

Are Patients with Elevated Blood Pressures Being Treated Adequately in the Cardiologist's Office?

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Study Design

- A randomized, retrospective chart audit was conducted on patient records in multiple practice settings. A chart audit tool was created with definitions provided according to ACC guidelines, to ensure consistency and accuracy in data collection. A total of 597 charts were reviewed. The number of charts was determined from a mathematical formula designed to accurately power the study. Data on blood pressure control was available on 571 patients (386 males and 185 females).
- Entry criteria required patients to have been referred to a cardiologist, regardless of clinical diagnosis.

Hypertension Audit Tool

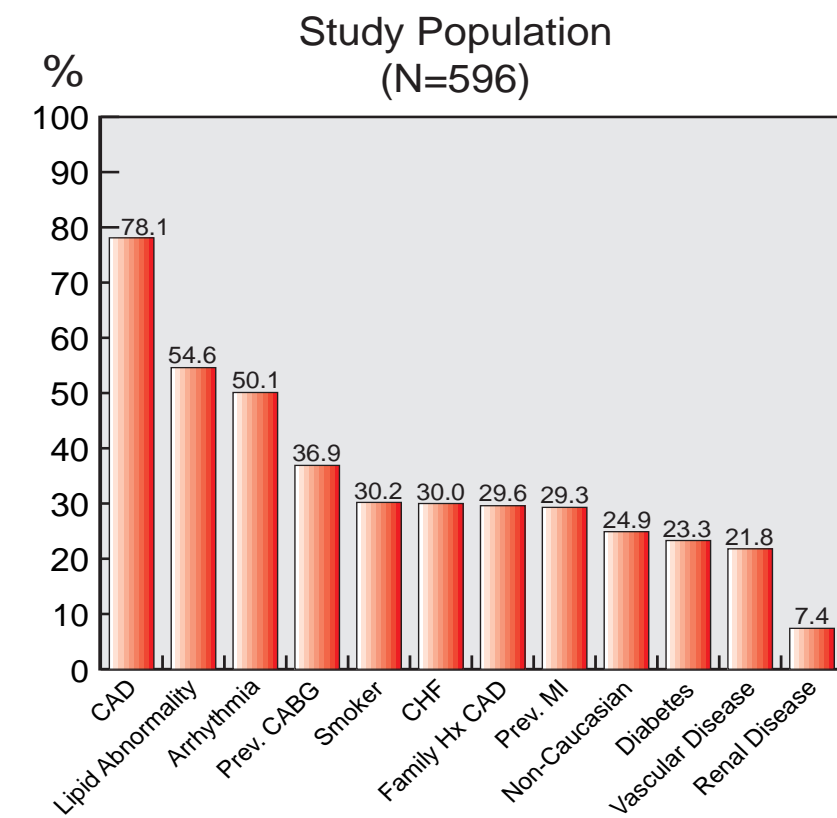
- Demographic Information
- Pertinent Past Medical History

Arrhythmia	Previous CABG	Lipid Abnormality
Diabetes	MI	Menopause
Renal Disease	Family Hx of CAD	Vascular Disease
Smoking History	CHF	CAD

- Patient Medications
- Labs
- Last 3 Blood Pressure Readings
- Overall Control defined as 2 out of 3 visits with BP readings < 140/90 (or 2 of 2 visits)
- Quality Checks as defined by JNC VI
- Patient Education/Counseling

Demographic Data

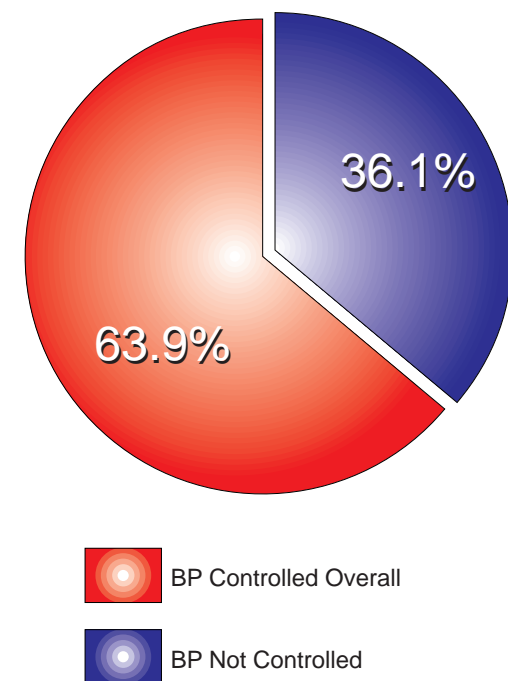
Mean Age 64.6 yrs (range: 29-95)



