

# BLOOD PRESSURE TARGETS AND POTENTIAL OVERTREATMENT IN HYPERTENSIVE PATIENTS WITH ESTABLISHED CARDIOVASCULAR DISEASE

Saiz LC, Gorricho J, Garjón J, Celaya MC, Muruzábal L, Malón MdM, Montoya R, López A. Navarre Regional Health Service, Pamplona, Spain

## We had a mission:

To determine if 'Lower' blood pressure targets ( $\leq 135/85$  mmHg) are associated with reduction in mortality, morbidity and serious adverse events compared with 'Standard' blood pressure targets ( $\leq 140-160/90-100$  mmHg) in hypertensive adult patients with established cardiovascular disease.

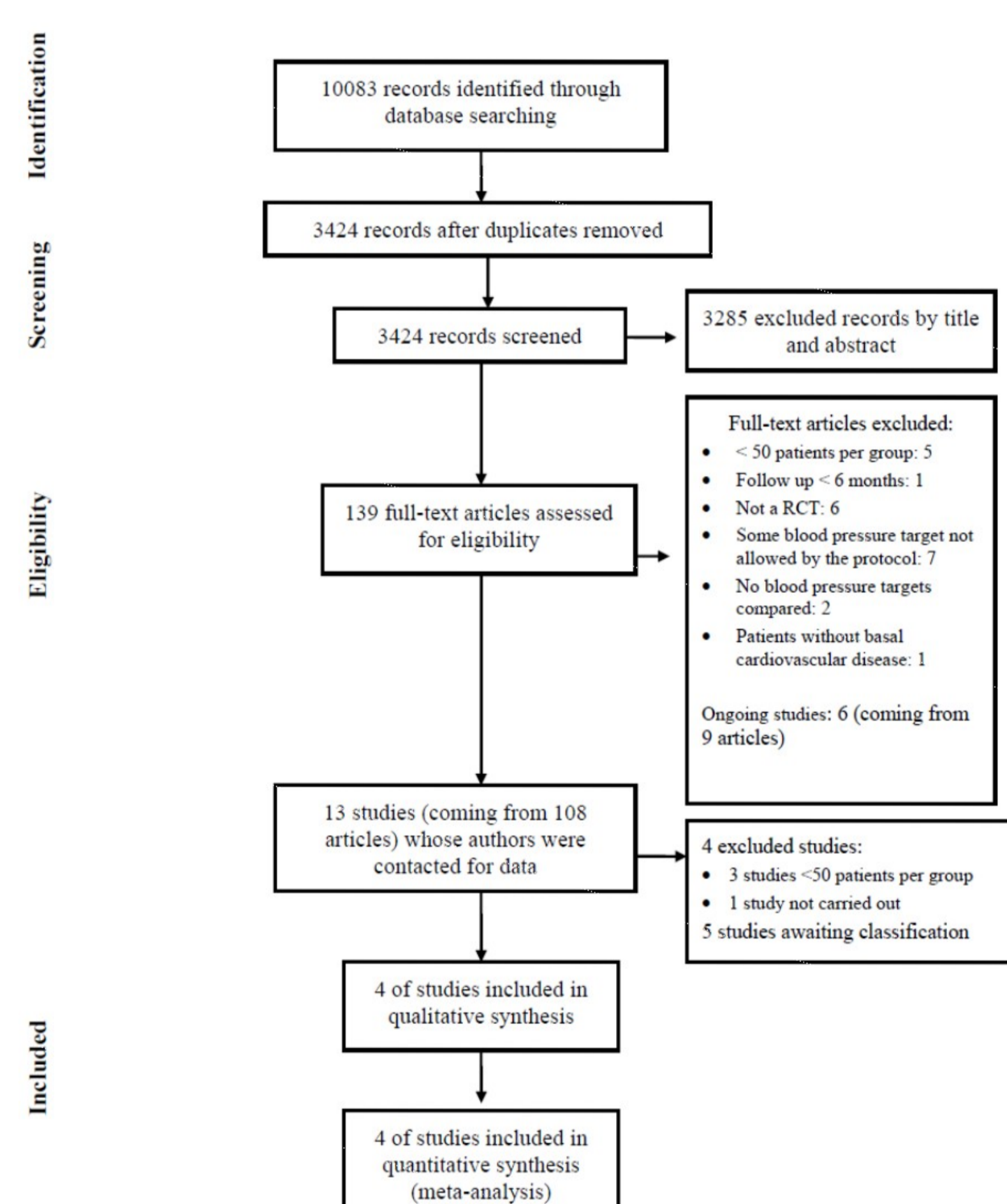
## We also had a plan:

A systematic review with meta-analysis was carried out following the Cochrane Collaboration methodology. We searched for primary studies electronic databases up to March 2016 (CENTRAL, MEDLINE, Embase, LILACS and other resources). Authors were contacted when necessary. There were no language restrictions.

