BP and no prevalent cardiovascular disease (672 women; mean age of 54±7 years) were evaluated, and re-examined after 4 (2nd exam) and 8 years to evaluate predictors of 8-year incident arterial hypertension. Participants with normal (NGT, n=517) or impaired glucose tolerance/diabetes (IGT-D, n=450) were separately examined. Covariates considered in logistic models included gender, field center, baseline age, body mass index (BMI), waist girth, HDL cholesterol, LDL cholesterol, triglycerides, systolic and diastolic BP, plasma glucose, diabetes status, prevalent hypertension and diabetes at the 2nd exam and the percent changes of systolic and diastolic BP, body weight, fasting glucose, total, HDL and LDL cholesterol, triglycerides and waist girth between 1st and 2nd exam. **Results**: In participants with NGT, baseline BP and decrease in HDL-cholesterol from baseline to the 2nd exam were the most potent predictors of 8-year arterial hypertension (both $p<0.0001$), with additional effects of baseline waist circumference and its increase, increase in BP, and presence of diabetes at the 2nd exam (all $p<0.04$). In participants with IGT-D, the most potent predictor of 8-year incident hypertension was diabetes at the 2nd exam ($p<0.0001$), followed by increase in BP and LDL cholesterol over the first 4 years. **Conclusions**: Incident arterial hypertension can be predicted by initial metabolic profile and unfavourable metabolic variations over time, in addition to initial BP and its variation. At optimal levels of initial BP, increasing abdominal obesity and abnormal lipid profile are major predictors of development of arterial hypertension. Possible implications of these findings for primary cardiovascular prevention should be tested in prospective studies.

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Prevalence of Hypertension Among Youth with Diabetes: The SEARCH for Diabetes in Youth Study

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SEARCH is a multi-center, national study of youth with diabetes. We studied 3,451 SEARCH participants 3–19 years (48% boys) to determine the prevalence, awareness, treatment and control of high blood pressure (BP) in youth with diabetes. To define hypertension we used the Fourth Report on the Diagnosis, Evaluation and Treatment of High Blood Pressure in Children and Adolescents (2004) (BP ≥ 95th percentile for age and height by sex, or medication for high BP). The prevalence of hypertension was 9% in boys and 10% in girls, with the lowest rates among white girls (7%) and the highest rates among Native Americans and Asian/Pacific Islander boys (31%). Among youth with Type 1 diabetes, as determined by the provider, 7% had hypertension, compared to 29% of those with Type 2 diabetes. In multiple logistic regression, the following variables were independently associated with hypertension: BMI z-score [OR=1.5 (1.3–1.8)], minority race/ethnicity vs. non-Hispanic white [OR=1.4 (1.04–1.8)], Type 2 vs. Type 1 [OR=3.0 (2.1–4.4)], and duration of diabetes of ≥1 year vs. < 1 year [OR=1.6 (1.2–2.1)]. Among youth with hypertension: 42% of the boys and 47% of the girls were aware of a clinical diagnosis of hypertension, 27% of the boys and 29% of the girls were taking medication for high blood pressure, and 18% of the boys and 16% of the girls had their blood pressure under control (BP<90th percentile). This study indicates that the prevalence of hypertension in youth with diabetes is high, especially among children with Type 2 and among ethnic minorities. The study also reveals the low prevalence of awareness, treatment and control of this condition in children with diabetes despite existent recommendations. Given the known relationships between hypertension and the risk of macro- and microvascular complications of diabetes, these findings have important clinical and public health implications.

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Prevalence, Awareness, and Control of Hypertension at Baseline in the Jackson Heart Study

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Many studies report that hypertension (HTN) prevalence is higher (at least 30%) and its outcomes generally worse among African Americans (AA) with prevalence and outcome disparities increasing with advancing age and body mass index (BMI). Data also have shown a higher likelihood of poor HTN control among AAs. However, few studies have examined the prevalence of HTN or the levels of awareness, treatment, and control among all-AA, population-based samples. The Jackson Heart Study (JHS), an epidemiological cohort study of 5302 AAs residing in the Jackson Mississippi Metropolitan Statistical Area who were examined between the fall of 2000 and early 2004, offers an opportunity to analyze important aspects of the HTN epidemic in AAs. HTN was defined using JNCVII cutpoints and/or use of antihypertensive medications in the past 2 weeks. Awareness was assessed with standardized questions. Control was defined as treatment with antihypertensive medication and a measured blood pressure of <140/90 mmHg or <130/80 for diabetic hypertensives. Overall, 62% (3258 of 5302) of the JHS cohort had HTN. HTN prevalence increased with age (81%, 1677 of 2081, among those aged 60+) and among women (64%; 2132 of 3361). In stepwise logistic regression analysis, increasing age, BMI, presence of diabetes (using ADA cutpoints and/or use of glycemic medications), presence of self-reported cardiovascular disease, and current alcohol use were associated with the presence of HTN. Overall, 86% (2800 of 3258) were aware of their HTN, and among those who were aware, HTN was treated in 80% and controlled in 64% (1661 of 2604). Among diabetics, HTN was controlled in 39% (287/741). Previously unknown HTN was identified in 6% (313 of 5302) of the cohort, 80% (249 of 313) of whom fell within the JNCVII Stage I designation. HTN prevalence in this recently examined population-based, all-AA, Southern US cohort is high–almost twice the reported NHANESIII prevalence for non-Hispanic blacks. However, awareness and treatment rates are higher, while control rates are over double the control rates generally quoted for AAs in other studies. Age-specific data demonstrate lower levels of control among men and those aged 60+, and poor control among diabetic hypertensives.

