

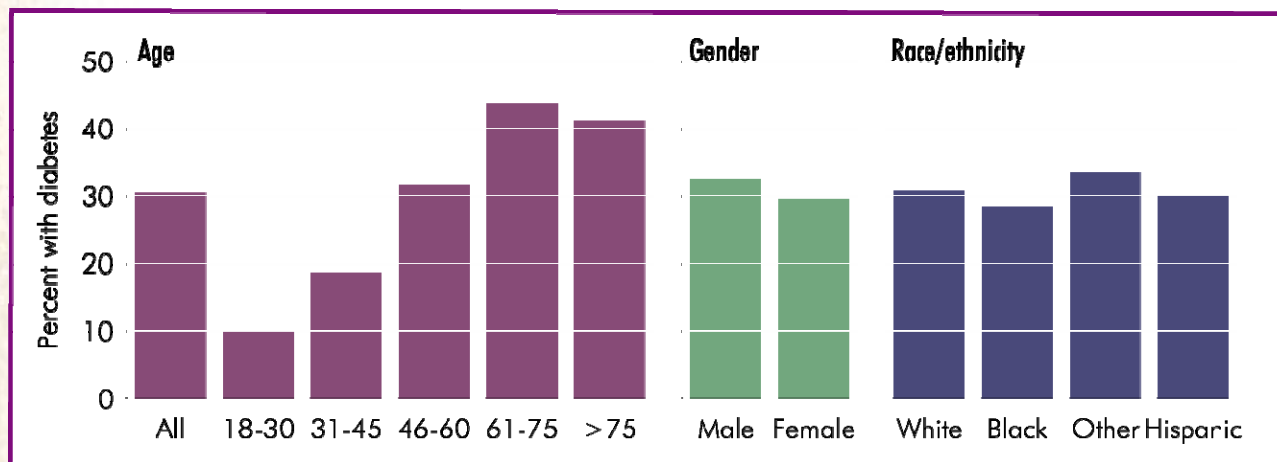
KEEP Data Report 2005

Chapter 4: Diabetes & hypertension



Figure 4.1

KEEP participants with diabetes, by age, gender, & race/ethnicity



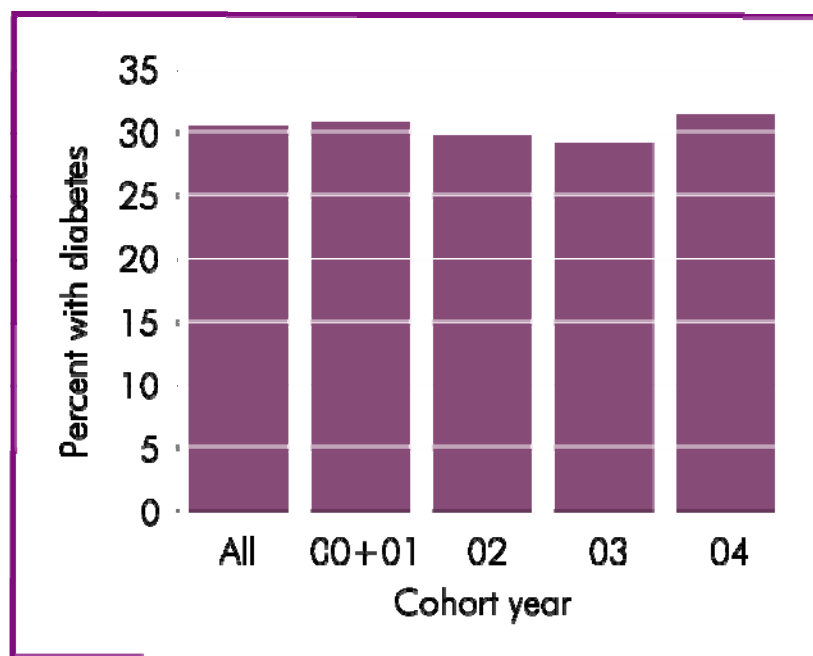
Diabetes

Self-reported diabetes
Elevated blood sugar

KEEP N=36,312. Excludes participants with missing values for diabetic status or blood glucose. Race & Hispanic ethnicity are not mutually exclusive.

Figure 4.2

KEEP participants with diabetes, by cohort year

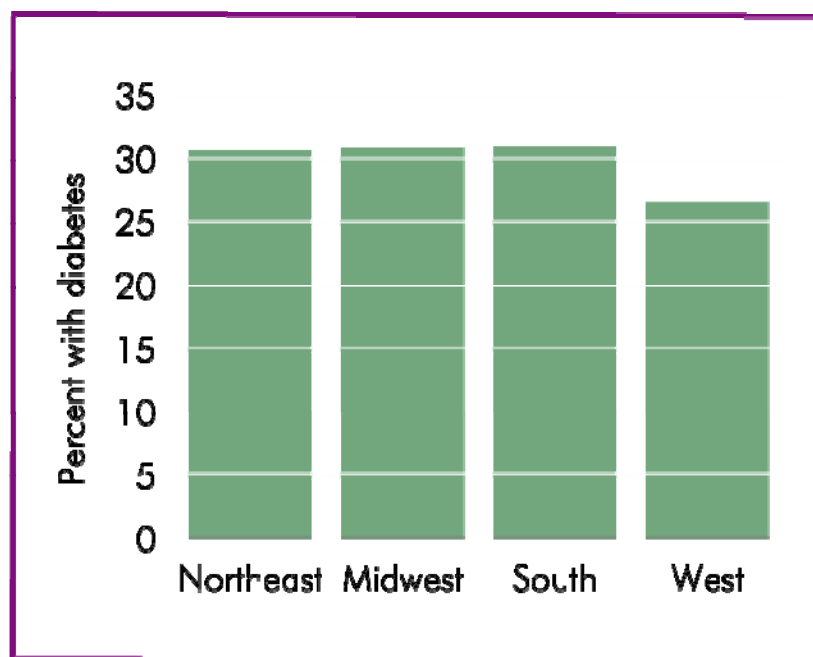


Diabetes
Self-reported diabetes
Elevated blood sugar

KEEP N=36,312. Excludes participants with missing values for diabetic status or blood glucose.
Race & Hispanic ethnicity are not mutually exclusive.

Figure 4.3

KEEP participants with diabetes, by U.S. Census Region

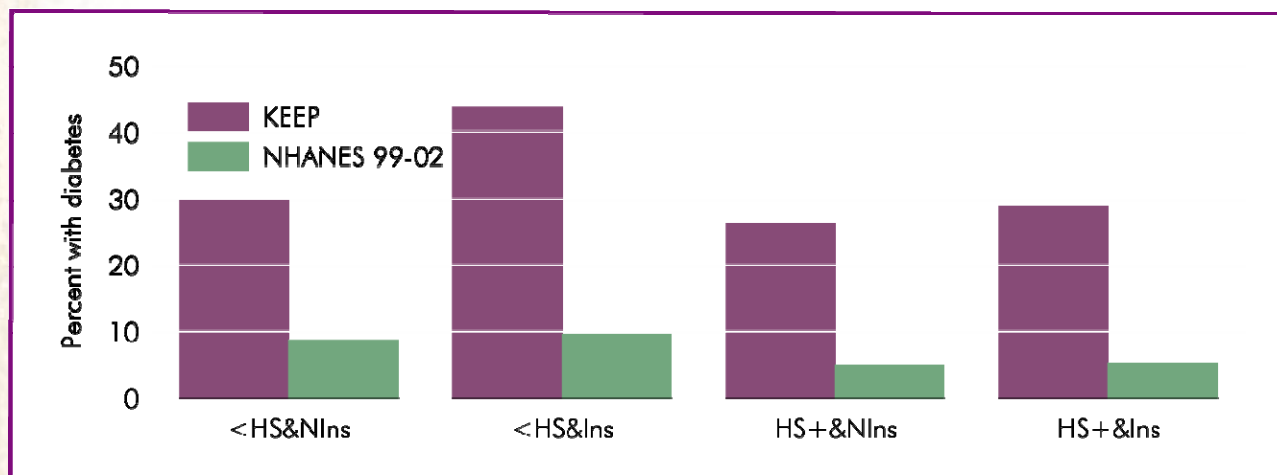


Diabetes
Self-reported diabetes
Elevated blood sugar

KEEP N=36,288. Excludes participants with missing values for diabetic status, blood glucose, or census region.

Figure 4.4

KEEP & NHANES participants with diabetes, by education & insurance



Education & insurance

<HS&NIns: Less than a high school education, & no insurance

<HS&Ins: Less than a high school education, & insurance

HS+&NIns: High school education or greater, & no insurance

HS+&Ins: High school education or greater, & insurance

Diabetes

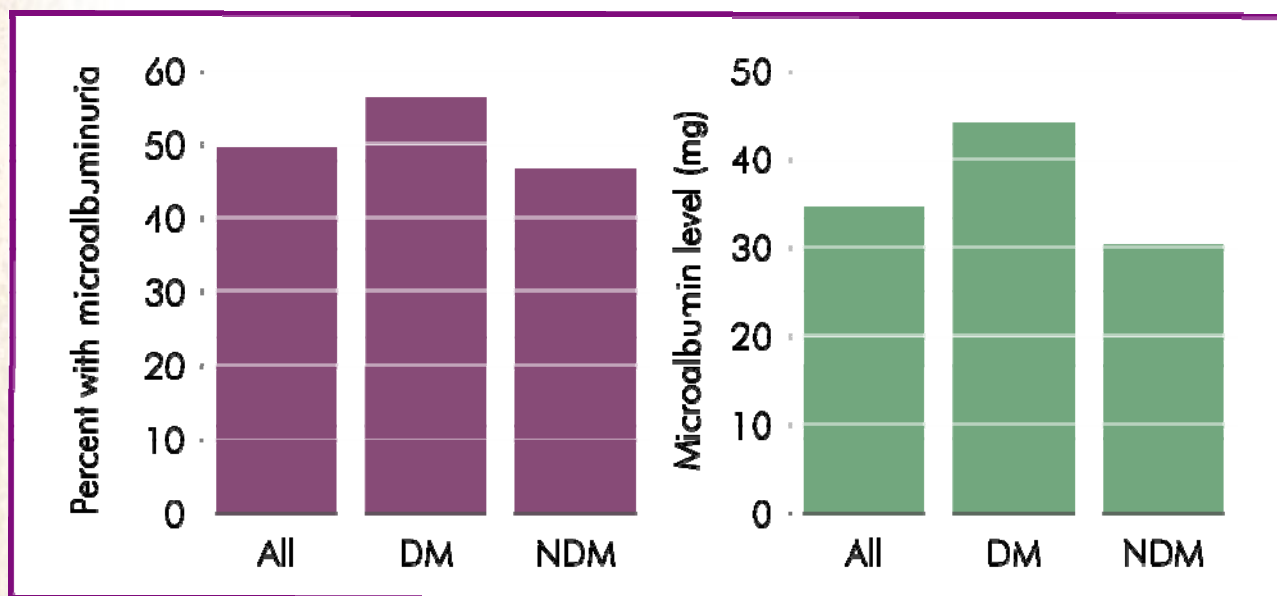
Self-reported diabetes

Elevated blood sugar

KEEP N=34,551, NHANES N=11,165. Excludes participants with missing values for diabetic status, blood glucose, education, or insurance.

Figure 4.5

Microalbuminuria in KEEEP participants, by diabetic status

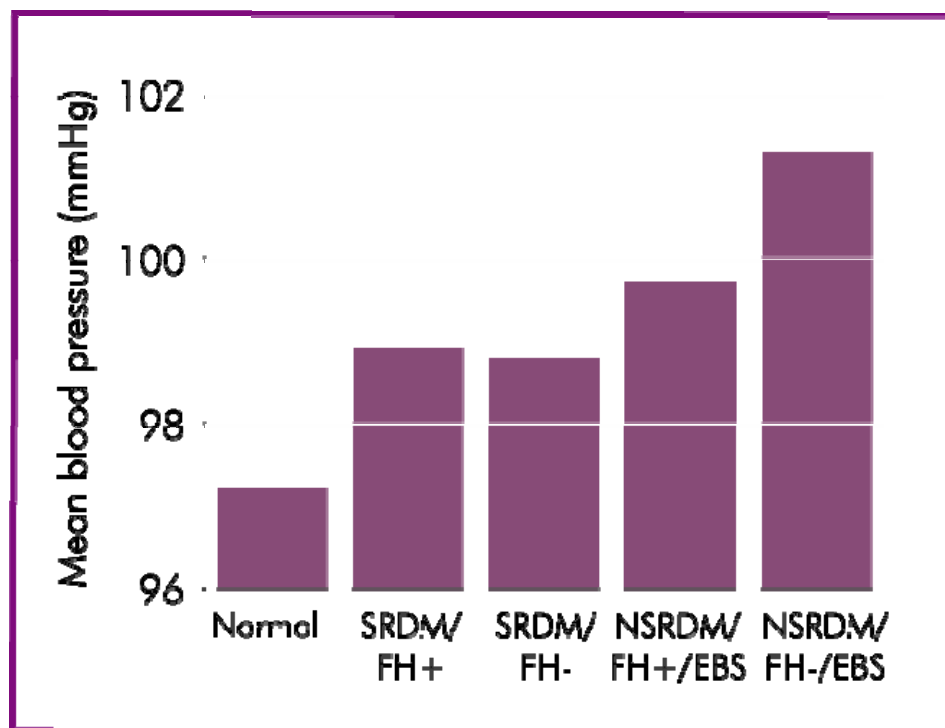


Diabetes
Self-reported diabetes
Elevated blood sugar

KEEP N=31,753. Excludes participants with missing values for diabetic status, blood glucose, or microalbumin.