Hypothesis # 1

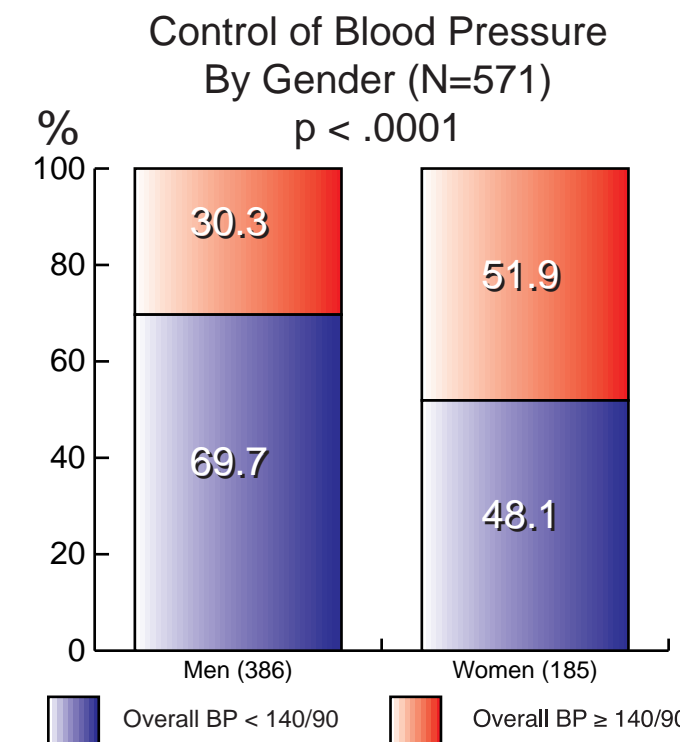
A significant portion of patients evaluated and treated by cardiologists have uncontrolled hypertension, and have not achieved the goal of a BP of 140/90 as determined by the JNC VI (The Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure)

Control of Blood Pressure in Patients Sampled
BP < 140/90 (N=571)



Hypothesis # 2

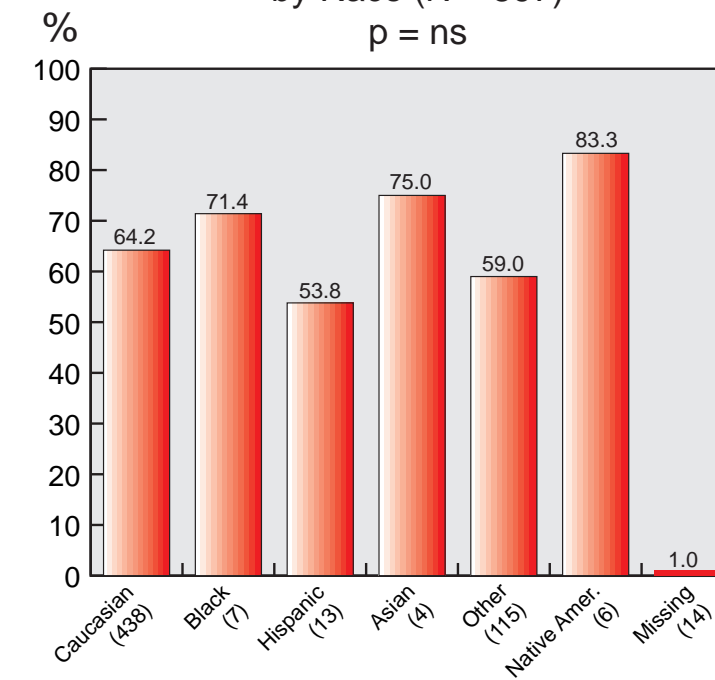
Hypertension in females is controlled less than in males.



