

Low Awareness and Treatment Rates for Hypertension and Hypercholesterolemia Among Participants in a Blood Donor Cardiovascular Risk Screening Program

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Introduction

- Early treatment of hypertension and hypercholesterolemia decreases cardiovascular (CV) morbidity and mortality, but these CV risk factors often remain undiagnosed.
- We used a large community blood donation program as a novel portal for high efficiency, low-cost CV risk screening.

Hypothesis

We hypothesized that the prevalence of undiagnosed and untreated CV risk factors among blood donors supports the public health benefit of screening blood donors for CV risk.

Methods

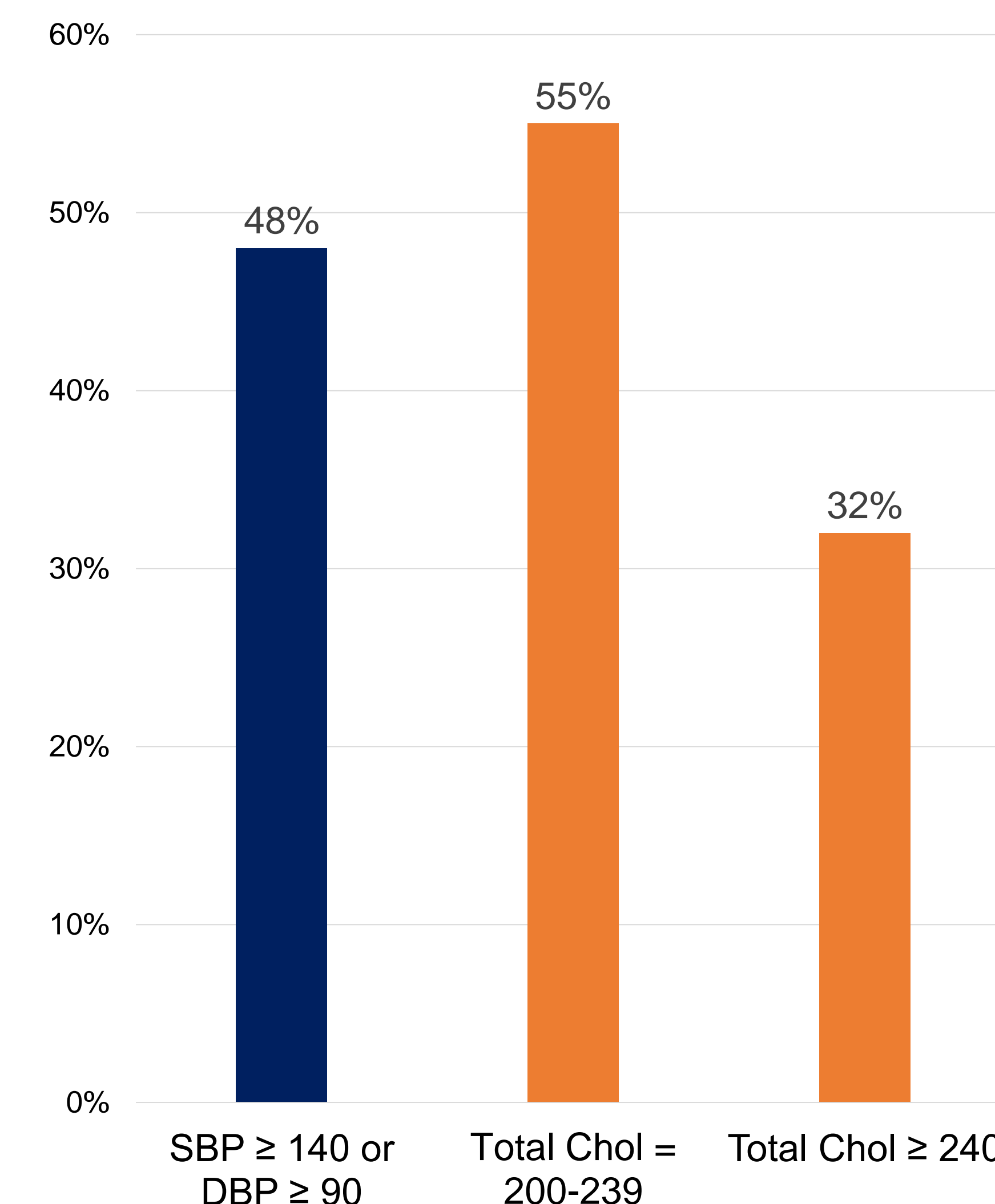
- Consenting adult blood donors at 11 Carter BloodCare centers in North Texas completed a 24-question health survey assessing CV risk awareness, treatment, and control.
- Measurements included blood pressure (BP) and non-fasting total cholesterol (TC).
- Subjects were classified as aware of their high blood pressure or hypercholesterolemia (see cutoff values in Tables) if they responded "Yes" to any of 3 questions:
 - "Has a doctor or other health professional ever told you that you have hypertension (high blood pressure)/high cholesterol?"
 - "Has a doctor ever prescribed you medicine for hypertension (high blood pressure)/to help lower your cholesterol?"
 - "Are you currently taking medicine prescribed by a doctor for hypertension (high blood pressure)/to help lower your cholesterol?"
- Characteristics for both BP and Cholesterol were analyzed within groups based on subject awareness and current medication status.