Figure 4.6

Mean blood pressure in KEEF participants, by diabetic status & family history



Diabetic Groups

- 1: Self-reported DM (+) family history
- 2: Self-reported DM (-) family history
- 3 : Self-reported NDM (+) family history & elevated blood sugar
- 4: Self-reported NDM (-) family history & elevated blood sugar (glucose greater than the normal limit: fasting, >126 mg/dl, non fasting, >139 mg/dl)

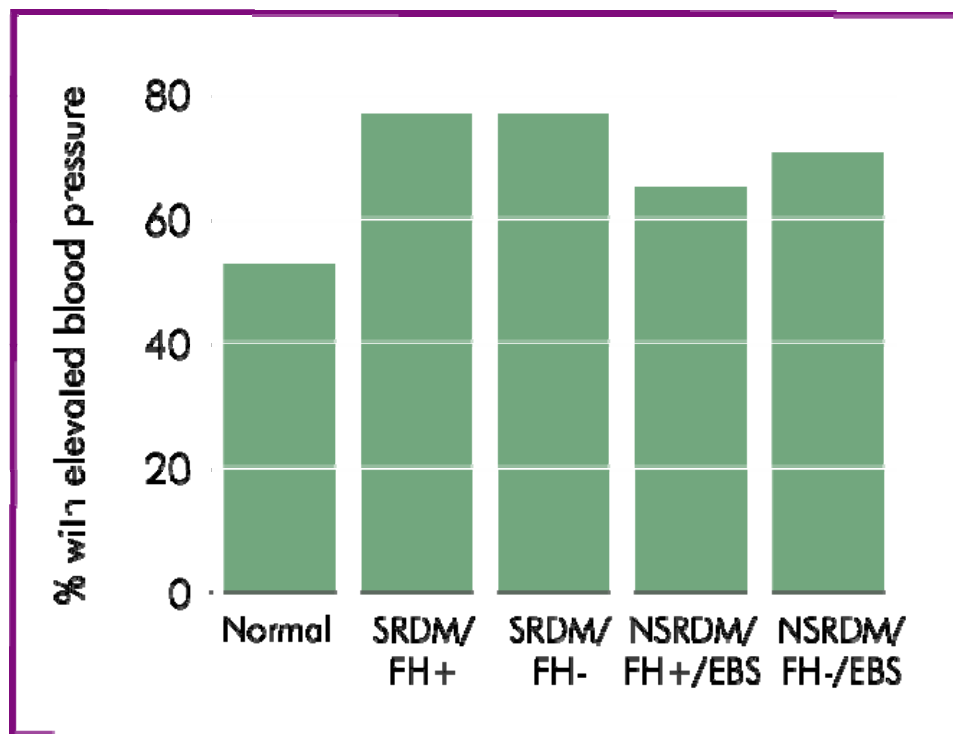
Diabetes

Self-reported diabetes
Elevated blood sugar

KEEP N=36,751. Excludes participants with missing values for blood pressure.

Figure 4.7

Elevated blood pressure (JNC 7) in KEEP participants, by diabetic status & family history



Diabetic Groups

- 1: Self-reported DM (+) family history
- 2: Self-reported DM (-) family history
- 3 : Self-reported NDM (+) family history & elevated blood sugar
- 4: Self-reported NDM (-) family history & elevated blood sugar (glucose greater than the normal limit: fasting, >126 mg/dl, non fasting, >139 mg/dl)

Elevated blood pressure (JNC 7)

DM or CKD:

Systolic: ≥ 130 mmHg or
Diastolic: ≥ 80 mmHg

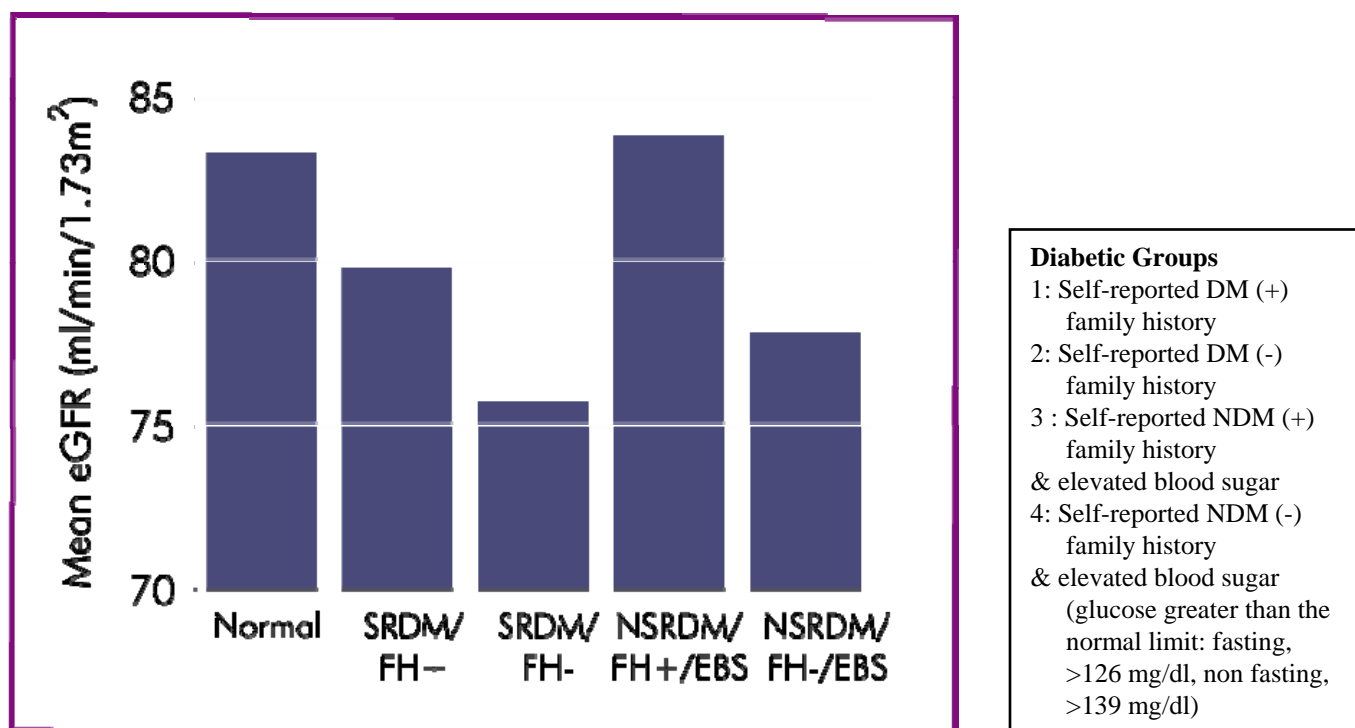
No DM or CKD:

Systolic: ≥ 140 mmHg or
Diastolic: ≥ 90 mmHg

KEEP N=36,751. Excludes participants with missing values for blood pressure.

Figure 4.8

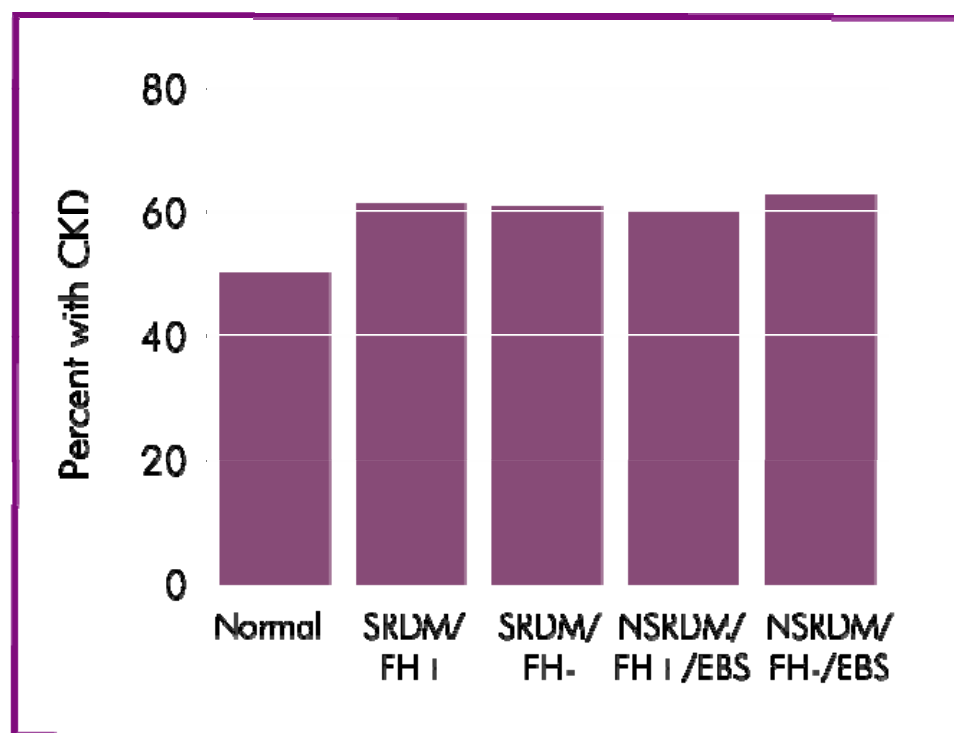
Mean eGFR in KEEP participants, by diabetic status & family history



KEEP N=35,490. Excludes participants with missing values for eGFR

Figure 4.9

CKD in KEEP participants, by diabetic status & family history



Diabetic Groups

- 1: Self-reported DM (+) family history
- 2: Self-reported DM (-) family history
- 3 : Self-reported NDM (+) family history & elevated blood sugar
- 4: Self-reported NDM (-) family history & elevated blood sugar (glucose greater than the normal limit: fasting, >126 mg/dl, non fasting, >139 mg/dl)

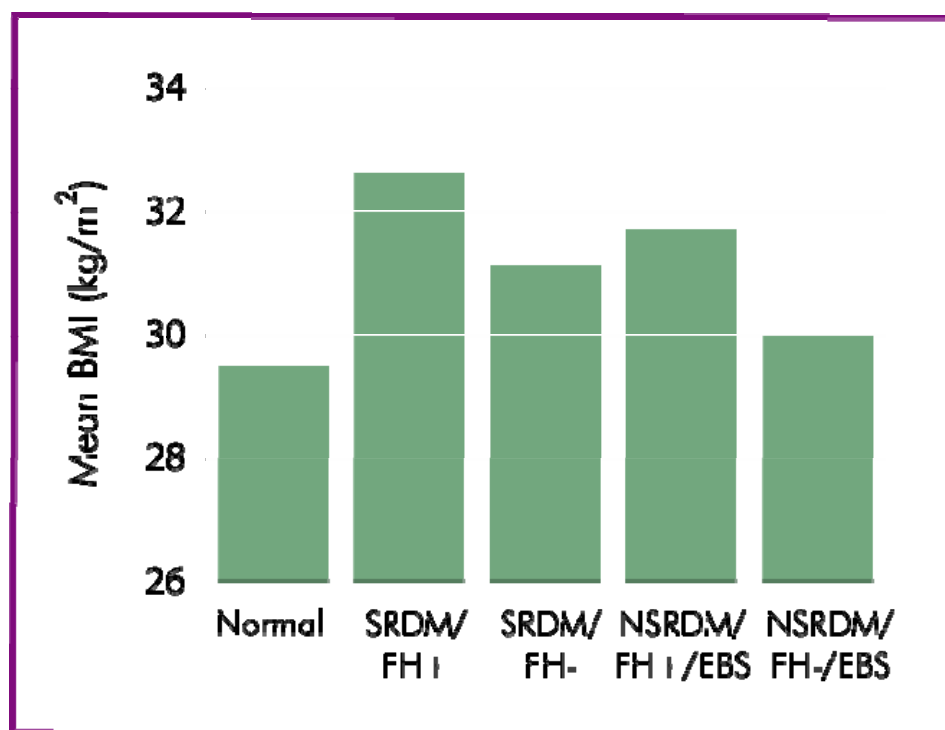
CKD Definition

If eGFR by K/DOQI MDRD <60 ml/min/1.73 m² or;
If eGFR by K/DOQI MDRD ≥ 60 ml/min/1.73 m² and microalbuminuria +

KEEP N=35,490. Excludes participants with missing values for eGFR

Figure 4.10

Mean BMI of KEEF participants, by diabetic status & family history



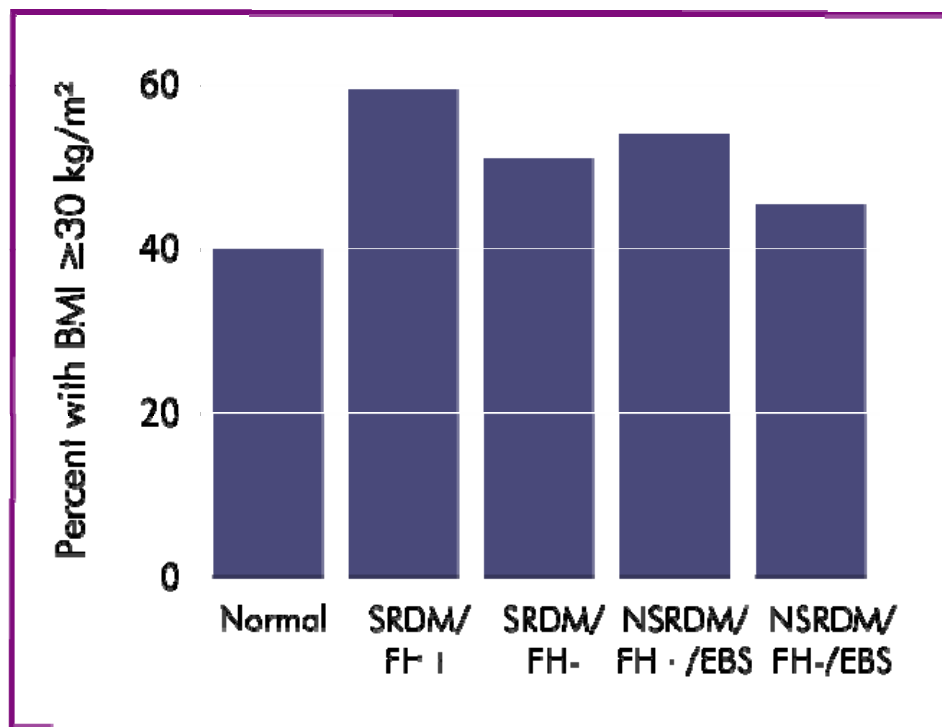
Diabetic Groups

- 1: Self-reported DM (+)
family history
- 2: Self-reported DM (-)
family history
- 3 : Self-reported NDM (+)
family history
& elevated blood sugar
- 4: Self-reported NDM (-)
family history
& elevated blood sugar
(glucose greater than the
normal limit: fasting,
>126 mg/dl, non fasting,
>139 mg/dl)

KEEP N=36,796. Excludes participants with missing values for BMI.

