2010		
	Non-Hispanic White (N=595)	Non-Hispanic Black (N=416)	Mexican American (N=475)	Non-Hispanic White (N=609)	Non-Hispanic Black (N=372)	Mexican American (N=424)	Non-Hispanic White (N=758)	Non-Hispanic Black (N=573)	Mexican American (N=394)
Mean (standard error)									
Age at diabetes diagnosis (years)	51.7 (0.83)	46.9 (0.90)	49.7 (1.48)	47.7 (0.96)	44.6 (0.84)	43.4 (0.98)	49.8 (0.69)	46.7 (0.56)	45.1 (0.96)
Duration of diabetes (years)	9.5 (0.48)	10.5 (0.62)	7.7 (0.67)	13.6 (0.79)	12.2 (0.74)	11.3 (0.81)	11.2 (0.41)	11.0 (0.42)	10.3 (0.61)
Percent (standard error)									
Diabetes treatment*									
Insulin only	25.1 (2.14)	37.3 (2.32)	18.7 (2.84)	17.1 (2.16)	20.5 (1.89)	10.2 (2.09)	17.0 (1.65)	14.7 (1.53)	12.0 (1.72)
Oral only	44.7 (3.26)	35.4 (2.34)	57.2 (3.81)	54.1 (2.88)	54.7 (2.90)	66.2 (1.75)	54.8 (2.34)	57.2 (2.63)	60.7 (2.37)
Insulin and oral	3.0 (0.74)	6.5 (1.46)	3.9 (0.94)	10.2 (1.86)	12.1 (2.16)	9.0 (1.80)	16.1 (1.28)	15.4 (1.65)	10.2 (1.48)
No meds	27.2 (2.69)	20.8 (2.01)	20.3 (2.80)	18.6 (2.78)	12.7 (1.91)	14.6 (1.63)	12.2 (1.86)	12.7 (1.64)	17.2 (1.91)
Hypertension									
Treated*	45.5 (2.60)	59.0 (2.51)	36.9 (4.29)	55.1 (2.01)	71.3 (3.02)	51.0 (2.41)	63.2 (2.01)	74.4 (2.14)	51.4 (2.20)
Controlled†	17.0 (3.77)	20.3 (3.75)	12.0 (2.94)	39.9 (4.45)	28.3 (3.13)	40.2 (4.60)	45.3 (3.05)	40.1 (2.24)	53.1 (2.54)
Uncontrolled	83.0 (3.77)	79.7 (3.75)	88.0 (2.94)	60.1 (4.45)	71.7 (3.13)	59.8 (4.60)	54.7 (3.05)	59.9 (2.24)	46.9 (2.54)
Blood pressure <130/80 mmHg	34.1 (2.83)	28.0 (2.78)	36.7 (4.76)	46.7 (3.55)	35.7 (2.65)	44.9 (2.89)	51.6 (2.45)	43.4 (2.05)	53.0 (3.04)
Hypercholesterolemia									
Treated*	14.9 (2.05)	14.5 (1.98)	12.8 (4.53) ¹	44.6 (2.73)	30.1 (2.53)	35.4 (3.37)	56.3 (2.43)	48.5 (2.06)	50.5 (3.73)
Controlled†	31.9 (7.63)	21.0 (4.63)	40.2 (12.58) ¹	47.4 (3.64)	53.4 (7.14)	44.6 (5.42)	68.6 (2.82)	59.8 (3.72)	64.6 (4.19)
Uncontrolled	68.1 (7.63)	79.0 (4.63)	59.8 (12.58)	52.6 (3.64)	46.6 (7.14)	55.4 (5.42)	31.4 (2.82)	40.2 (3.72)	35.4 (4.19)
Total cholesterol <200 mg/dL	31.5 (2.82)	34.4 (2.98)	41.9 (4.21)	48.7 (2.16)	56.2 (2.83)	50.0 (2.45)	70.0 (2.17)	61.3 (2.35)	60.5 (2.62)
LDL cholesterol <100 mg/dL	7.4 (2.26) ¹	13.3 (3.42)	20.1 (5.33)	38.7 (4.18)	41.7 (5.23)	34.1 (4.21)	61.7 (3.34)	42.0 (3.73)	43.8 (3.48)
Daily aspirin use	21.1 (2.33)	10.8 (1.84)	8.4 (2.26)	27.5 (2.50)	12.6 (1.79)	16.2 (1.71)	‡	‡	‡
Retinopathy§	14.7 (1.89)	24.7 (2.27)	23.3 (4.09)	23.8 (2.68)	28.7 (2.10)	26.4 (2.15)	19.5 (1.58)	23.5 (1.84)	20.7 (2.15)
Retinopathy	18.8 (3.47)	25.7 (3.57)	25.8 (3.94)	‡	‡	‡	28.7 (2.28)	40.9 (3.80)	39.1 (4.84)
History of CVD¶	20.6 (2.60)	19.7 (2.63)	13.8 (2.37)	26.7 (2.08)	22.4 (2.66)	18.3 (2.07)	25.8 (1.58)	22.6 (1.91)	16.2 (1.47)
Current smoking	18.1 (2.89)	23.5 (3.04)	14.2 (2.14)	19.6 (1.87)	23.1 (2.14)	18.6 (1.69)	17.5 (1.39)	20.0 (1.92)	13.4 (1.78)

