

Authors' reply

We agree with Collins and colleagues that the benefits of blood pressure reduction must be balanced against potential adverse events, and we encourage more consistent and comprehensive reporting of adverse outcomes. However, randomised trials of currently used regimens have not shown an increase in fatal or life-threatening side effects from blood pressure lowering, whereas they have shown a clear reduction in fatal or life-threatening vascular events. Taken together with evidence of an increase in absolute risk reduction with increasing cardiovascular risk,¹ our study² suggests that the aim should be to reduce total cardiovascular risk, rather than focus on a single risk factor. This impact on care is also highlighted by O'Keefe and colleagues, and we agree that a so-called close enough is good enough approach to current targets leaves many patients substantially undertreated.

Although Smulders and Muller are correct in stating that no trials have achieved a 20 mm Hg difference in systolic blood pressure, our finding of a log-linear relationship between blood pressure reduction and proportional reduction in cardiovascular disease events, together with the broadly consistent proportional effects across baseline blood pressure categories, suggests that increased blood pressure reductions would reduce cardiovascular risk further. This, in our view, does not justify the replacement of existing targets with a new target of "10–15 mm Hg lower than baseline in most patients".

We agree with Kain that the burden of cardiovascular risk factors varies among populations. This might lead to differences in how much cardiovascular disease overall in a

population can be attributed to high blood pressure. However, previous studies indicate that relative associations of blood pressure with cardiovascular risk are broadly consistent across geographic regions and by ethnicity.³ This observation, and the consistency of results across subgroups in our meta-analysis, supports the broad generalisability of our findings.

We declare no competing interests.

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- 2 Ettehad D, Emdin CA, Kiran A, et al. Blood pressure lowering for prevention of cardiovascular disease and death: a systematic review and meta-analysis. *Lancet* 2015; **387**: 957–67.
- 3 Rahimi K, Emdin C, MacMahon S. The epidemiology of blood pressure and its worldwide management. *Circ Res* 2015; **116**: 925–36.