Figure 4.11

BMI ≥ 30 kg/m² in KEEP participants, by diabetic status & family history



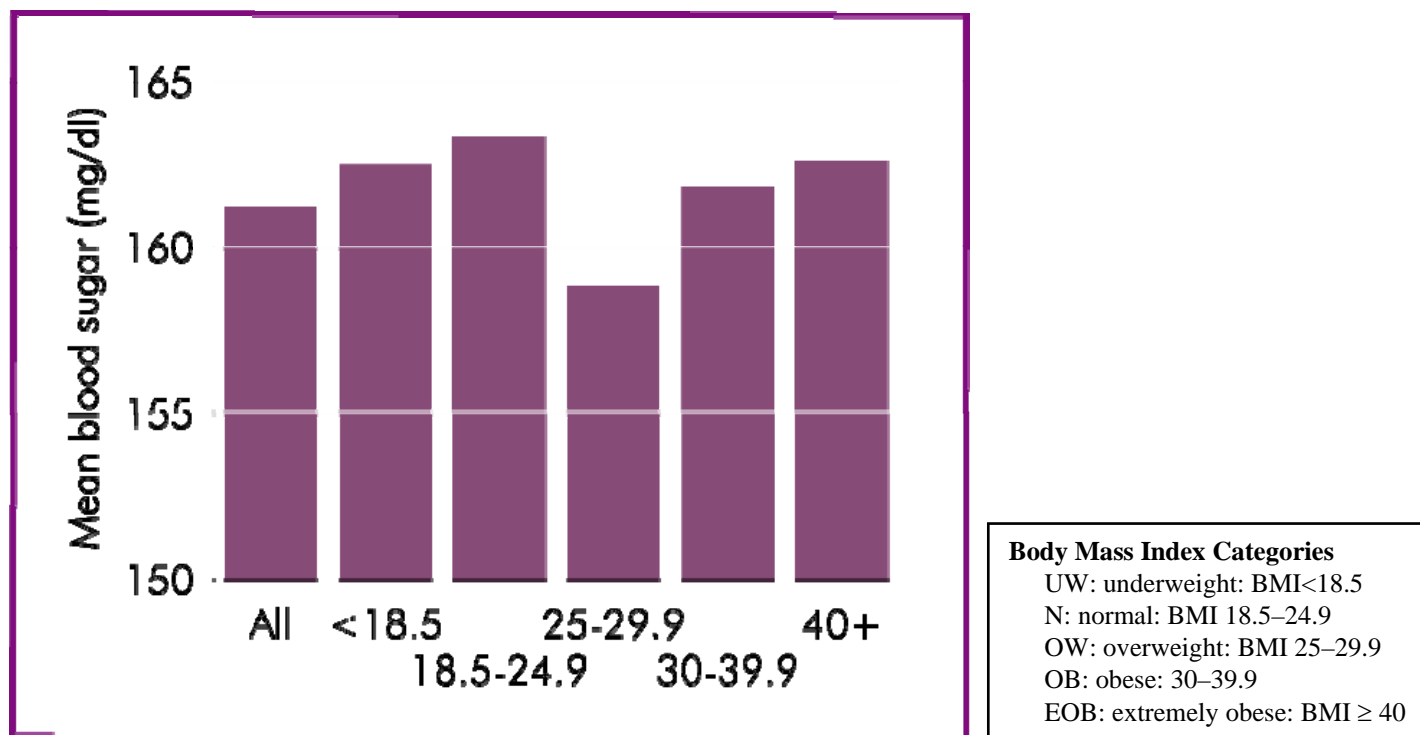
Diabetic Groups

- 1: Self-reported DM (+)
family history
- 2: Self-reported DM (-)
family history
- 3 : Self-reported NDM (+)
family history
& elevated blood sugar
- 4: Self-reported NDM (-)
family history
& elevated blood sugar
(glucose greater than the
normal limit: fasting,
>126 mg/dl, non fasting,
>139 mg/dl)

KEEP N=36,796. Excludes participants with missing values for BMI.

Figure 4.12

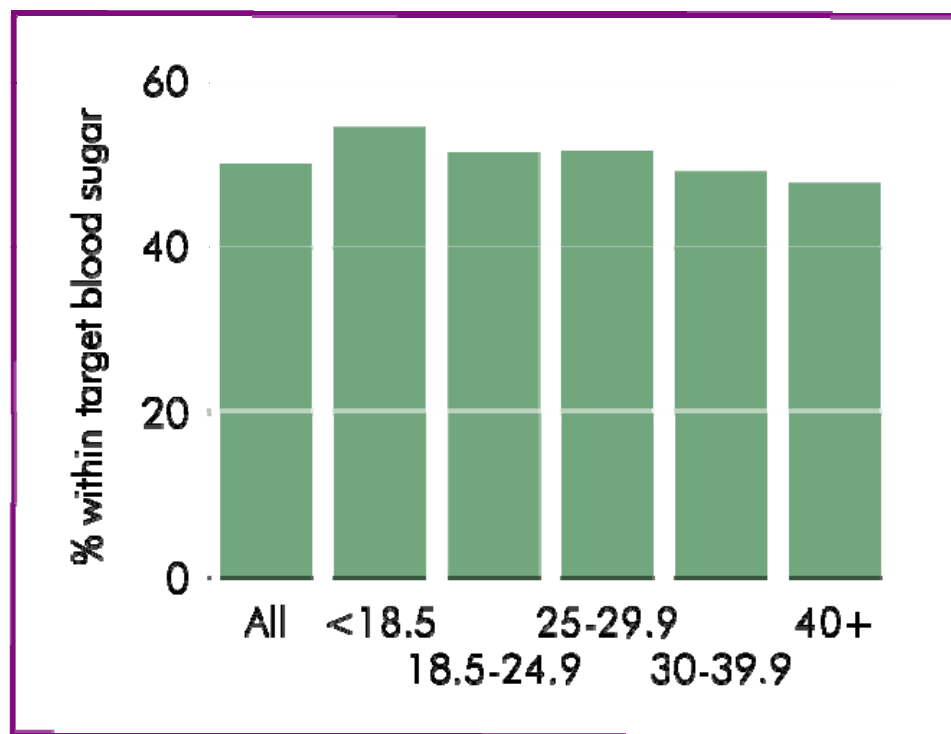
Mean blood sugar in KEEP participants with self-reported diabetes, by BMI group



KEEP N=8,926 for self-reported diabetes. Excludes participants with missing values for BMI, self-reported diabetic status, or blood glucose.

Figure 4.13

KEEP participants with self-reported diabetes who meet the target blood sugar level, by BMI group



Body Mass Index Categories

UW: underweight: BMI < 18.5

N: normal: BMI 18.5–24.9

OW: overweight: BMI 25–29.9

OB: obese: 30–39.9

EOB: extremely obese: BMI ≥ 40

Elevated blood sugar

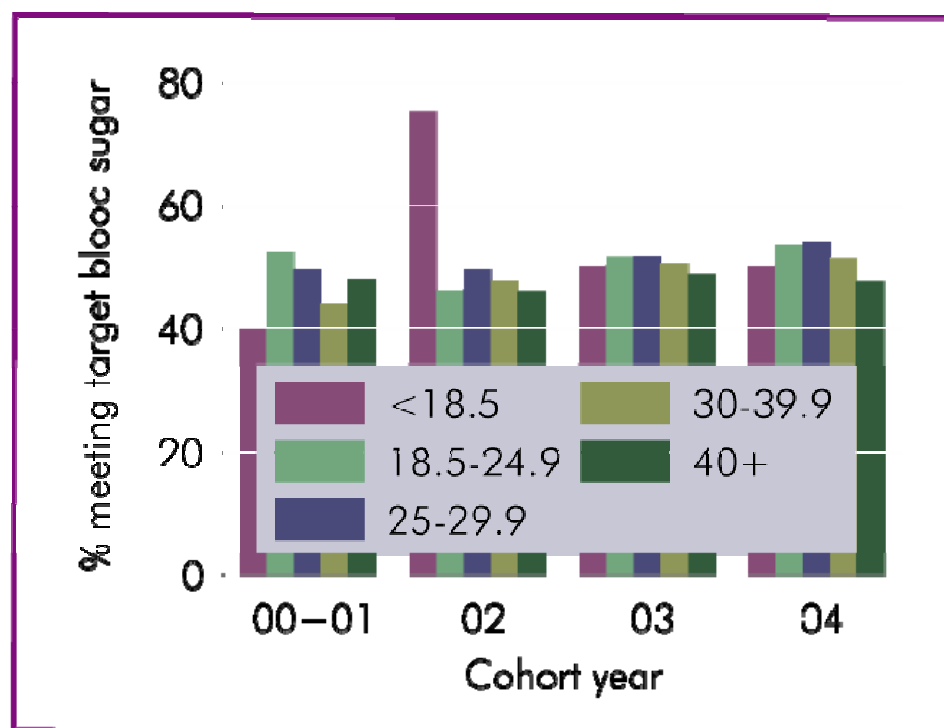
Fasting: >126 mg/dl

Non-fasting: >139 mg/dl

KEEP N=8,926 for self-reported diabetes. Excludes participants with missing values for BMI, self-reported diabetic status, or blood glucose.

Figure 4.14

KEEP participants with self-reported diabetes who meet the target blood sugar level, by BMI & cohort year



Body Mass Index Categories

UW: underweight: BMI <18.5
N: normal: BMI 18.5–24.9
OW: overweight: BMI 25–29.9
OB: obese: 30–39.9
EOB: extremely obese: BMI ≥ 40

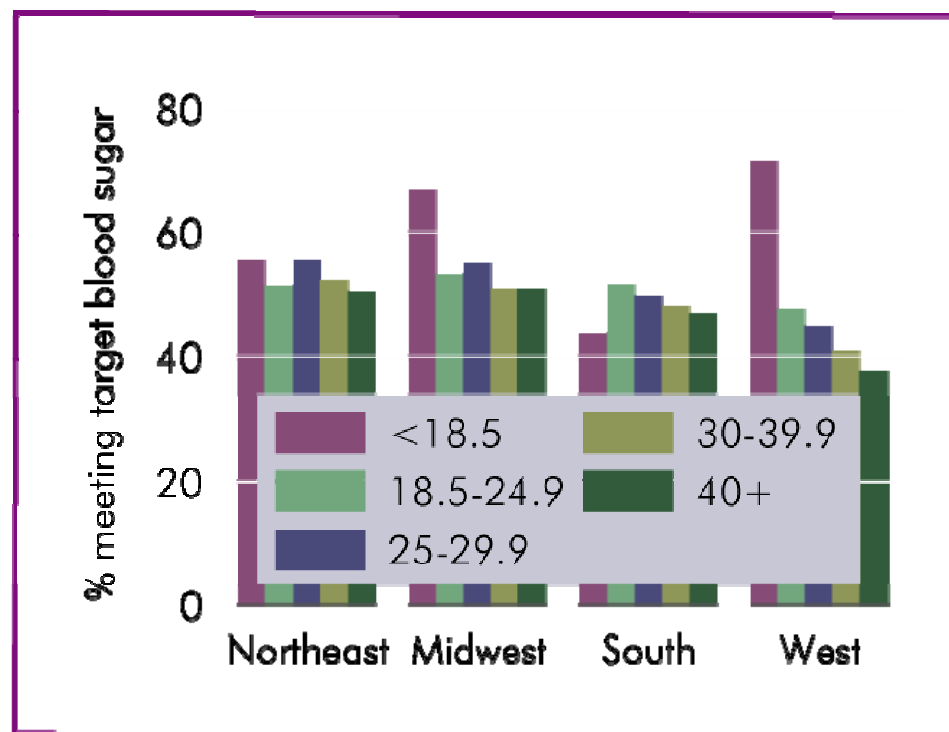
Elevated blood sugar

Fasting: >126 mg/dl
Non-fasting: >139 mg/dl

KEEP N=8,926 for self-reported diabetes. Excludes participants with missing values for BMI, self-reported diabetic status, or blood glucose.

Figure 4.15

KEEP participants with self-reported diabetes who meet the target blood sugar level, by BMI & U.S. Census Region



Body Mass Index Categories

UW: underweight: BMI <18.5

N: normal: BMI 18.5–24.9

OW: overweight: BMI 25–29.9

OB: obese: 30–39.9

EOB: extremely obese: BMI ≥ 40

Elevated blood sugar

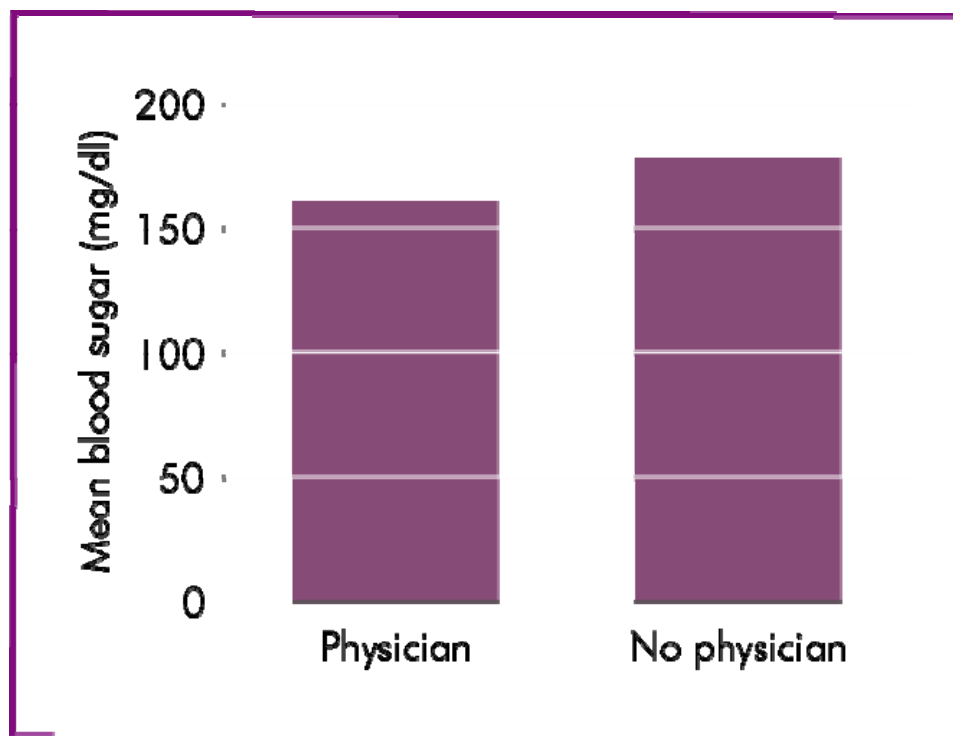
Fasting: >126 mg/dl

Non-fasting: >139 mg/dl

KEEP N=8,922 for self-reported diabetes. Excludes participants with missing values for BMI, self-reported diabetic status, blood glucose, or census region.