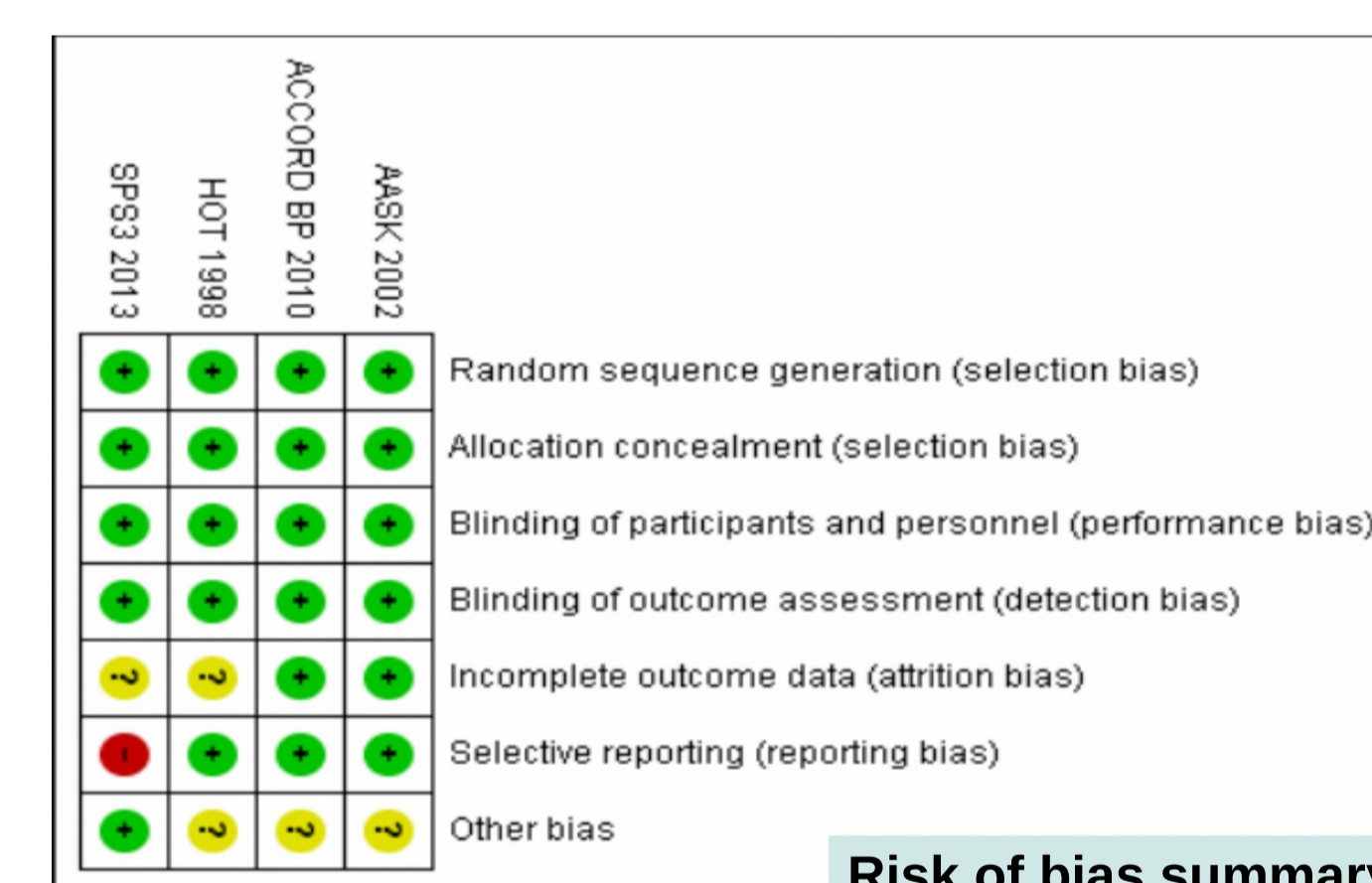
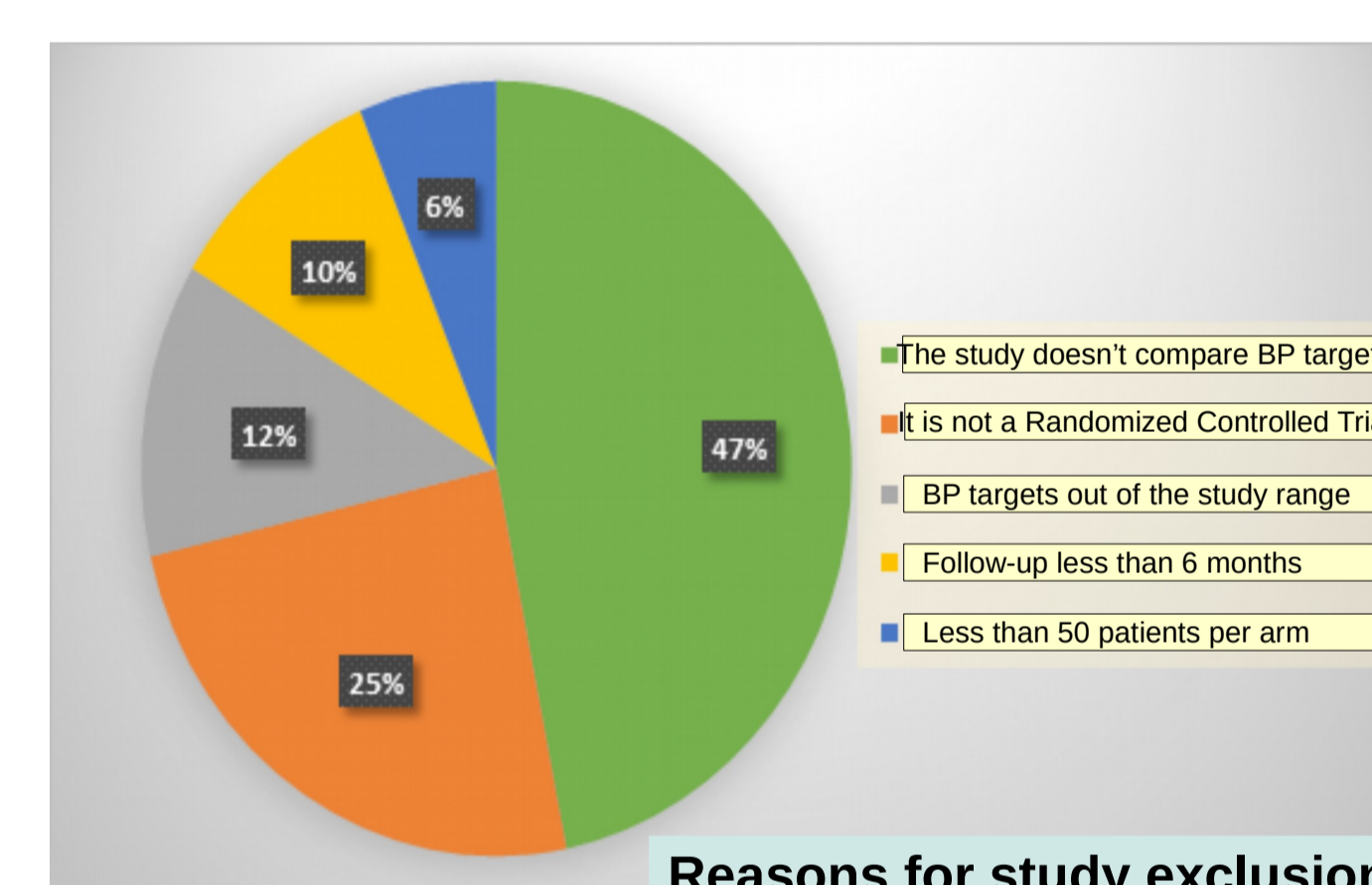
We included randomized controlled trials with >50 adult hypertensive participants per group, a history for myocardial infarction, stroke, peripheral vascular disease or angina,  $\geq 6$  months follow-up and data provided for at least one primary outcome, comparing 'Lower' and 'Standard' blood pressure targets.