Results

Blood Pressure	Aware of Diagnosis, On Medication	Aware of Diagnosis, Not on Medication	Unaware of Diagnosis, Not on Medication
n	905	221	2728
Age (mean ± SD)	58 ± 11	49 ± 13	45 ± 15
Ethnicity			
Black	9%	6%	5%
White	83%	80%	76%
Hispanic	6%	11%	13%
Female	25%	29%	41%
BMI, kg/m²	31 ± 6	30 ± 6	28 ± 5
SBP (mean ± SD), mmHg	126 ± 16	132 ± 17	119 ± 14
DBP (mean ± SD), mmHg	78 ± 8	81 ± 8	75 ± 8
SBP Max, mmHg	179	180	177
DBP Max, mmHg	100	100	100
SBP ≥ 120 or DBP ≥ 80 mmHg	65%	81%	46%
SBP ≥ 130 or DBP ≥ 90 mmHg	40%	51%	21%
SBP ≥ 140 or DBP ≥ 90 mmHg	22%	34%	9%
Ever had health insurance	99%	99%	98%
Currently have health insurance	97%	88%	90%
Seen a doctor in last 6 months	88%	69%	61%

Cholesterol	Aware of Diagnosis, On Medication	Aware of Diagnosis, Not on Medication	Unaware of Diagnosis, Not on Medication
n	698	738	2266
Age (mean ± SD)	60 ± 10	50 ± 13	44 ± 13
Ethnicity			
Black	5%	6%	7%
White	86%	81%	75%
Hispanic	6%	8%	14%
Female	23%	40%	40%
BMI, kg/m²	30 ± 5	29 ± 5	28 ± 6
Cholesterol (mean ± SD), mg/dL	162 ± 33	210 ± 35	179 ± 32
Max Cholesterol, mg/dL	310	340	335
Cholesterol 200-239 mg/dL	11%	41%	21%
Cholesterol ≥ 240 mg/dL	2%	20%	4%
Ever had health insurance	99%	99%	97%
Currently have health insurance	98%	93%	89%
Seen a doctor in last 6 months	89%	71%	59%

Frequency of Unaware Status Among Blood Donors With Increased Cardiovascular Risk



Overall Cohort (n = 4176)

- 36% female
- Age: 49 ± 15 years
- Elevated or high BP (SPB ≥ 120 mmHg and/or DBP ≥ 80 mmHg): **53%**
- Stage 2 hypertension (SPB ≥ 140 mmHg and/or DBP ≥ 90 mmHg): **14%**
- Borderline high cholesterol (TC = 200-239 mg/dL): **23%**
- Hypercholesterolemia (TC ≥ 240 mg/dL): **7%**
- High rates of health insurance:
 - 98% ever insured
 - 92% currently insured

Conclusions

- High blood pressure and elevated cholesterol levels are common among blood donors but often are undiagnosed and untreated.
- Nearly half of blood donors with stage 2 hypertension and a third with hypercholesterolemia are not aware of their condition, and more than half of donors with each have never been prescribed medicine for their condition.
- These findings support screening blood donors for CV risk factors as a strategy for community-based CV disease prevention.

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Frequency of Blood Donors with Increased Cardiovascular Risk Who Have Never Been Prescribed Medication for Their Condition