Figure 4.16

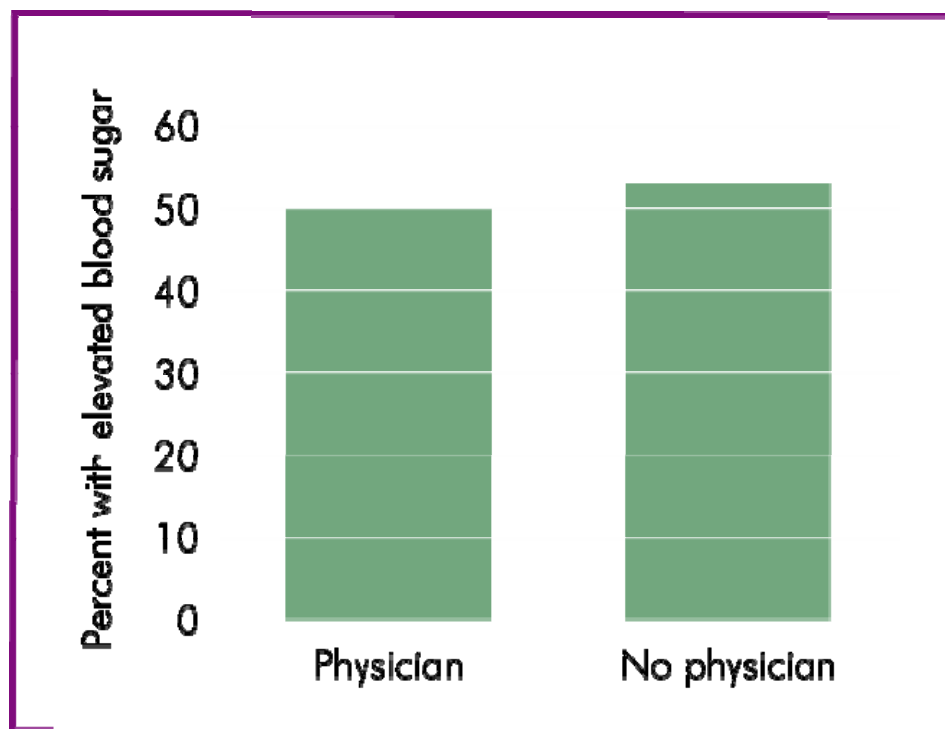
Mean blood sugar in KEEP participants with self-reported diabetes, by physician interaction



KEEP N=8,752 for self-reported diabetes. Excludes participants with missing values for self-reported diabetic status, blood glucose, or physician information.

Figure 4.17

Elevated blood sugar in KEEP participants with self-reported diabetes, by physician interaction

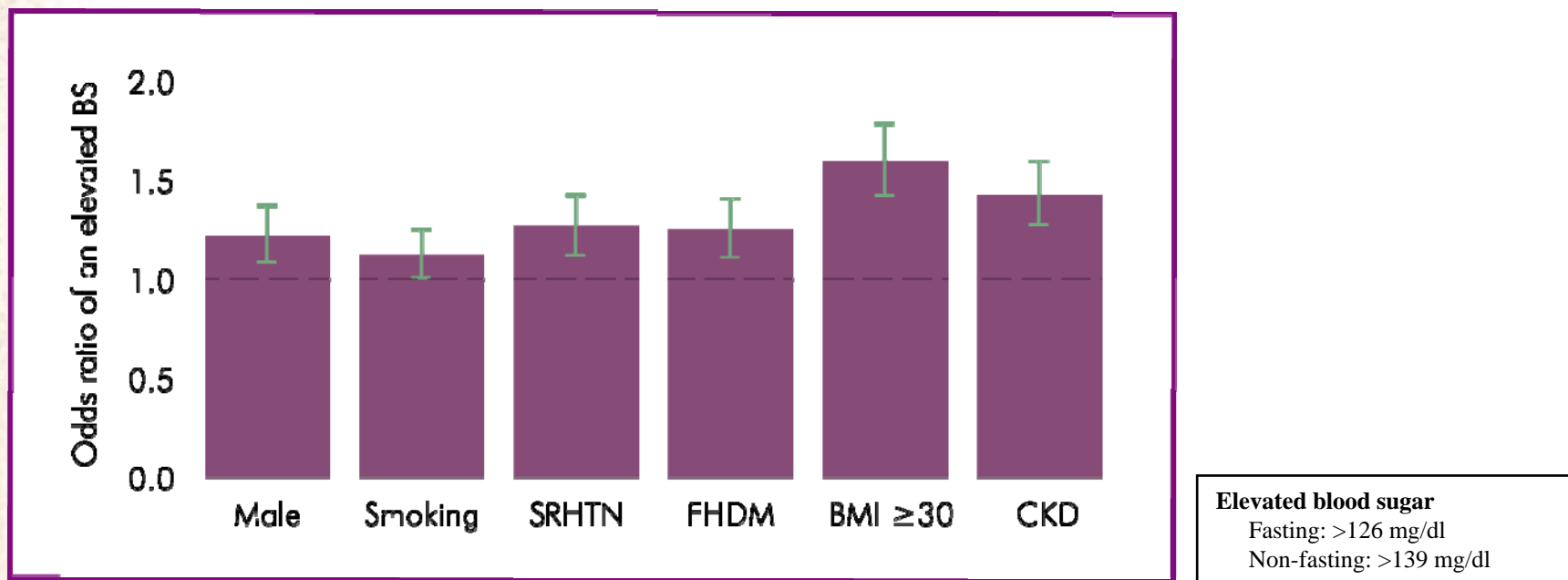


Elevated blood sugar
Fasting: >126 mg/dl
Non-fasting: >139 mg/dl

KEEP N=8,752 for self-reported diabetes. Excludes participants with missing values for self-reported diabetic status, blood glucose, or physician information.

Figure 4.18

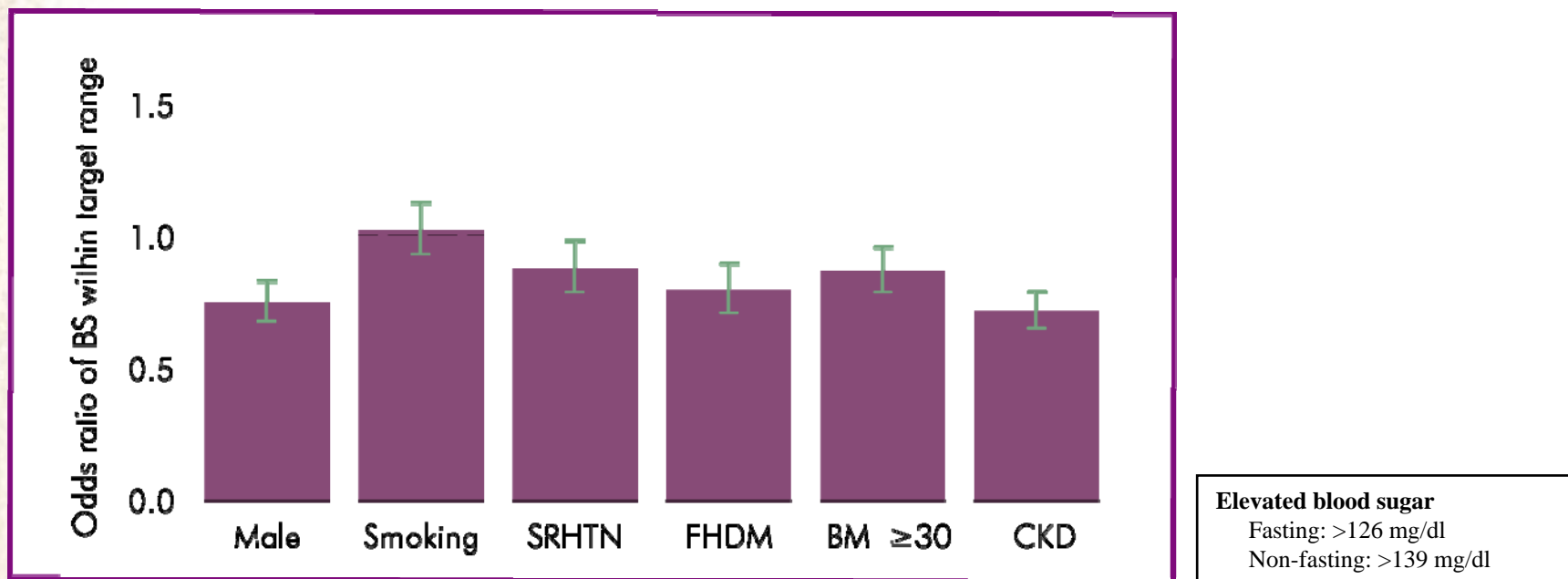
Odds of self-reported non-diabetic KEEP participants having an elevated blood sugar, by risk factor



KEEP N=22,290 for self-reported non-diabetes. Excludes participants with missing values for race, self-reported hypertension, family history, census region, CKD, BMI, smoking, or blood glucose.

Figure 4.19

Odds of being within the target blood sugar level in known KEEP participants with diabetes, by risk factor



KEEP N=7,316 for self-reported diabetes. Excludes participants with missing values for race, self-reported hypertension, family history, census region, CKD, BMI, smoking, or blood glucose.

Table 4.a

Odds of self-reported non-diabetic KEEP participants having an elevated blood sugar

	RR	lower	upper	p-value
18-30	0.387	0.296	0.507	<.0001
31-45	0.671	0.576	0.781	<.0001
46-60	1			
61-75	1.389	1.209	1.595	<.0001
> 75	1.394	1.126	1.726	0.0023
female	1			
male	1.221	1.085	1.374	0.0009
white	1			
black	1.154	1.015	1.311	0.029
other	1.643	1.405	1.922	<.0001
Smoking & used to smoke	1.124	1.005	1.256	0.04
Self-reported HTN	1.267	1.123	1.429	0.0001
Family history of diabetes	1.251	1.109	1.411	0.0003
Family history of hypertensic	0.831	0.725	0.952	0.0075
BMI ≥30	1.594	1.424	1.784	<.0001
CKD	1.428	1.275	1.6	<.0001
00-01	1			
2002	0.908	0.761	1.083	0.2824
2003	0.8	0.672	0.952	0.0121
2004	0.88	0.747	1.036	0.1252
South	1			
Northeast	0.841	0.73	0.97	0.0174
Midwest	0.776	0.661	0.912	0.0021
West	0.875	0.719	1.064	0.1808

Reference groups:

age 46–60, female, white, never smoked, no self-reported hypertension, no family history of diabetes, no family history of hypertension, BMI <30 kg/m², no CKD, and South

KEEP N=22,290 for self-reported non-diabetes. Excludes participants with missing values for race, self-reported hypertension, family history, census region, CKD, BMI, smoking, or blood glucose.

Table 4.b

Odds of being within the target blood sugar level in known diabetic KEEP participants

	RR	lower	upper	p-value
18-30	1.309	0.962	1.783	0.0868
31-45	1.115	0.962	1.293	0.1495
61-75	1.113	0.997	1.244	0.0577
> 75	1.176	0.991	1.395	0.0632
male	0.749	0.676	0.831	<.0001
black	1.02	0.915	1.138	0.7167
other	0.864	0.758	0.986	0.0298
Smoking & used to smoke	1.024	0.931	1.127	0.6207
Self-reported HTN	0.88	0.787	0.982	0.023
Family history of diabetes	0.797	0.708	0.897	0.0002
Family history of hypertension	1.212	1.079	1.362	0.0012
BMI ≥ 30	0.869	0.787	0.959	0.0054
CKD	0.718	0.652	0.792	<.0001
Northeast	1.154	1.025	1.299	0.018
Midwest	1.109	0.975	1.262	0.115
West	0.852	0.709	1.023	0.0852

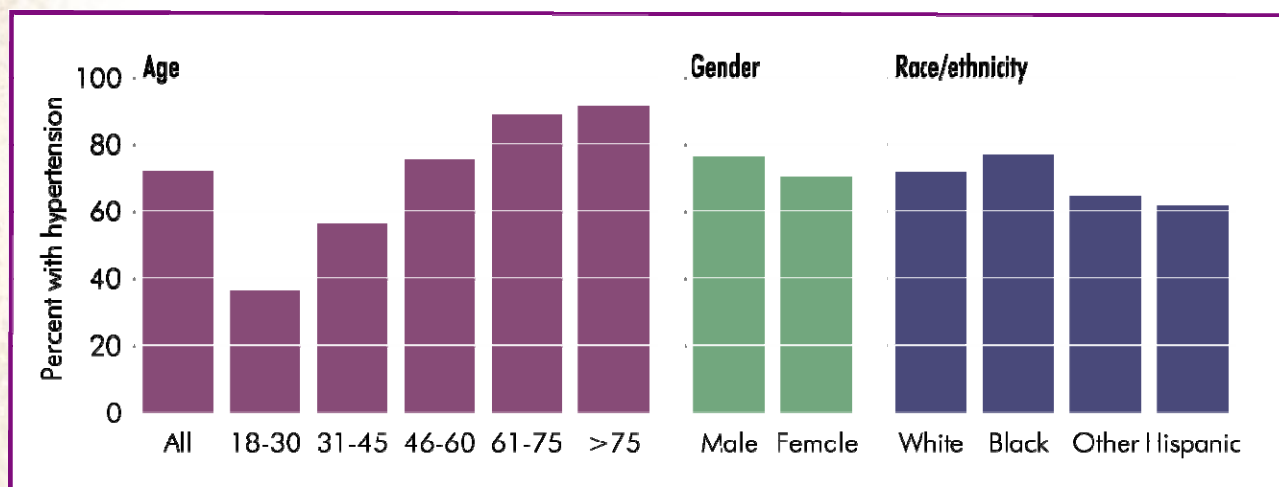
Reference groups:

age 46–60, female, white, never smoked, no self-reported hypertension, no family history of diabetes, no family history of hypertension, BMI <30 kg/m², no CKD, and South

KEEP N=7,316 for self-reported diabetes. Excludes participants with missing values for race, self-reported hypertension, family history, census region, CKD, BMI, smoking, or blood glucose.

