HHS Public Access

Author manuscript

Circulation. Author manuscript; available in PMC 2018 September 19.

Published in final edited form as:

Circulation. 2017 September 19; 136(12): 1174–1175. doi:10.1161/CIRCULATIONAHA.117.029937.

Response to Letter Regarding Article, "Potential Deaths Averted from Adoption of the SPRINT Intensive Blood Pressure Regimen in the U.S.: Projections from NHANES"

Adam P. Bress, PharmD, MS[1], **Holly Kramer, MD, MPH**[2,3], and **Richard S. Cooper, MD**[2]

[1]Department of Population Health Sciences, University of Utah, Salt Lake City, UT

[2]Department of Public Health Sciences, Loyola Medical Center, Maywood, IL

[3]Division of Nephrology and Hypertension, Loyola Medical Center, Maywood, IL

We thank Dr. Koh for his comments and agree that clinical practice guidelines should evolve as new knowledge becomes available. For example, a recent network meta-analysis of 42 blood pressure lowering trials including 144,220 patients found significantly lower risks of all-cause mortality among participants who achieved systolic blood pressure 120–124 mm Hg compared to all other achieved systolic blood pressure groups including 130–134, 140–144, 150–154 or 160 mm Hg or more.[1] Specifically, randomized groups who achieved a mean SBP 120–124 mm Hg had a hazard ratio for all-cause mortality of 0.73 (95% CI, 0.58–0.93), 0.59 (95% CI, 0.45–0.77) and 0.51 (95% CI, 0.36–0.71) compared to those who achieved a SBP of 130–134, 140–144, 150–154 mm Hg, respectively. These hazard ratios were similar when excluding SPRINT from the analysis. For comparison, in SPRINT, the mean SBP achieved in the intensive arm was 121.5 mm Hg and 134.6 mm Hg in the standard arm resulting in hazard ratio for all-cause mortality of 0.73 (95% CI, 0.60 to 0.90) which is what we applied in our study.[2, 3] Recent blood pressure management guidelines from Canada and Australia incorporated evidence from the Systolic Blood Pressure Intervention Trial (SPRINT) and recommend considering intensive systolic blood pressure lowering in those at high cardiovascular disease risk with close monitoring for serious adverse events.[4, 5] Forthcoming U.S. blood pressure management guidelines are likely to recommend how intensive systolic blood pressure lowering should be implemented into routine clinical practice.

We agree with Dr. Donzelli that blood pressure measurement is difficult to standardize across studies and there is a wide variety of blood pressure measurement techniques used in the usual clinic setting. SPRINT used the automated office blood pressure (AOBP) approach which is considered by some to be a best practice.[6] In fact, AOBP Is now recommended as the preferred method by the Canadian Society of Hypertension for measuring blood pressure

*Corresponding author: Adam Bress, PharmD, MS, Assistant Professor, Division of Health System Innovation and Research, Department of Population Health Sciences, University of Utah School of Medicine, 295 Chipeta Way, RM 1S116, Salt Lake City, UT 84108, p: 8012138797.

Disclosures: Dr. Bress was supported by 1K01HL133468-01 from the National Heart, Lung, and Blood Institute, Bethesda, MD. Dr. Bress has an institutional grant from Novartis not related to the current project. HK: No conflicts of interest to disclose. RC: No conflicts of interest to disclose

in the clinic.[7] We also agree that adherence to the methods used in SPRINT, including blood pressure measurement and systolic blood pressure treatment targets, will help realize potential benefits of SPRINT-based intensive treatment in routine clinical practice.

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