Hypothesis # 3

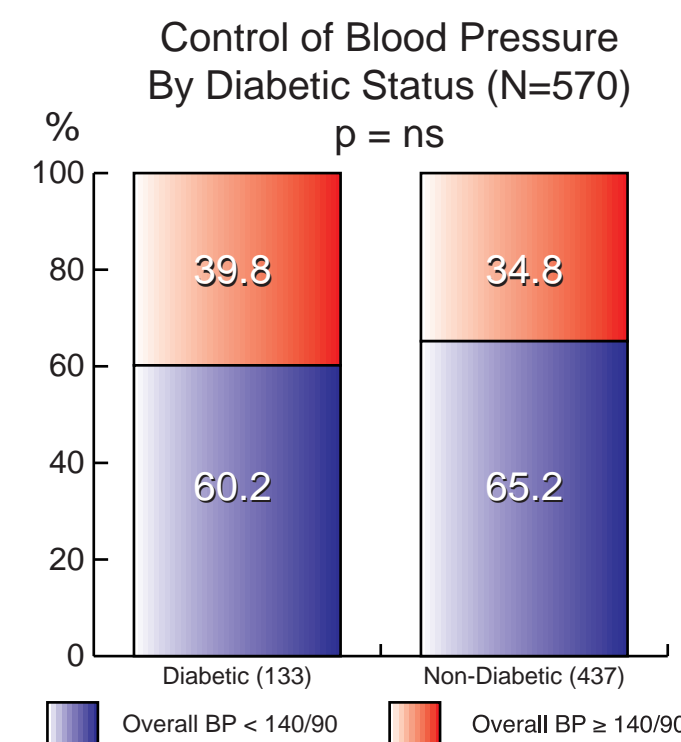
Hypertension in minority cohorts is controlled less than in non-minority cohorts.

Control of Blood Pressure by Race (N = 597)
p = ns



Hypothesis # 4

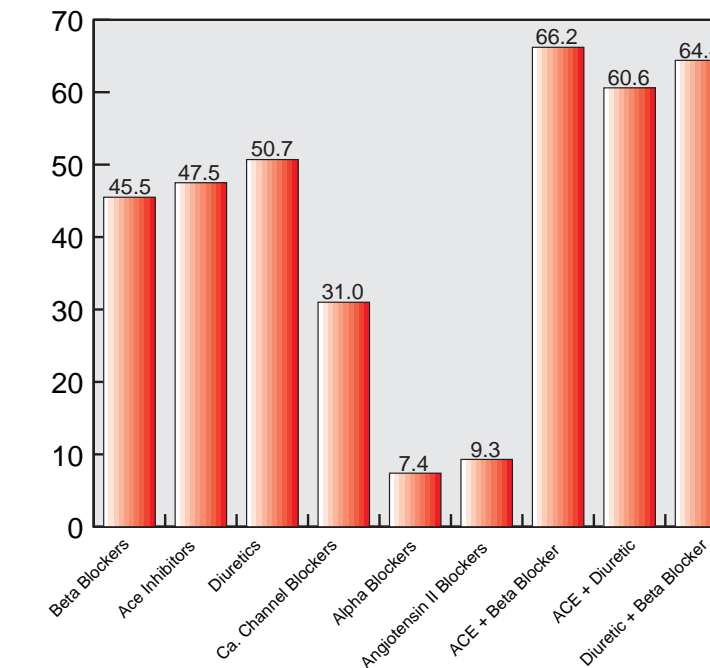
Hypertension in diabetic cohorts is controlled less than in non-diabetic cohorts.



JNC VI Suggested Treatment Algorithm

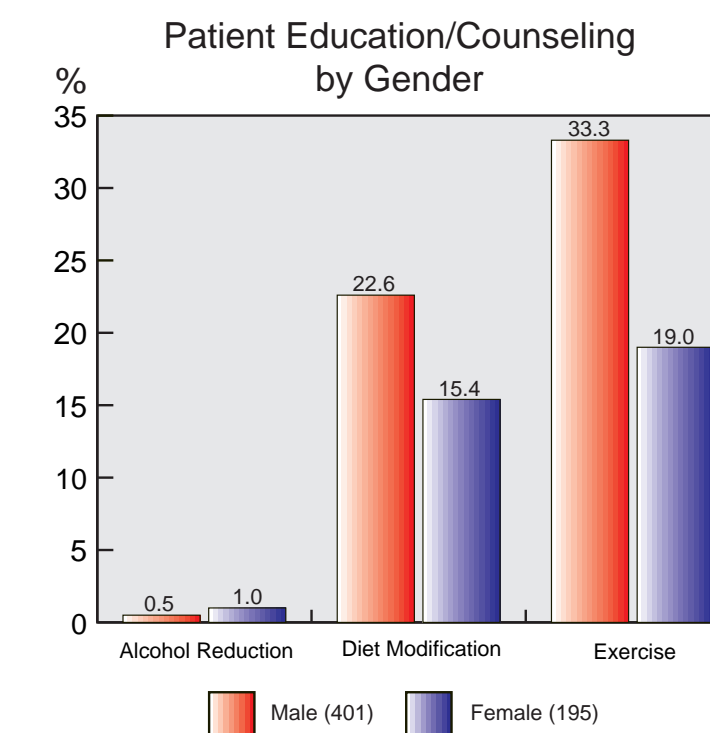
- BP should be controlled to < 140/90 (lower goals for patients with diabetes or renal disease)
- Begin or continue lifestyle modification
- Initial drug choices (unless contraindicated)
 - Diuretics or beta blockers are recommended as first-choice agents in the treatment of hypertension