Figure 4.20

KEEP participants with hypertension, by age, gender, & race/ethnicity



Hypertension

Self-reported hypertension
Elevated blood pressure

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

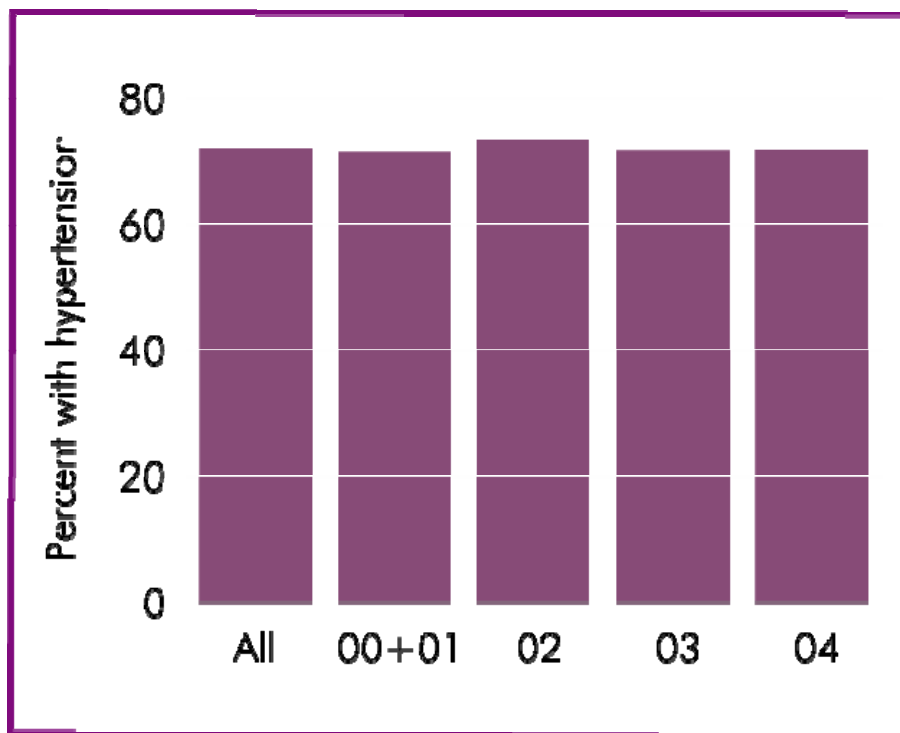
stage 2

systolic \geq 160 mmHg or
diastolic \geq 100 mmHg

KEEP N=36,379. Excludes participants with missing values for self-reported diabetic status or blood pressure. Race & Hispanic ethnicity are not mutually exclusive.

Figure 4.21

KEEP participants with hypertension, by cohort year



Hypertension

Self-reported hypertension
Elevated blood pressure

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

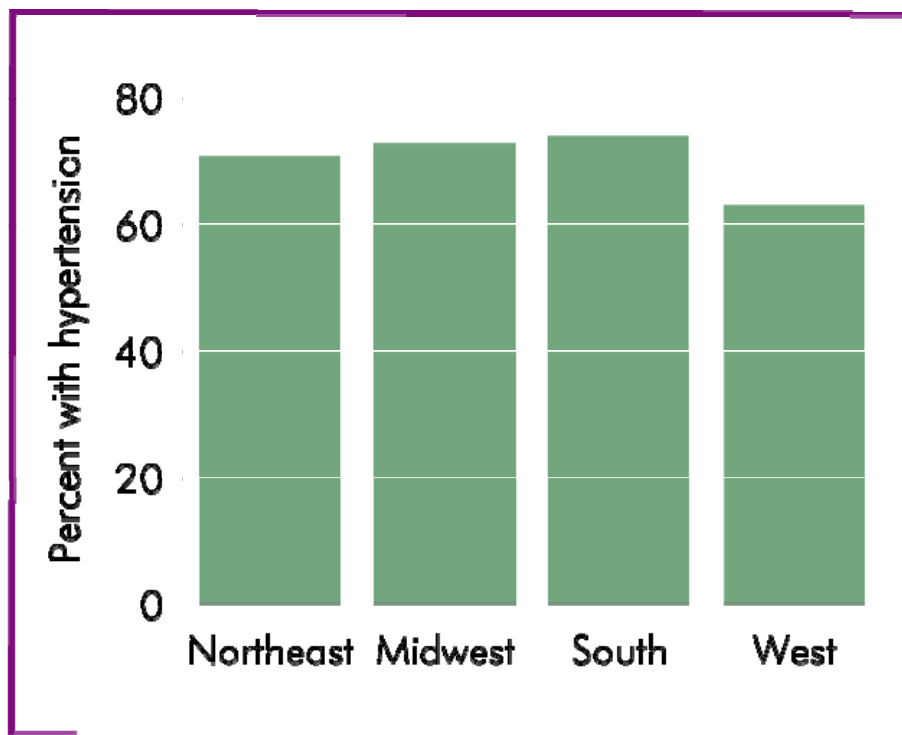
stage 2

systolic ≥ 160 mmHg or
diastolic ≥ 100 mmHg

KEEP N=36,379. Excludes participants with missing values for self-reported diabetic status or blood pressure. Race & Hispanic ethnicity are not mutually exclusive.

Figure 4.22

KEEP participants with hypertension, by U.S. Census Region



Hypertension

Self-reported hypertension
Elevated blood pressure

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

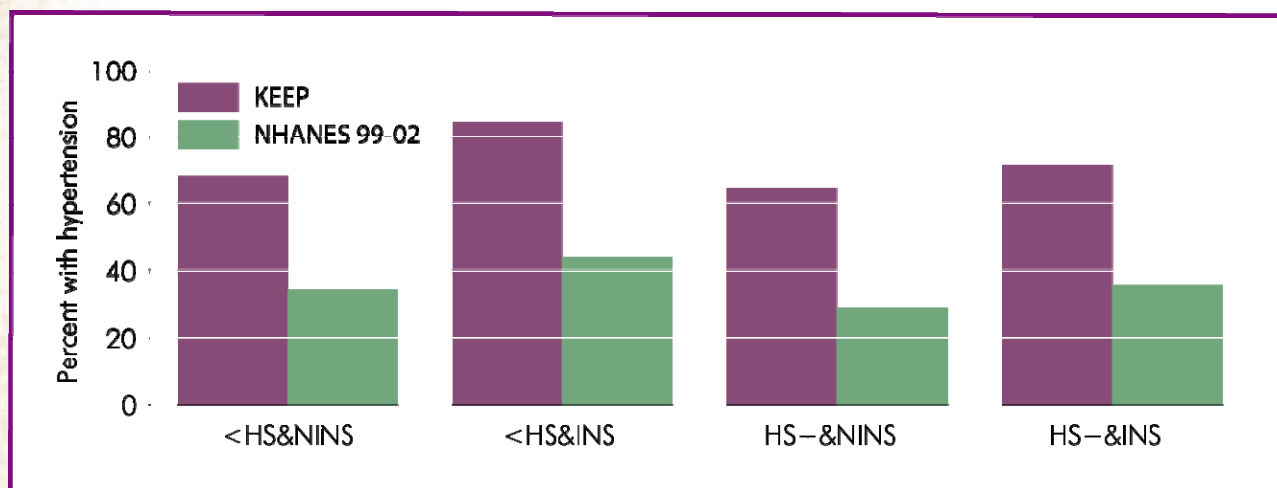
stage 2

systolic ≥ 160 mmHg or
diastolic ≥ 100 mmHg

KEEP N=36,355. Excludes participants with missing values for self-reported diabetic status, blood pressure, or census region.

Figure 4.23

KEEP & NHANES participants with hypertension, by age, race/ethnicity, education, & insurance status



Education & insurance

<HS&NINS: Less than a high school education, & no insurance

<HS&INS: Less than a high school education, & insurance

HS+&NINS: High school education or greater, & no insurance

HS+&INS: High school education or greater, & insurance

Hypertension

Self-reported hypertension
Elevated blood pressure

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

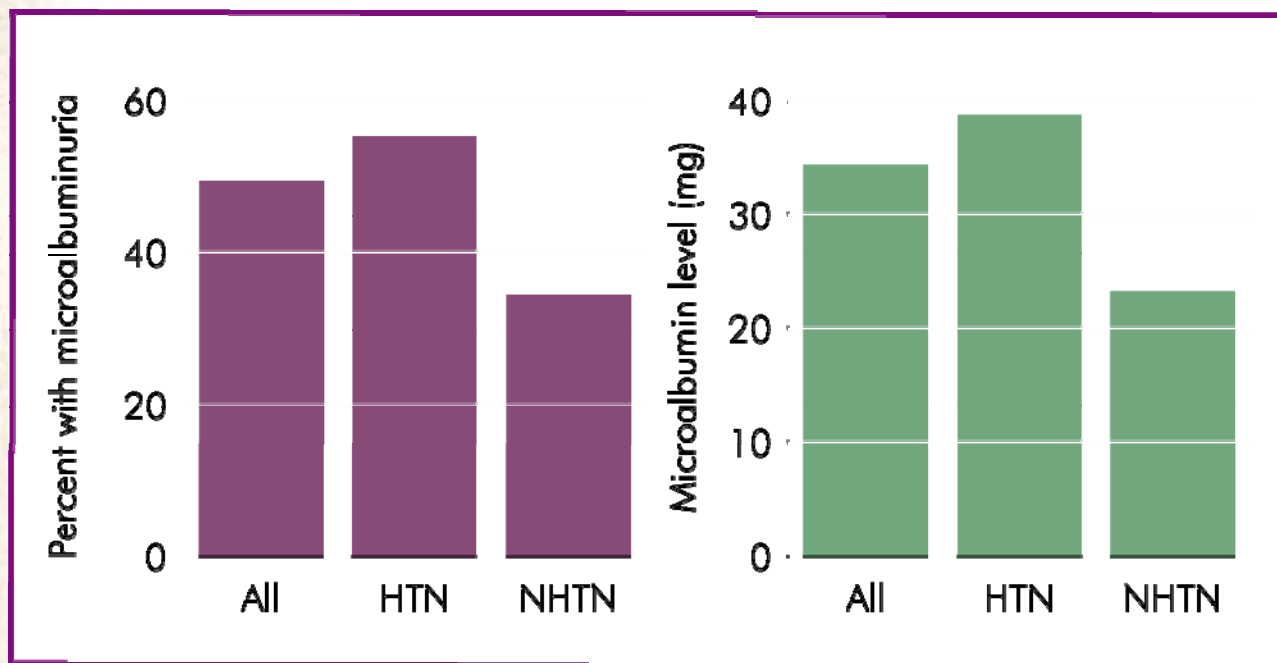
stage 2

systolic ≥160 mmHg or
diastolic ≥100 mmHg

KEEP N=34,639, NHANES N=9,561. Excludes participants with missing values for self-reported diabetic or hypertensive status, blood pressure, education, or insurance status.

Figure 4.24

Microalbuminuria in KEEF participants, by hypertensive status



Hypertension

Self-reported hypertension
Elevated blood pressure

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

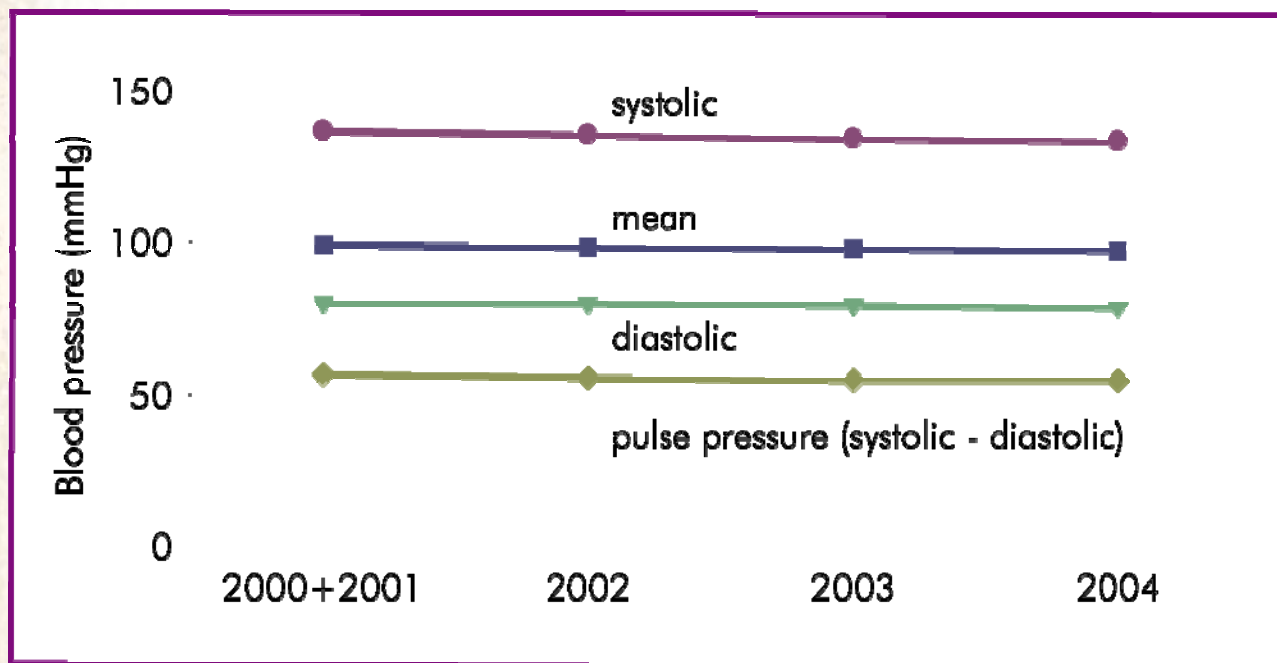
stage 2

systolic ≥ 160 mmHg or
diastolic ≥ 100 mmHg

KEEP N=31,712. Excludes participants with missing values for self-reported diabetic status, microalbumin, or blood pressure.