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Racial Differences in Intensity of Hypertension Treatment: The Reasons for Geographic and Racial Disparities in Stroke Study

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Among people with hypertension (HTN), African Americans (AA) have higher BP than European Americans (EA). Despite accumulating reports of AA's higher HTN awareness, disparities in control persist. Less intense medication treatment among AA could potentially explain worse control. We studied treated hypertensive participants in the Reasons for Geographic And Racial Disparities in Stroke (REGARDS) study to examine whether AA were treated less intensely than EA. **METHODS:** REGARDS is a nationwide cohort of individuals ≥ age 45, half AA, half female and over sampled from the stroke belt. Telephone interviews were followed by in-home assessments that included height, weight, BP, blood sampling and documentation of current medications. BP medications were classified into 6 classes (diuretics, beta blockers, angiotensin converting enzyme inhibitors or receptor blockers, calcium channel blockers, alpha blockers, or other). We used logistic regression to examine the number of classes of BP medication used to treat HTN, adjusting for factors likely to influence intensity of treatment: sociodemographics, access to care, health status, medical conditions, health behaviors and BP level. **RESULTS**: We studied 8,960 individuals with mean age 68.0±8.6 years. AA were poorer and less educated than EA, and had worse BP control, yet they were on more classes of BP medication (see Table). In the multivariable analysis, AA were likely to be more intensely treated (on 0.132 more BP classes than otherwise similar EA, $p<.0001$). More intense treatment was present across all age, sex, education and income groups. **CONCLUSIONS:** In this insured population, physicians were appropriately treating HTN more aggressively in AA, regardless of socioeconomic status. Additional mechanisms should be examined to better understand and eliminate BP control disparities between AA and EA with HTN.

TABLE. TREATED HYPERTENSIVE REGARDS PATIENTS (N=8944)

		AA **N = 4289**	EA **N = 4655**
Sociodemographics	Age, mean yrs ±SD	67.0±8.5	69.0±8.5
	Females, N (%)	2383 (56)	1646 (35)
	Education < high school, N (%)	1063 (25)	459 (10)
	Income <$20,000/year, N (%)	1564 (36)	800 (17)
Access to care	Health insurance, N (%)	3982 (93)	4513 (97)
Health status	Physical functioning score, mean ±SD	43.6±10.7	45.1±10.7
	Mental functioning score, mean ±SD	51.7±8.1	52.8±7.0
Medical conditions	Prior stroke or MI, N (%)	877 (20)	1106 (24)
	Prior diabetes, N (%)	1620 (38)	1185 (25)
	BMI >30 kg/m^2, N (%)	2120 (49)	1700 (36)
	Creatinine >2.0 mg/dl, N (%)	214 (5)	97 (2)
Health behaviors	Current smokers, N (%)	723 (17)	499 (11)
	Moderate drinkers, N (%)	1109 (26)	1704 (37)
	No exercise, N (%)	1688 (39)	1616 (35)
BP control	BP <140/90 mmHg, N (%)	2724 (64)	3440 (74)
Intensity of treatment	On 1 BP med class, N (%)	1616 (38)	2180 (47)
	On 2 BP med classes, N (%)	1639 (38)	1690 (36)
	On ≥3 BP med classes, N (%)	1034 (24)	786 (17)

All characteristics significantly different by race, $p<.01$

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Are Ethnic Differences in Insulin Resistance and Diabetes Explained by Anthropometric Factors? The Multi-Ethnic Study of Atherosclerosis (MESA)

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The etiology of ethnic differences in insulin resistance is unclear. We assessed cross-sectional ethnic differences in insulin resistance and evaluated the role of relative body weight and fat distribution among participants of MESA, a six-center cohort study examining the determinants of subclinical cardiovascular disease (CVD) in a multi-ethnic population aged 45–84 with no history of clinical CVD. 6,790 participants were examined from 2000 to 2002. The homeostasis model of insulin resistance was calculated as fasting glucose x insulin / 22.5, and log-transformed (HOMA). Participants with drug-treated diabetes were excluded from HOMA analysis, leaving 6,114. Body mass index (BMI), waist girth (Waist), and waist-hip ratio (WHR) were directly measured. Ethnic-specific total diabetes prevalence rates were: African Americans 19.5%, Caucasians 7.2%, Chinese 15.3%, and Hispanics 19.5%. After adjustment for age, gender, and education, the prevalence of diabetes ($p<.001$) and mean HOMA ($p<.0001$) varied significantly across ethnic groups. Additional adjustment for BMI, Waist, or WHR did not explain the ethnic differences in diabetes or HOMA. Adjusted odds ratios for diabetes were: Caucasians 1.0 (referent), African Americans 2.9 (95 CI = 2.4–3.5), Chinese 3.8 (2.9–4.9), and Hispanics 2.5 (2.0–3.1). The association between Waist and HOMA was stronger for the Chinese than for the other ethnic groups (Waist x ethnic interaction: $p<.0001$). Results were similar for BMI x ethnic ($p<.0001$), but not for WHR x ethnic ($p=.15$). These data imply significant ethnic heterogeneity in the association between insulin resistance and a given increment of excess body weight or fat. The results are consistent with the paradox of a high

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