Medication Usage in Patients with Controlled Blood Pressure



Quality Issues

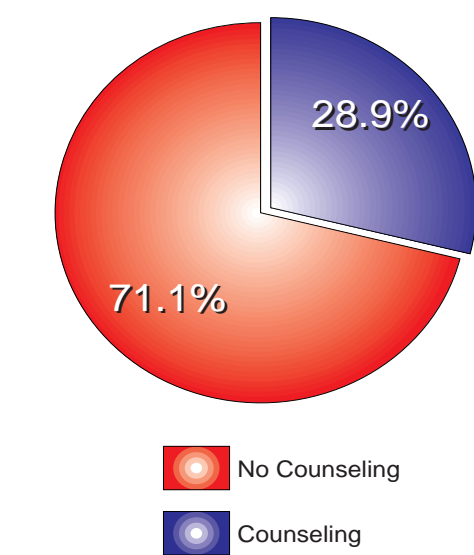
a. Patient Education



Quality Issues

b. Smoking Cessation Counseling

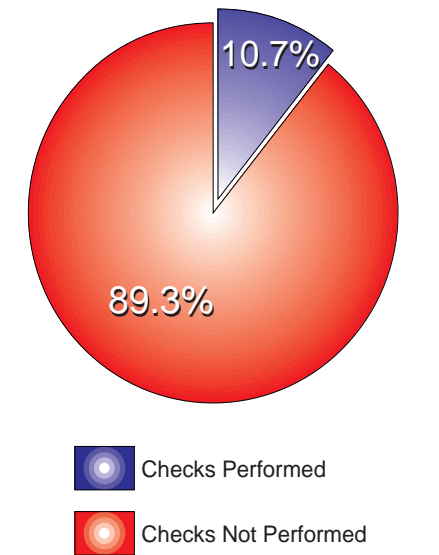
Smoking Cessation Counseling for Smoking Patients (N = 52)



Quality Issues

c. Quality Checks

Quality Checks Blood Pressure Readings (N = 594)



Quality Check:

For detection/confirmation of hypertension JNC VI recommends 2 or more readings separated by at least 2 minutes and should be averaged. If the first two readings are different by > 5mmHg, additional readings are recommended.

Summation

In charts audited

- 1/3 of patients had an uncontrolled Blood Pressure.
- Statistically significant greater percent of males had controlled Blood Pressure.
- No difference was found in control of Blood Pressure by race.
- No difference was found in control of Blood Pressure in diabetics and non-diabetics.
- Fewer than 1/3 of patients received any counseling on life style modification or smoking cessation.
- Inadequate documentation of quality measures as defined by JNC VI.

Recommendations

- Pocket Cards available for JNC VI Guidelines
- Study be expanded to include primary care physicians to develop more complete picture of Blood Pressure treatment.
- Conduct a repeat audit within the cardiologist's office this time looking specifically at patient's with an ICD-9 code for hypertension
- Increase educational opportunities at the community level for public and other health care professionals

Background and Significance: According to the NHANES III, phase I (National Health and Nutrition Examination Survey) 1988 - 91

- The percentage of Americans who are aware that they have high blood pressure has increased from 51 to 73 percent
- Among persons with hypertension, treatment has increased from 3 to 55 percent
- The number of persons with high blood pressure controlled to less than 140/90 has increased from 10% to 29%

HOWEVER...

- The rate of reduction in deaths from stroke and heart attacks has been leveling off
- The rates for two related complications of hypertension, heart failure and end-stage kidney failure, are increasing
- Epidemiological and actuarial studies have repeatedly demonstrated that cardiovascular morbidity and mortality are substantially higher in hypertensives, compared with normotensives at all ages and in both sexes
- "We are starting to fail in terms of blood pressure control in this country," says Sheldon G. Sheps, M.D., chairman of the working group of the national hypertension panel. "Our message is that you shouldn't be satisfied unless your blood pressure is controlled."
- "The goal of prevention and management of hypertension is to reduce morbidity and mortality by the least intrusive means possible. This may be accomplished by achieving and maintaining Systolic BP below 140 mm Hg and Diastolic BP below 90 mm Hg and lower if tolerated. The goal may be achieved by lifestyle modification, alone or with pharmacologic treatment." (The Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure)
- Evaluation and treatment of hypertension is a quality of care issue addressed even at the level of managed care organizations. The NCQA (National Committee on Quality Assurance) has set its sights on important aspects of clinical services such as asthma, diabetes mellitus, and high blood pressure.