Figure 4.25

Blood pressure parameters in KEEP participants, by cohort year



Mean blood pressure
(Systolic – Diastolic)/3 +
Diastolic

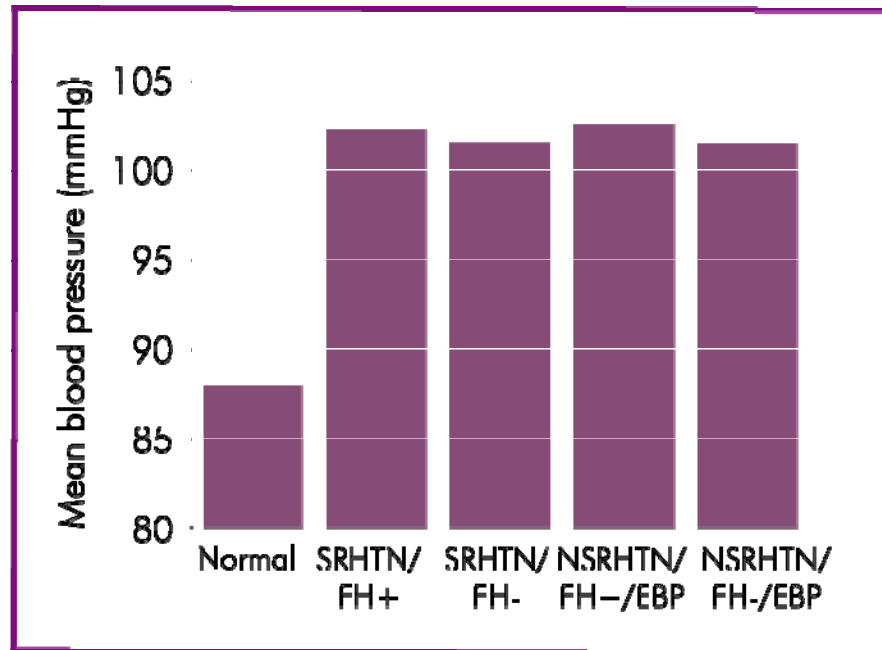
KEEP N=36,751. Excludes participants with missing values for blood pressure.

Figure 4.26

Mean blood pressure in KEEP participants, by hypertension status & family history

Hypertension Groups

- 1: Self-reported HTN (+) family history
- 2: Self-reported HTN (-) family history
- 3 : Self-reported NHTN (+) family history & elevated blood pressure
- 4: Self-reported NHTN (-) family history & elevated blood pressure



JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

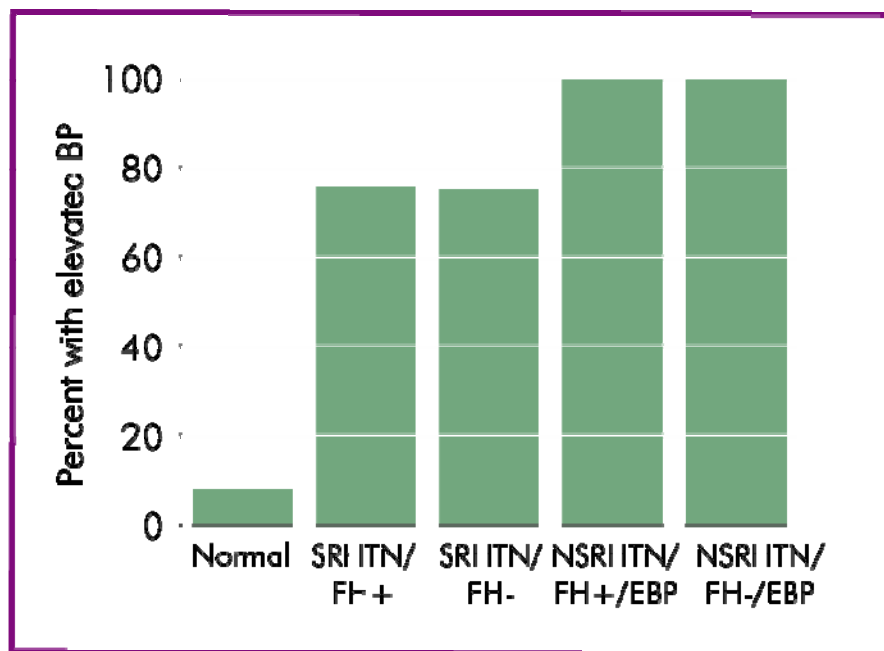
stage 2

systolic ≥ 160 mmHg or
diastolic ≥ 100 mmHg

KEEP N=36,379. Excludes participants with missing values for self-reported diabetic status or blood pressure.

Figure 4.27

Elevated blood pressure (JNC 7) in KEEP participants , by hypertension status & family history



Hypertension Groups

- 1: Self-reported HTN (+) family history
- 2: Self-reported HTN (-) family history
- 3 : Self-reported NHTN (+) family history & elevated blood pressure
- 4: Self-reported NHTN (-) family history & elevated blood pressure

Elevated blood pressure (JNC 7)

DM or CKD:

Systolic: ≥ 130 mmHg or

Diastolic: ≥ 80 mmHg

No DM or CKD:

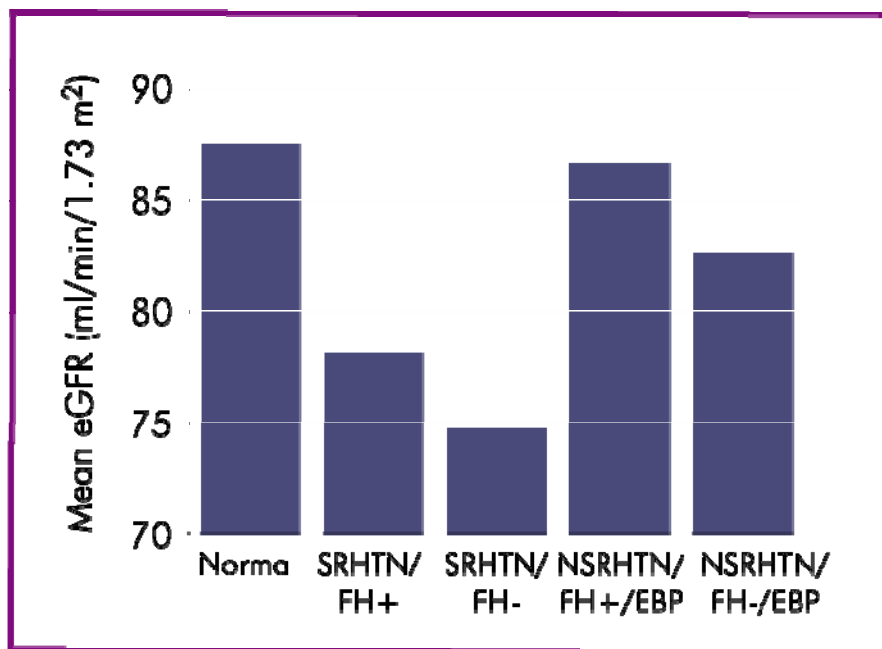
Systolic: ≥ 140 mmHg or

Diastolic: ≥ 90 mm Hg

KEEP N=36,379. Excludes participants with missing values for self-reported diabetic status or blood pressure.

Figure 4.28

Mean eGFR in KEEEP participants, by hypertension status & family history



Hypertension Groups

- 1: Self-reported HTN (+) family history
- 2: Self-reported HTN (-) family history
- 3: Self-reported NHTN (+) family history & elevated blood pressure
- 4: Self-reported NHTN (-) family history & elevated blood pressure

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

stage 2

systolic ≥160 mmHg or
diastolic ≥100 mmHg

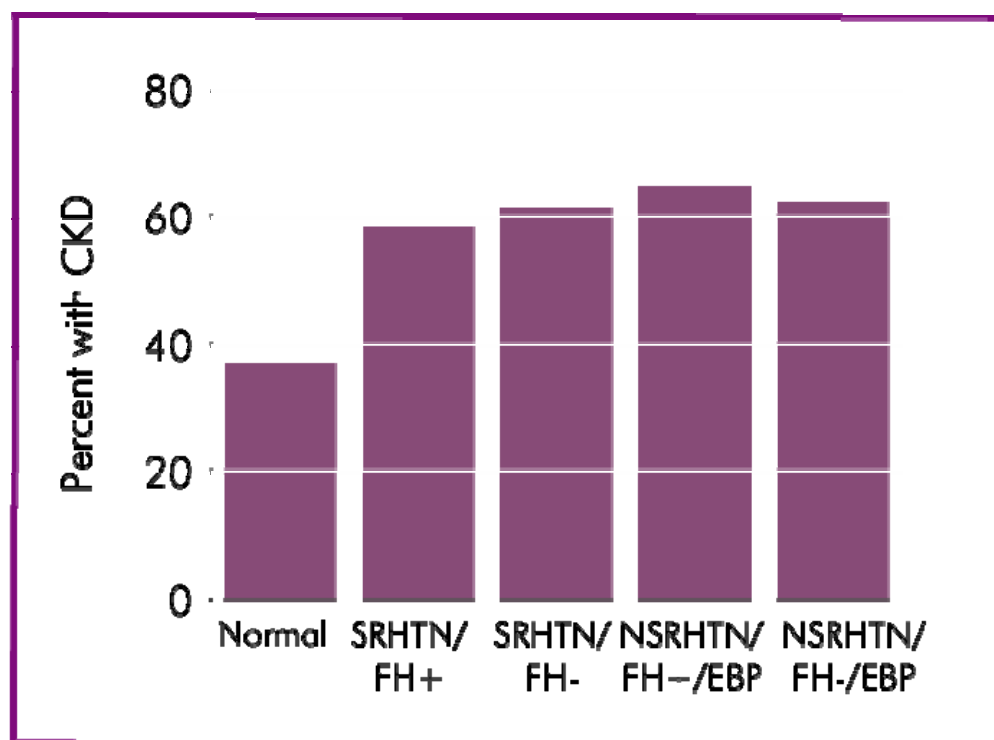
KEEP N=34,828. Excludes participants with missing values for self-reported diabetic status, blood pressure, or eGFR.

Figure 4.29

CKD in KEEP participants, by hypertension status & family history

Hypertension Groups

- 1: Self-reported HTN (+) family history
- 2: Self-reported HTN (-) family history
- 3: Self-reported NHTN (+) family history & elevated blood pressure
- 4: Self-reported NHTN (-) family history & elevated blood pressure



JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

stage 2

systolic ≥160 mmHg or
diastolic ≥100 mmHg

CKD Definition

If eGFR by K/DOQI MDRD <60
ml/min/1.73 m² or;

If eGFR by K/DOQI MDRD ≥
60 ml/min/1.73 m² and
microalbuminuria +

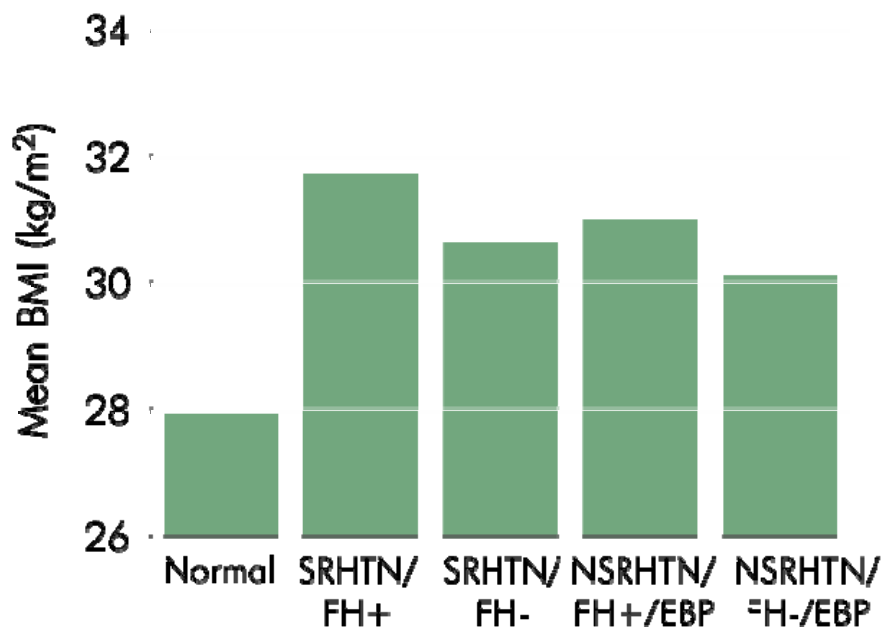
KEEP N=34,828. Excludes participants with missing values for self-reported diabetic status, blood pressure, or eGFR.

Figure 4.30

Mean BMI of KEEP participants, by hypertension status & family history

Hypertension Groups

- 1: Self-reported HTN (+) family history
- 2: Self-reported HTN (-) family history
- 3 : Self-reported NHTN (+) family history & elevated blood pressure
- 4: Self-reported NHTN (-) family history & elevated blood pressure



JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

stage 2

systolic ≥160 mmHg or
diastolic ≥100 mm Hg

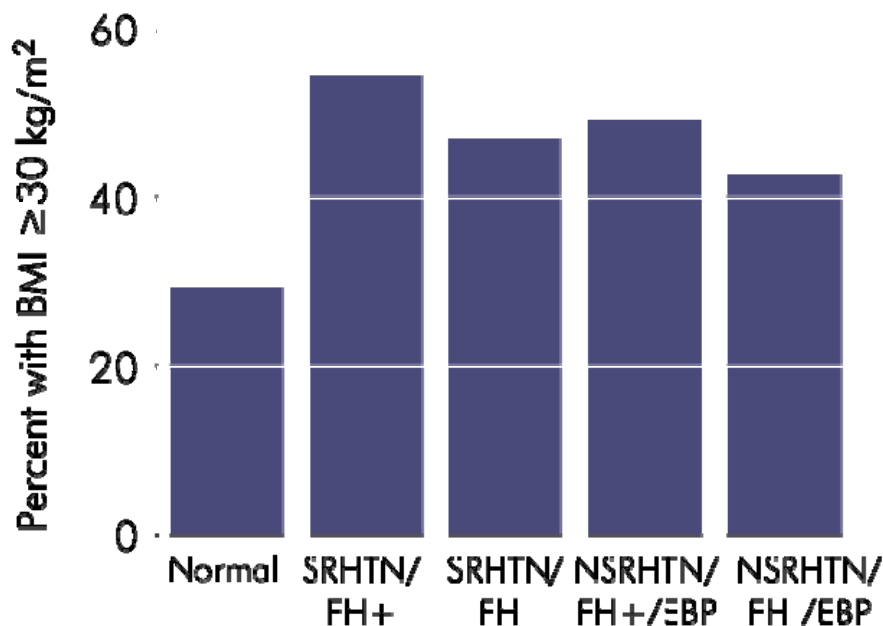
KEEP N=36,053. Excludes participants with missing values for self-reported diabetic status, blood pressure, or BMI.

