Impact of New Guidelines on Blood Pressure Control Rates in Outpatient Cardiac Rehabilitation

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INTRODUCTION

In 2017 the American College of Cardiology and American Heart Association released new blood pressure (BP) guidelines[1]. A key component of the new guidelines was to reduce the threshold for hypertension diagnosis and treatment goal from <140/90 mmHg to <130/80 mmHg for patients with atherosclerotic cardiovascular disease (ASCVD).

PURPOSE

Determine the impact of the new guidelines on BP control rates in a sample of cardiac rehab (CR) patients.

DESIGN

A cross-sectional study design was used for CR programs participating in the Montana Outcomes Project.

METHODS

Data Source: Montana Outcomes Project October 2015—September 2017.
Data were collected from 116 CR programs representing 17 states that participated in the Montana Outcomes Project. Patients aged 18-99 who completed 12-36 phase II visits were included in the analysis. Patients with a valve replacement/repair without ASCVD were excluded. Resting, pre-exercise BP values were obtained for patients at every CR session and recorded. An average of the last 3 resting BP readings was used to determine BP control rate.

Analysis: Descriptive statistics were calculated for all response variables. Statistical analysis included ANOVA, Chi-square, and paired T-test with p-value of <0.05 indicating statistical significance.

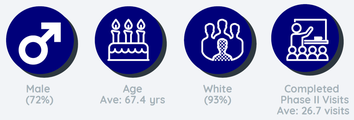
RESULTS

A total of 16,074 patients were included in the analysis; they were predominantly white (93.3%), male (72.2%), and had an average age of 67 years. The average number of phase II visits completed equaled 27. Slightly over 90% of the sample had resting BP of <140/90 mmHg at completion of CR. When the BP control threshold was lowered to <130/80 mmHg reflecting the new guidelines, control rates dropped to 71.5%. No significant difference was noted in control rates between men and women (71.2% vs. 72%). American Indians (62.8%) and Blacks (63.5%) had the poorest control rates under the new guidelines while those classified as Asian had the highest control rates (74.8%).

CONCLUSIONS & IMPLICATIONS

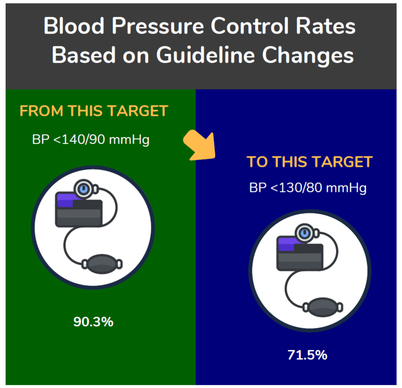
Blood pressure controls rates in this sample of CR patients were high under the previous BP guidelines. However, using the new BP guidelines with a lower diagnosis and treatment goal, control rates dropped nearly 20 percentage points. Cardiac rehab staff will need to work with their patients and referring physicians to improve BP control rates moving forward. Extra attention should be directed toward American Indian and Black patients related to improving BP control.

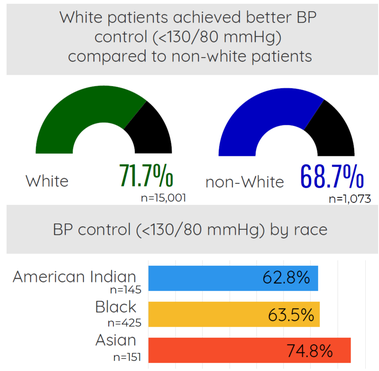
Participant Demographics
N = 16,074



REFERRING DIAGNOSIS	TOTAL
MI only	5.7%
MI/CABG	4.9%
MI/PCI	23.3%
CABG Only	23.7%
PCI only	30.7%
Angina	3.2%
Heart Failure (HF)	13.4%
Systolic HF	64.1%
Diastolic/Right-sided HF	16.8%
Missing type of HF	19.1%
Valve replacement/repair	5.4%
Transplant	0.4%
LVAD*	0%
PAD*	0.2%
Other	2.6%

*New indicator added in Q4 2016

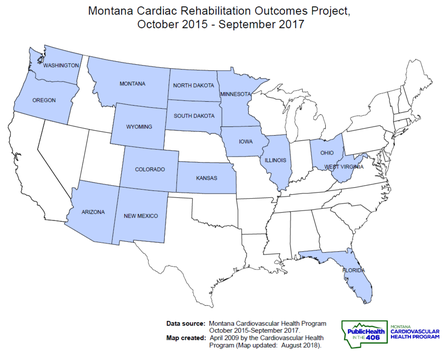




Blood Pressure Categories

American Heart Association | American Stroke Association

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120



REFERENCE

[1]Whelton PK, Carey RM, Aronow WS, et al; 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. Sep 2017, 23976; DOI: 10.1016/j.jacc.2017.07.745

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