Estimates are standardized to the National Health Interview Surveys 2009–2010 diabetic population using age groups 20–44, 45–64, and ≥ 65 years, except for age at diabetes diagnosis and duration of diabetes, which are standardized by sex to the National Health Interview Surveys 2009–2010 diabetic population. Conversions for cholesterol values are provided in *Diabetes in America Appendix 1 Conversions*. CVD, cardiovascular disease.

* Self-reported use of insulin or diabetes pills; self-reported use of medication to lower blood pressure; self-reported use of medication to lower cholesterol.

† Controlled medication-treated hypertension based on blood pressure <130/80 mmHg; controlled medication-treated hypercholesterolemia based on total cholesterol <200 mg/dL.

‡ Not determined.

§ Based on self-report.

|| Based on fundus photography.

¶ Defined as myocardial infarction and congestive heart failure in the NHANES III 1988–1994, as angina and coronary heart disease were not determined; defined as myocardial infarction, congestive heart failure, angina, coronary heart disease in NHANES 1999–2010.

¹ Relative standard error >30%–40%

SOURCE: National Health and Nutrition Examination Surveys (NHANES) III (1988–1994), 1999–2010

APPENDIX 41.2. Risk Factor Control Among Adults ≥20 Years With Diagnosed Diabetes, by Year and Age, U.S., 1988–1994 and 1999–2010