Figure 4.31

BMI ≥ 30 kg/m² in KEEEP participants, by hypertension status & family history

Hypertension Groups

- 1: Self-reported HTN (+) family history
- 2: Self-reported HTN (-) family history
- 3 : Self-reported NHTN (+) family history & elevated blood pressure
- 4: Self-reported NHTN (-) family history & elevated blood pressure



JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

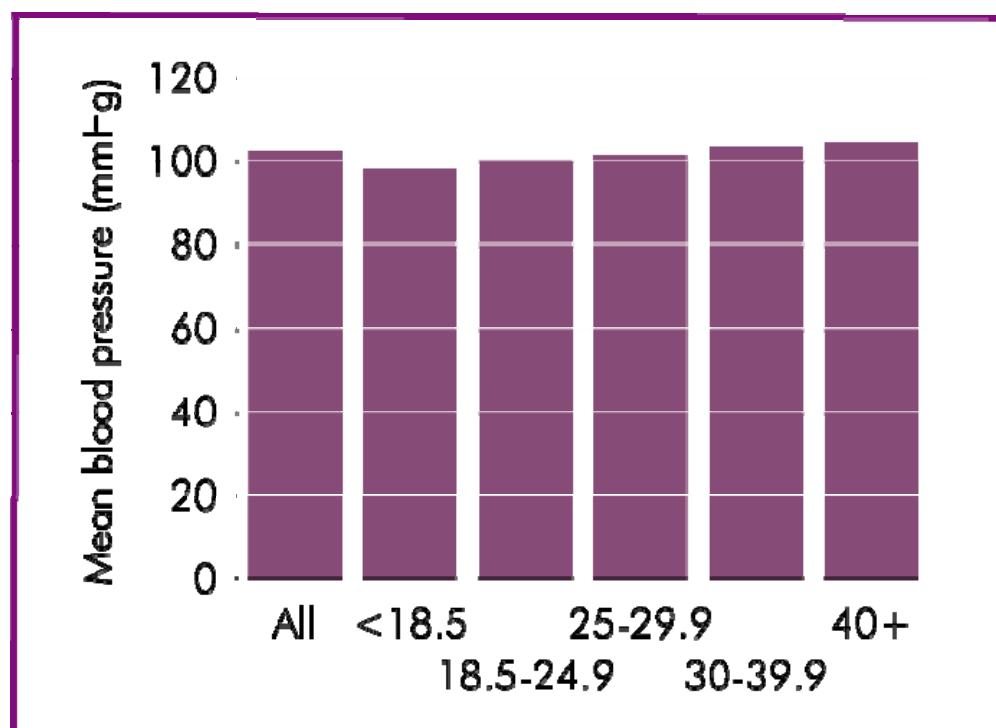
stage 2

systolic ≥ 160 mmHg or
diastolic ≥ 100 mmHg

KEEP N=36,053. Excludes participants with missing values for self-reported diabetic status, blood pressure, or BMI.

Figure 4.32

Mean blood pressure in KEEEP participants with self-reported hypertension, by BMI



Mean blood pressure
(Systolic – Diastolic)/3 +
Diastolic

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

stage 2

systolic ≥160 mmHg or
diastolic ≥100 mm Hg

Body Mass Index Categories

UW: underweight: BMI <18.5

N: normal: BMI 18.5–24.9

OW: overweight: BMI 25–29.9

OB: obese: 30–39.9

EOB: extremely obese: BMI ≥ 40

Figure 4.32 KEEEP N=18,873. for self-reported hypertension. Excludes participants with missing values for BMI or blood pressure.

Figure 4.33

Target blood pressure (JNC 7) in KEEP participants with self-reported hypertension, by BMI group

Target blood pressure (JNC 7)

DM or CKD:

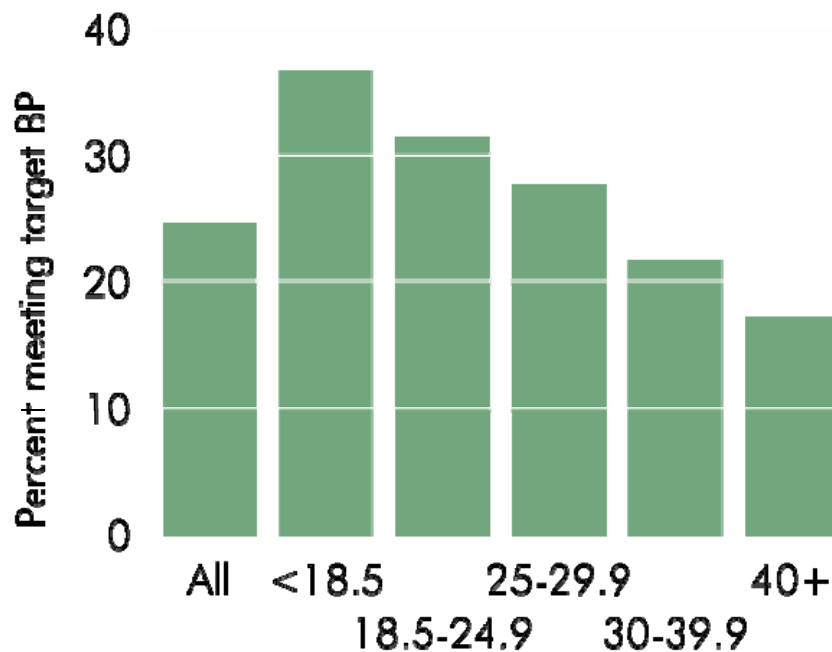
Systolic: <130 mmHg or

Diastolic: <80 mmHg

No DM or CKD:

Systolic: <140 mmHg or

Diastolic: <90 mm Hg



JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

stage 2

systolic ≥160 mmHg or
diastolic ≥100 mm Hg

Body Mass Index Categories

UW: underweight: BMI <18.5

N: normal: BMI 18.5–24.9

OW: overweight: BMI 25–29.9

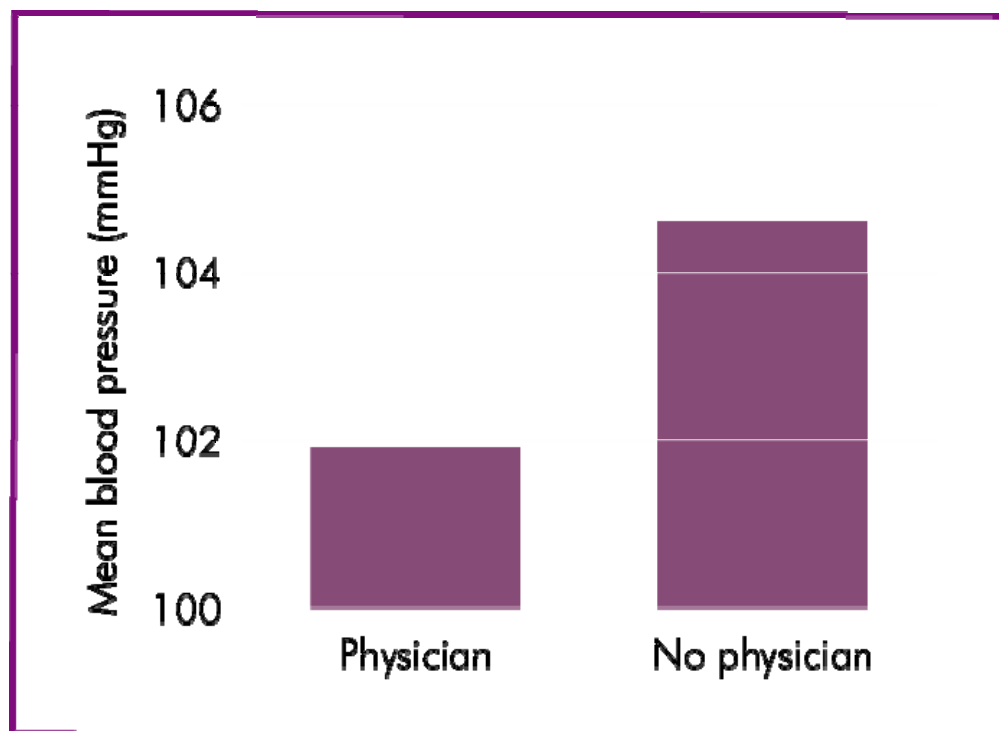
OB: obese: 30–39.9

EOB: extremely obese: BMI ≥ 40

KEEP N=18,679 for self-reported hypertension. Excludes participants with missing values for self-reported hypertension, diabetes, or BMI.

Figure 4.34

Mean blood pressure* in KEEP participants with self-reported hypertension, by physician interaction



Mean blood pressure
(Systolic – Diastolic)/3 +
Diastolic

JNC 7 Hypertension

normal

systolic < 120 mmHg &
diastolic < 80 mmHg

prehypertension

systolic 120-139 mmHg or
diastolic 80-89 mmHg

stage 1

systolic 140-159 mmHg or
diastolic 90-99 mmHg

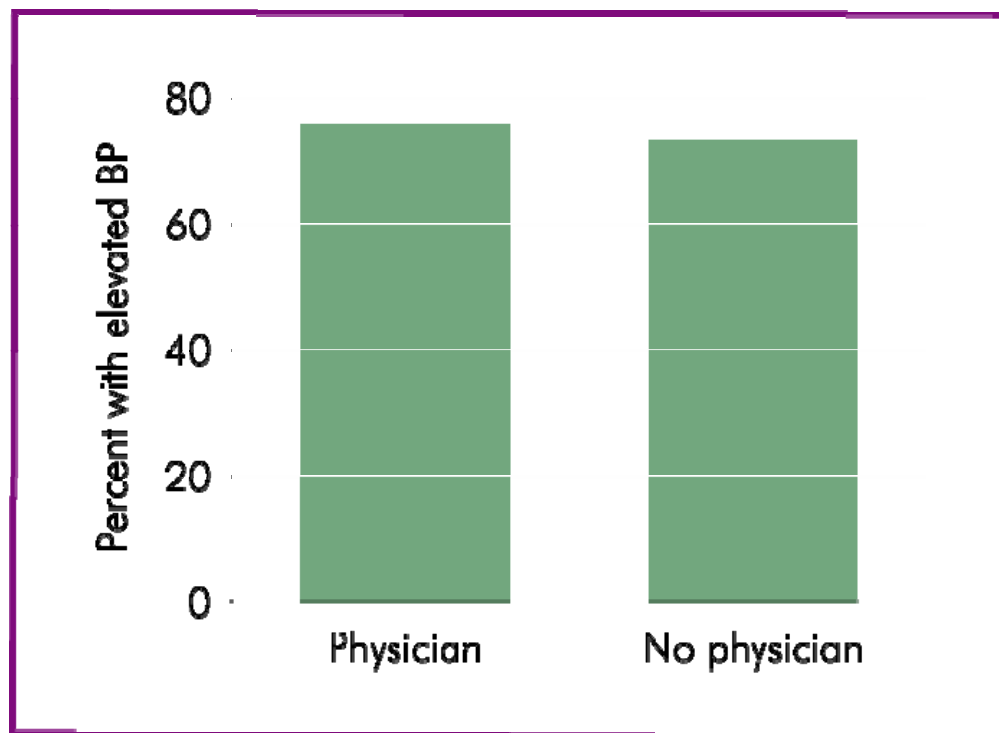
stage 2

systolic ≥160 mmHg or
diastolic ≥100 mmHg

KEEP N=18,485 for self-reported hypertension. Excludes participants with missing values for physician information.

Figure 4.35

KEEP participants outside the target blood pressure range (JNC 7), by physician interaction



Target blood pressure (JNC 7)

DM or CKD:

Systolic: <130 mmHg or

Diastolic: <80 mmHg

No DM or CKD:

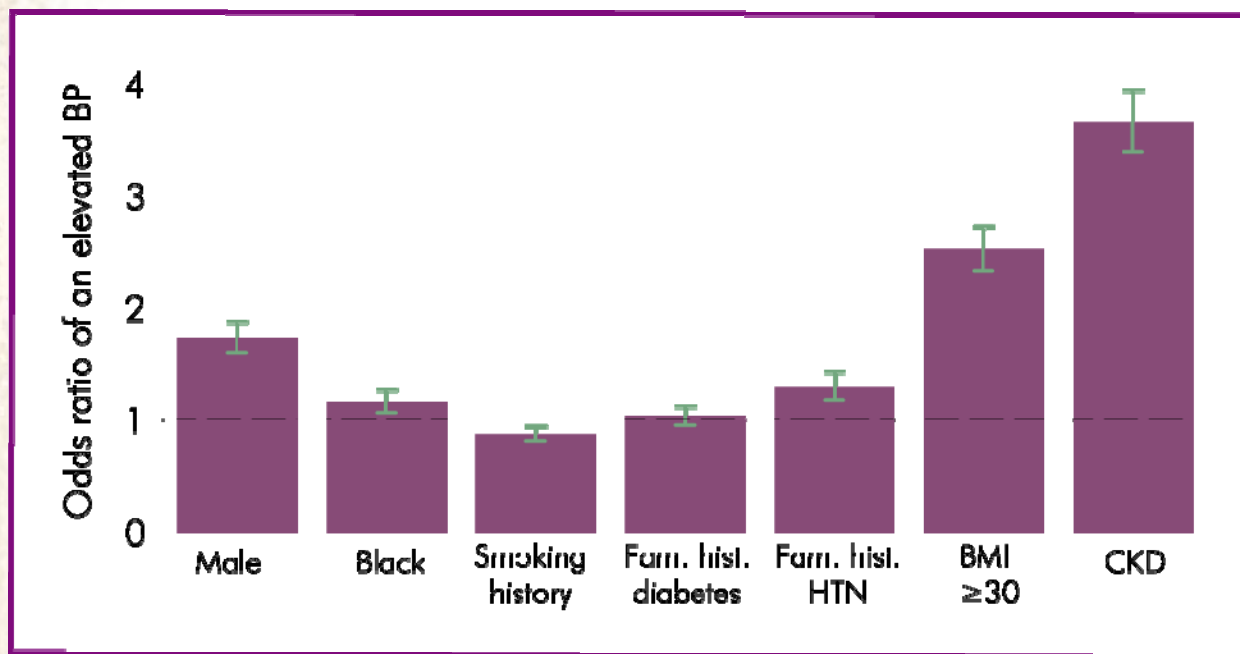
Systolic: <140 mmHg or

Diastolic: <90 mm Hg

KEEP N=18,304 for self-reported hypertension. Excludes participants with missing values physician information.

