Isolated systolic blood pressure measurement

We appreciate the Viewpoint by Bryan Williams and colleagues (June 28, p 2219).[1] However, we are not in agreement with their suggestions and wish to voice our concerns.

First, if only systolic blood pressure is monitored in people aged 50–59 years, it could falsely reassure up to 10% of the hypertensive population.[1] We feel this is not insignificant.

Second, Williams and colleagues imply that measurement of systolic blood pressure alone will "simplify" the management of hypertension. We challenge them to produce such evidence. If a minority of physicians or family practitioners is "confused" about the management of hypertension, as suggested in the Viewpoint, we suggest that this relates to lack of appropriate education rather than the fact that we have two values for blood pressure.

Third, there is sufficient evidence from the Framingham studies to suggest that, in elderly people, measurement of pulse pressure is more accurate than either systolic or diastolic blood pressure in assessing cardiovascular risk.[2] How can we disregard such powerful evidence?

Finally, not measuring the pulse pressure might not alert the physician to possible valvular pathology, notably aortic stenosis or incompetence.

Hypertension is steadily increasing and we need to have the most sensitive test to identify hypertensive patients, not the most "simple" one. We feel that measurement of both systolic and diastolic values should continue and calculation of the pulse pressure encouraged before diagnosing and treating hypertension.

We declare that we have no conflict of interest.

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1 Williams B, Lindholm LH, Sever P. Systolic pressure is all that matters. *Lancet* 2008; **371:** 2219–21
2 Franklin SS, Larson MG, Khan SA, et al. Does the relation of blood pressure to coronary heart disease risk change with aging? The Framingham Heart Study. *Circulation* 2001; **103:** 1245–49.

Like Bryan Williams and colleagues,[1] we believe that systolic blood pressure is the key contributor to cardiovascular disease in older people with hypertension, and that a simple, clear message is of utmost importance for general practitioners. However, we believe that some concerns should be addressed to avoid weakening the strength of this message.

Our major concern regards excessive lowering of diastolic blood pressure in older patients. Williams and colleagues state that "trials have not shown that a resultant fall in diastolic blood pressure would impart harm or offset the benefit of systolic blood pressure reduction", referring to four studies, with SHEP[2] and Syst-Eur[3] among them. A further analysis of the SHEP study, however, showed that a decrease of 5 mm Hg in on-treatment diastolic blood pressure increased the risk of stroke, coronary heart disease, and cardiovascular disease; moreover, the relative risk became significant for a diastolic blood pressure of less than 70 mm Hg and approached a two-fold increase for a diastolic blood pressure of less than 50 mm Hg.[4]

Similarly, in the Syst-Eur trial, low on-treatment diastolic blood pressure was associated with increased risk of cardiovascular events in patients with coronary heart disease at baseline;[3] moreover, a J-shaped relation between diastolic blood pressure and stroke in treated patients was found in the Rotterdam study.[5]

We do not wish to question the importance of treating isolated systolic hypertension; we just believe that general practitioners should be aware of the facts about diastolic blood pressure too, especially when treating patients with isolated systolic hypertension and previous coronary heart disease.

We declare that we have no conflict of interest.

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1 Williams B, Lindholm LH, Sever P. Systolic pressure is all that matters. *Lancet* 2008; **371:** 2219–21.
2 SHEP Cooperative Research Group. Prevention of stroke by antihypertensive drug treatment in older persons with isolated systolic hypertension: final results of the Systolic Hypertension in the Elderly Program (SHEP). *JAMA* 1991; **265:** 3255–64.
3 Fagard RH, Staessen JA, Thijs L, et al. On-treatent diastolic blood pressure and prognosis in systolic hypertension. *Arch Intern Med* 2007; **167:** 1884–91.
4 Somes GW, Pahor M, Shorr RI, et al. The role of diastolic blood pressure when treating isolated systolic hypertension. *Arch Intern Med* 1999; **159:** 2004–09.
5 Voko Z, Bots ML, Hofman A, et al. J-shaped relation between blood pressure and stroke in treated hypertensives. *Hypertension* 1999; **34:** 1181–85.

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In their Viewpoint,[1] Bryan Williams and colleagues elegantly list the evidence showing that systolic pressure is indeed the more important of the two blood pressure readings, especially among individuals aged 50 years or older.

To give due credit, C M Fisher argued exactly the same thing in *The Lancet* more than 20 years ago in his Point of View [sic] article "The ascendancy of diastolic blood pressure over systolic".[2] Fisher even confessed to having discontinued taking repeated diastolic blood pressure measurements a decade earlier, defying frequent questions about "the underneath one".

That Williams and colleagues' Viewpoint is timely in the year 2008 shows that the progress of medicine is not rapid in all areas, and that important ideas must be unearthed from time to time.

I declare that I have no conflict of interest.

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1 Williams B, Lindholm LH, Sever P. Systolic pressure is all that matters. *Lancet* 2008; **371:** 2219–21.

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