RISK FACTORS	NHANES III 1988–1994			NHANES 1999–2004			NHANES 2005–2010		
	Age (Years)			Age (Years)			Age (Years)		
	20–44 (N=170)	45–64 (N=519)	≥65 (N=808)	20–44 (N=165)	45–64 (N=566)	≥65 (N=805)	20–44 (N=204)	45–64 (N=858)	≥65 (N=928)
Mean (standard error)									
Age at diabetes diagnosis (years)	32.1 (1.02)	47.5 (0.63)	61.3 (0.58)	30.1 (0.81)	43.3 (1.04)	56.1 (0.81)	28.8 (0.98)	45.6 (0.40)	59.4 (0.54)
Duration of diabetes (years)	5.8 (0.83)	8.7 (0.53)	11.7 (0.52)	6.9 (0.84)	11.5 (1.01)	16.8 (0.73)	7.6 (0.73)	9.5 (0.38)	13.5 (0.44)
Percent (standard error)									
Diabetes treatment*									
Insulin only	32.1 (7.09)	19.3 (2.21)	32.1 (1.99)	23.6 (4.04)	10.4 (1.76)	18.7 (1.99)	25.5 (3.22)	13.1 (1.66)	12.6 (1.29)
Oral only	36.1 (7.13)	49.4 (4.10)	41.8 (2.24)	48.7 (4.21)	58.2 (2.74)	56.4 (2.30)	45.2 (3.54)	58.2 (2.50)	61.2 (2.43)
Insulin and oral	³	5.2 (1.22)	2.1 (0.62)	4.4 (1.60) ¹	12.6 (2.20)	10.4 (1.50)	9.5 (2.38)	15.4 (1.16)	15.1 (1.74)
No meds	28.5 (5.78)	26.2 (3.39)	24.0 (2.36)	23.3 (4.28)	18.7 (2.31)	14.5 (1.77)	19.7 (2.89)	13.3 (1.60)	11.2 (1.53)
Hypertension									
Treated*	23.8 (4.38)	50.2 (3.27)	52.1 (2.69)	25.6 (3.84)	55.2 (2.50)	69.6 (2.22)	35.4 (3.70)	64.1 (2.41)	72.3 (1.91)
Controlled†	23.0 (8.40) ¹	18.2 (4.46)	13.5 (2.98)	26.1 (7.61)	39.8 (4.20)	30.5 (3.13)	43.0 (7.43)	48.8 (3.02)	37.1 (1.88)
Uncontrolled	77.0 (8.40)	81.8 (4.46)	86.5 (2.98)	73.9 (7.61)	60.2 (4.20)	69.5 (3.13)	57.0 (7.43)	51.2 (3.02)	62.9 (1.88)
Blood pressure <130/80 mmHg	59.3 (6.72)	33.5 (3.01)	21.5 (2.27)	53.8 (5.65)	48.1 (3.38)	30.9 (2.84)	57.1 (4.45)	54.8 (2.49)	42.6 (1.85)
Hypercholesterolemia									
Treated*	5.7 (2.75) ²	16.1 (3.17)	16.7 (1.90)	28.6 (4.87)	41.5 (2.92)	44.1 (2.18)	36.5 (3.62)	57.7 (2.35)	55.5 (2.01)
Controlled†	³	33.2 (10.48) ¹	25.5 (6.94)	30.2 (9.66) ¹	45.3 (4.10)	57.1 (4.32)	53.1 (7.51)	58.2 (3.33)	79.2 (2.80)
Uncontrolled	62.7 (28.04) ²	66.8 (10.48)	74.5 (6.94)	69.8 (9.66)	54.7 (4.10)	42.9 (4.32)	46.9 (7.51)	41.8 (3.33)	20.8 (2.80)
Total cholesterol <200 mg/dL	45.1 (9.00)	26.6 (3.40)	36.7 (2.53)	44.1 (4.93)	47.4 (2.81)	55.2 (2.74)	62.2 (3.89)	60.8 (2.32)	76.7 (1.84)
LDL cholesterol <100 mg/dL	³	11.5 (4.15) ¹	12.4 (3.06)	40.2 (7.21)	32.1 (4.47)	43.9 (5.12)	47.1 (6.95)	52.2 (3.60)	61.6 (2.81)
Daily aspirin use	6.5 (3.02) ²	16.4 (3.08)	25.9 (2.58)	8.8 (3.48) ¹	20.8 (3.08)	30.0 (2.29)	‡	‡	‡
Retinopathy§	11.5 (3.77) ¹	18.2 (2.17)	17.7 (1.78)	25.2 (4.64)	24.0 (2.61)	26.3 (2.34)	20.1 (3.47)	20.3 (1.96)	21.4 (1.38)
Retinopathy	21.2 (9.67) ²	18.5 (2.44)	21.7 (2.90)	‡	‡	‡	20.6 (6.53)	33.1 (3.11)	34.7 (2.40)
History of CVD¶	1.1 (0.52) ²	17.9 (3.02)	30.5 (2.95)	5.5 (2.11) ¹	19.4 (2.50)	38.6 (2.56)	5.0 (1.58) ¹	19.9 (1.47)	34.9 (1.93)
Current smoking	31.6 (6.46)	21.6 (3.31)	9.6 (1.33)	34.7 (4.23)	26.0 (2.29)	7.4 (1.37)	26.0 (3.85)	20.9 (1.62)	7.8 (0.69)

Estimates are crude and not standardized. Conversions for cholesterol values are provided in *Diabetes in America Appendix 1 Conversions*. CVD, cardiovascular disease.

* Self-reported use of insulin or diabetes pills; self-reported use of medication to lower blood pressure; self-reported use of medication to lower cholesterol.

† Controlled medication-treated hypertension based on blood pressure <130/80 mmHg; controlled medication-treated hypercholesterolemia based on total cholesterol <200 mg/dL.

‡ Not determined.

§ Based on self-report.

|| Based on fundus photography.

¶ Defined as myocardial infarction and congestive heart failure in the NHANES III 1988–1994, as angina and coronary heart disease were not determined; defined as myocardial infarction, congestive heart failure, angina, coronary heart disease in NHANES 1999–2010.

¹ Relative standard error >30%–40%

² Relative standard error >40%–50%

³ Estimate is too unreliable to present; ≤1 case or relative standard error >50%.

SOURCE: National Health and Nutrition Examination Surveys (NHANES) III (1988–1994), 1999–2010