Figure 4.36

Odds of self-reported non-hypertensive KEEP participants having an elevated blood pressure, by risk factor



Reference groups

age: 46-60, gender: female, race: white, census region: south

Elevated blood pressure (JNC 7)

DM or CKD:

Systolic: ≥ 130 mmHg or

Diastolic: ≥ 80 mmHg

No DM or CKD:

Systolic: ≥ 140 mmHg or

Diastolic: ≥ 90 mmHg

KEEP N=14,259 for self-reported non-hypertension. Excludes participants with missing values for diabetic status, race, family history, census region, CKD, BMI, smoking status, or blood glucose.

Table 4.c

Odds ratios of self-reported non-hypertensive KEEP participants having elevated blood pressure (JNC 7)

	OR	Low	Upper	p-value
18-30	0.372	0.329	0.42	<.0001
31-45	0.618	0.564	0.677	<.0001
61-75	1.82	1.618	2.048	<.0001
>75	2.329	1.9	2.856	<.0001
Male	1.727	1.591	1.875	<.0001
Black	1.158	1.059	1.265	0.0012
Other race	0.952	0.857	1.058	0.3599
Smoking & used to smoke	0.866	0.802	0.935	0.0003
Self-reported diabetes	2.032	1.828	2.258	<.0001
Family history of diabetes	1.029	0.944	1.122	0.5153
Family history of hypertension	1.288	1.171	1.417	<.0001
BMI ≥30	2.522	2.33	2.729	<.0001
CKD	3.651	3.381	3.942	<.0001
Northeast	0.823	0.747	0.907	<.0001
Midwest	1.005	0.905	1.116	0.9218
West	0.872	0.766	0.993	0.0387

Reference groups

age: 46-60, gender: female, race: white, census region: south

Elevated blood pressure (JNC 7)

DM or CKD:

Systolic: ≥130 mmHg or
Diastolic: ≥80 mmHg

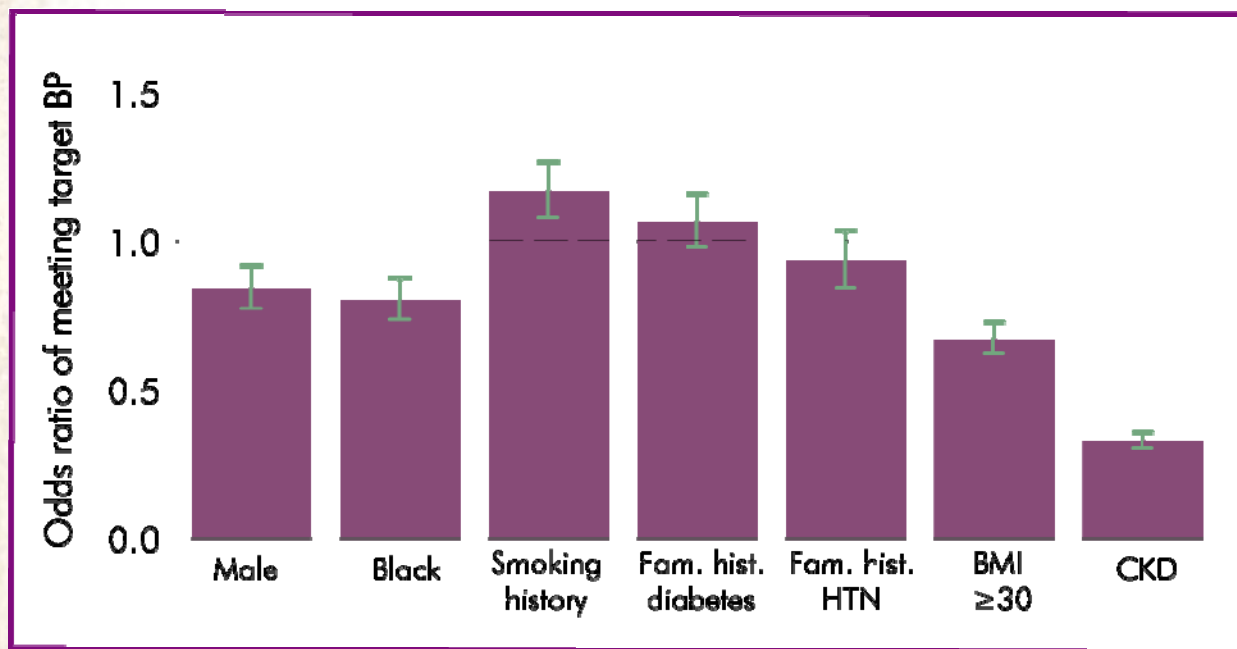
No DM or CKD:

Systolic: ≥140 mmHg or
Diastolic: ≥90 mm Hg

KEEP N=14,259 for self-reported non-hypertension. Excludes participants with missing values for diabetic status, race, family history, census region, CKD, BMI, smoking status, or blood glucose.

Figure 4.37

Odds ratios of meeting target blood pressure (JNC 7) in KEEP participants with known hypertension, by risk factor



Reference groups

age: 46-60, gender: female, race: white, census region: south

Target blood pressure (JNC 7)

DM or CKD:

Systolic: <130 mmHg or

Diastolic: <80 mmHg

No DM or CKD:

Systolic: <140 mmHg or

Diastolic: <90 mm Hg

Elevated blood pressure (JNC 7)

DM or CKD:

Systolic: ≥130 mmHg or

Diastolic: ≥80 mmHg

No DM or CKD:

Systolic: ≥140 mmHg or

Diastolic: ≥90 mm Hg

KEEP N=15,210 for self-reported non-hypertension. Excludes participants with missing values for diabetic status, race, family history, census region, CKD, BMI, smoking status, or blood glucose.

Table 4.d

Odds ratios of meeting target blood pressure (JNC 7) in KEEP participants with known hypertension

	OR	Low	Upper	p-value
18-30	2.462	1.993	3.041	<.0001
31-45	1.39	1.24	1.559	<.0001
61-75	0.847	0.77	0.932	0.0007
>75	0.815	0.705	0.941	0.0054
Male	0.842	0.772	0.919	0.0001
Black	0.802	0.734	0.877	<.0001
Other race	1.101	0.98	1.237	0.1041
Smoking & used to smoke	1.17	1.08	1.267	0.0001
Self-reported diabetes	0.619	0.565	0.679	<.0001
Family history of diabetes	1.067	0.979	1.162	0.1398
Family history of hypertension	0.935	0.841	1.04	0.2183
BMI ≥ 30	0.671	0.619	0.728	<.0001
CKD	0.33	0.305	0.358	<.0001
Northeast	1.212	1.099	1.336	0.0001
Midwest	0.992	0.888	1.108	0.8852
West	0.935	0.803	1.088	0.384

Reference groups

age: 46-60, gender: female, race:
white, census region: south

**Target blood pressure
(JNC 7)**

DM or CKD:

Systolic: <130 mmHg or

Diastolic: <80 mmHg

No DM or CKD:

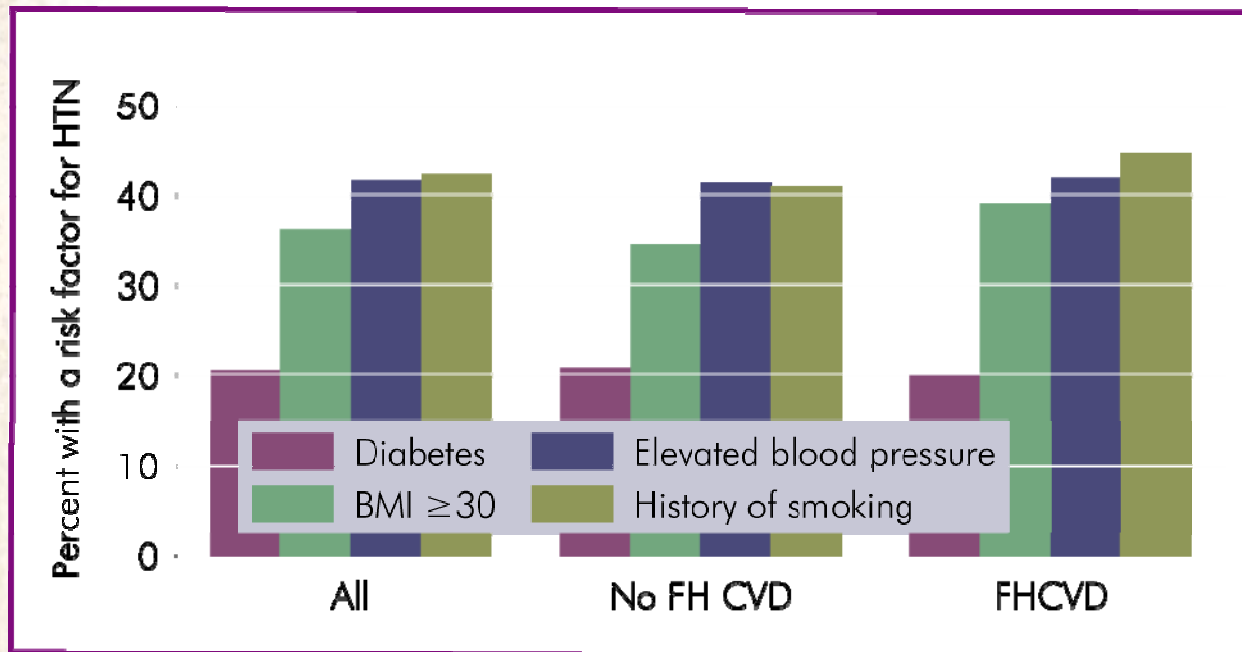
Systolic: <140 mmHg or

Diastolic: <90 mm Hg

KEEP N=15,210 for self-reported non-hypertension. Excludes participants with missing values for diabetic status, race, family history, census region, CKD, BMI, smoking status, or blood glucose.

Figure 4.38

Risk factors for hypertension in self-reported non-hypertensive KEEP participants with a blood relative who has had a heart attack or stroke, or has PVD, by family history



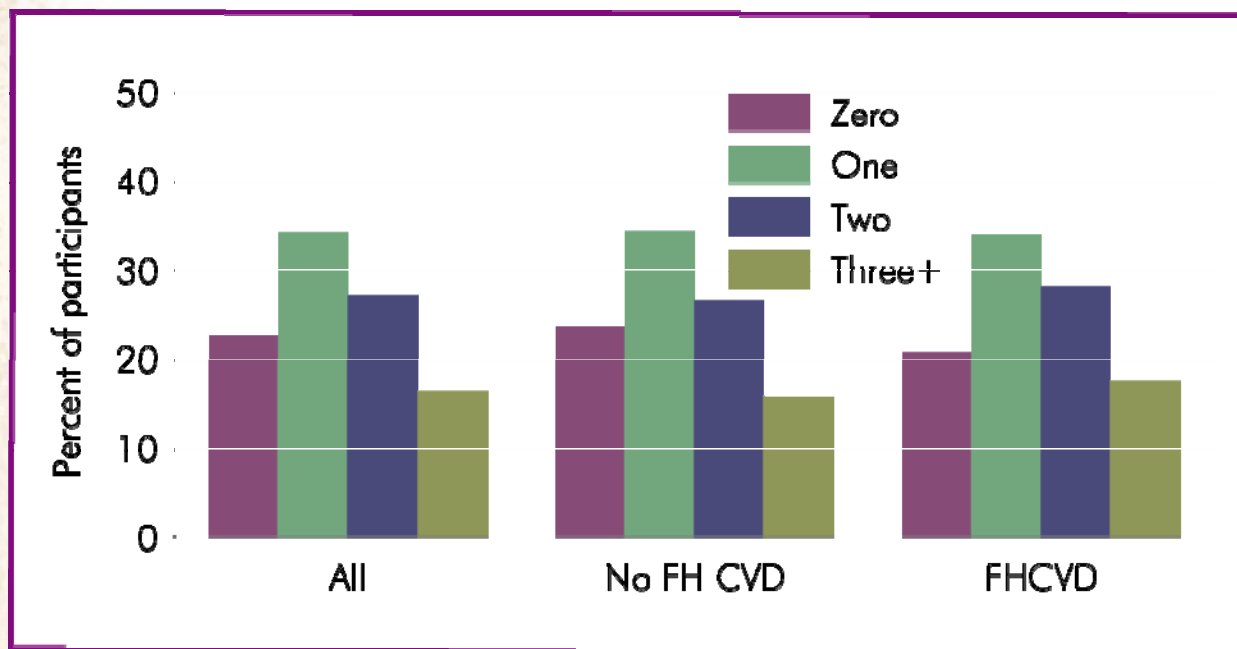
Risk factors for hypertension

Diabetes: self-reported or
Elevated blood sugar
Elevated blood pressure
BMI ≥ 30
Smoking history

KEEP N=15,642 for self-reported hypertension. Excludes participants with missing values for diabetic status, family history of CVD, blood pressure, BMI, smoking status, or blood glucose.

Figure 4.39

Risk factors for hypertension in non-hypertensive KEEP participants with a blood relative who has had a heart attack or stroke, or has PVD, by family history



Risk factors for hypertension

Diabetes: self-reported or
Elevated blood sugar
Elevated blood pressure
BMI ≥ 30
Smoking history

KEEP N=15,642 for self-reported non-hypertension. Excludes participants with missing values for diabetic status, family history of CVD, blood pressure, BMI, smoking status, or blood glucose.