Searching results were independently reviewed by authors in pairs. Critical and important outcomes, according to GRADE, included total mortality, cardiovascular mortality, cardiovascular events, serious adverse events and withdrawals due to adverse events.

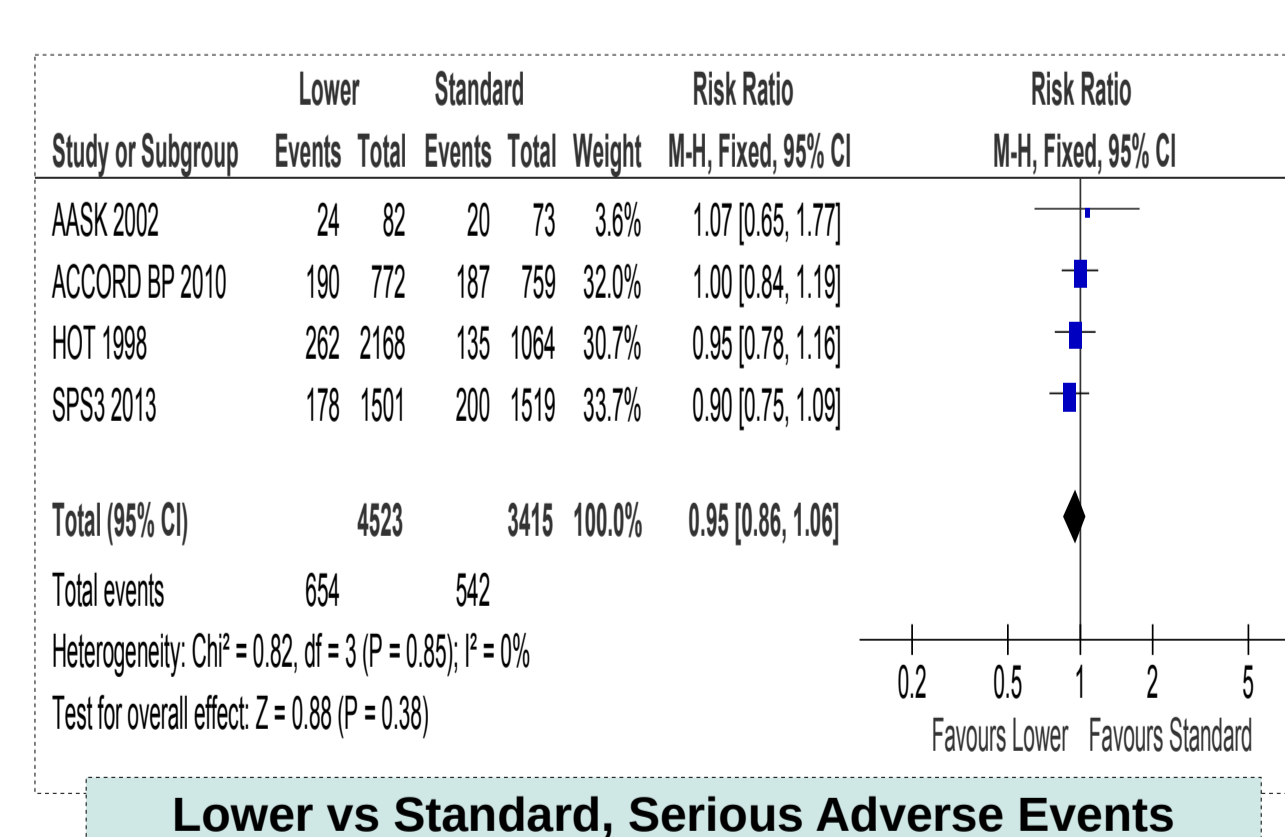
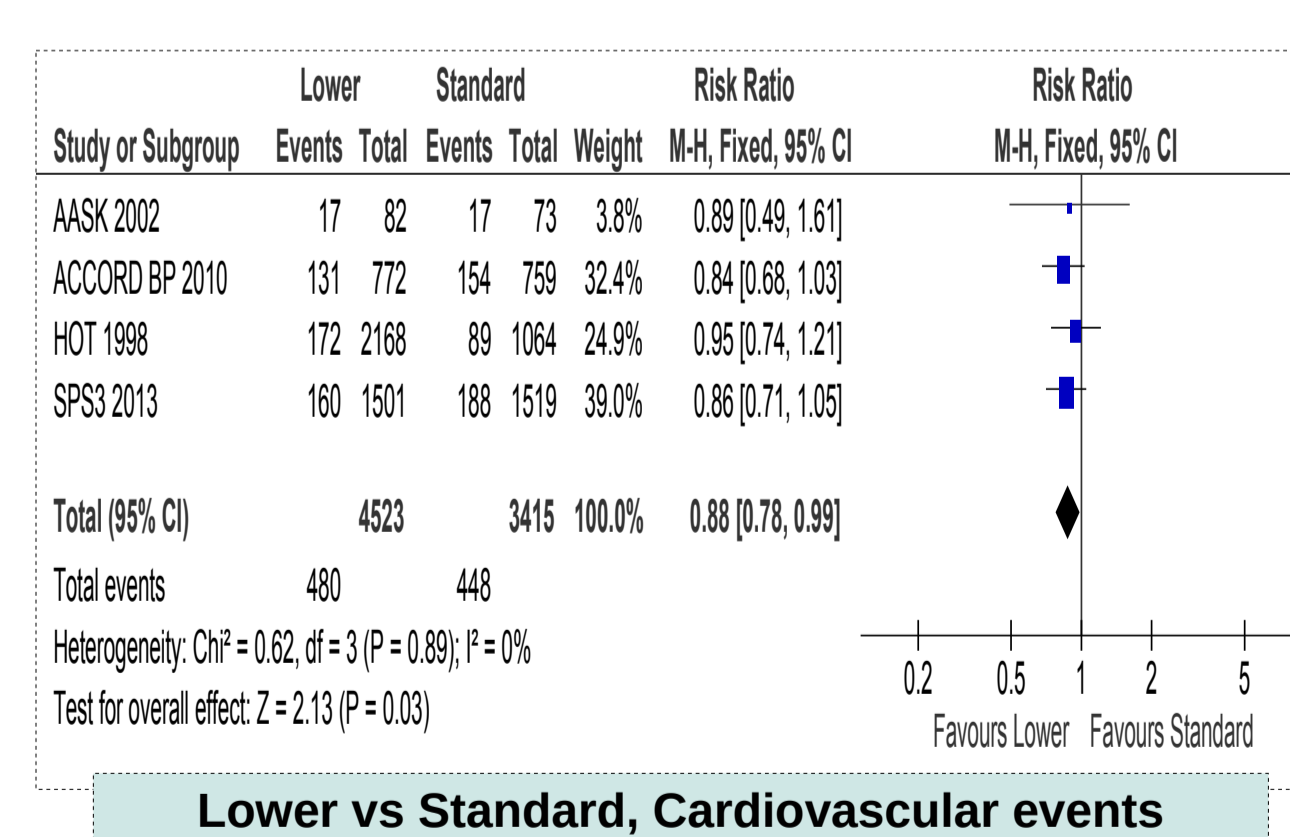
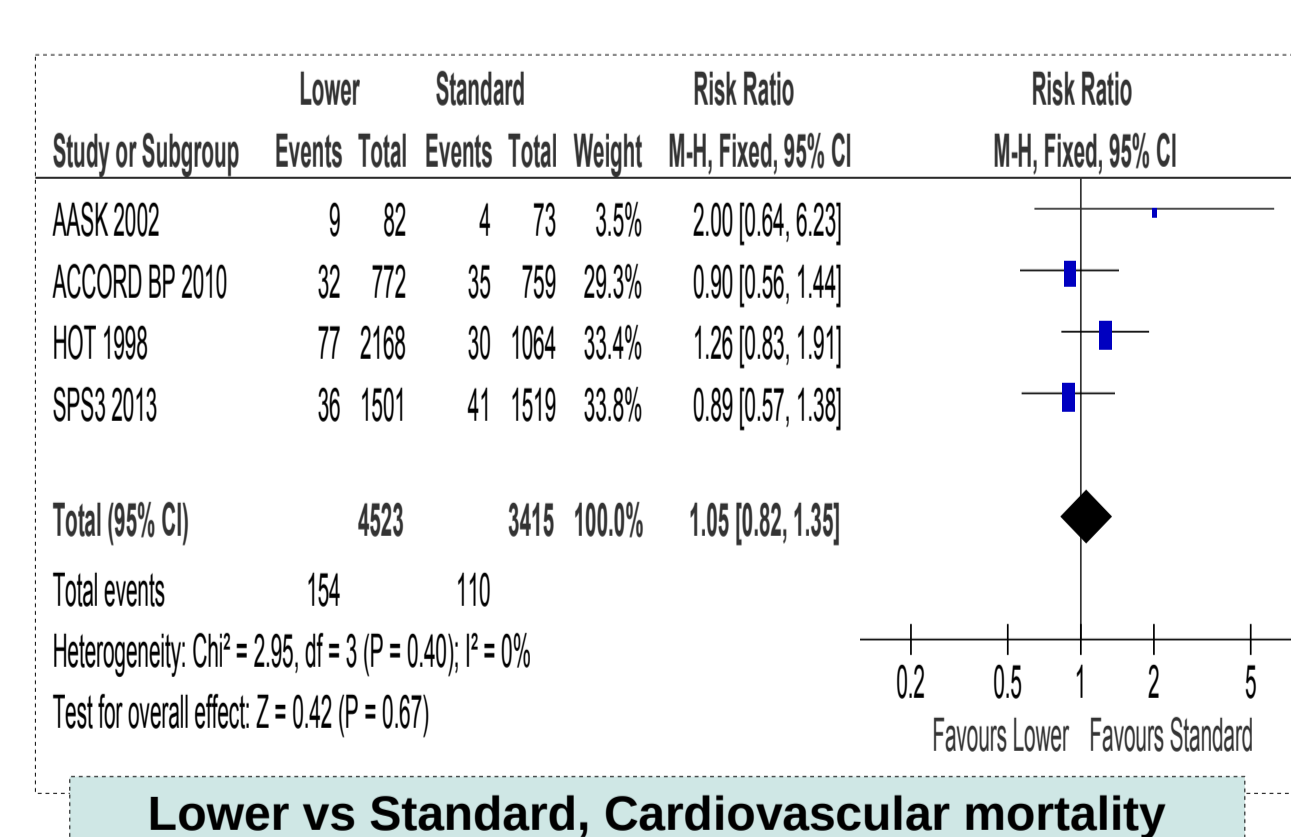
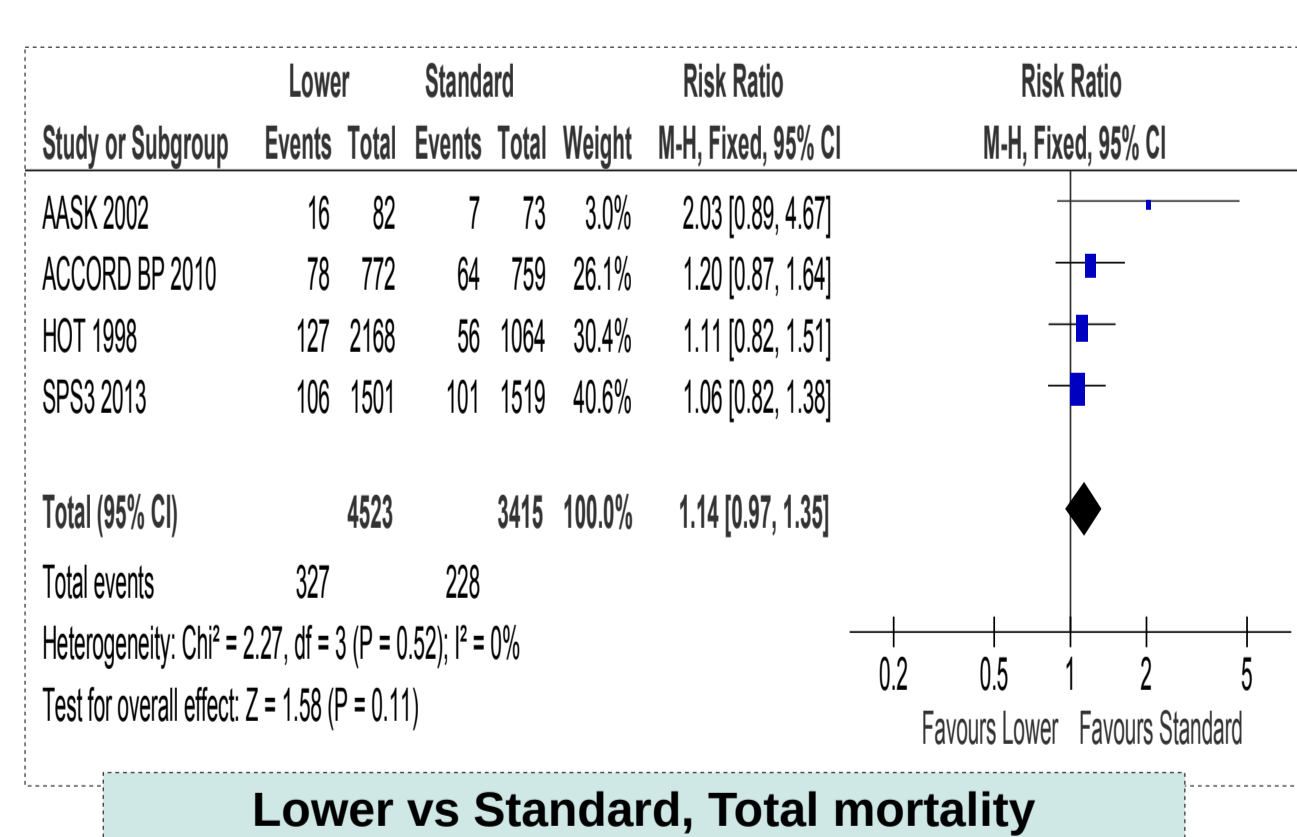
## And here they are ! Our preliminary results...



Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	N of participants (studies)	Quality of the evidence (GRADE)
	Risk with Standard	Risk with Lower			
Total mortality	67 per 1000	76 per 1000 (65 to 90)	RR 1.14 (0.97 to 1.35)	7938 (4 RCTs)	⊕⊕⊕○ MODERATE <sup>1,2</sup>
Cardiovascular mortality	32 per 1000	34 per 1000 (26 to 43)	RR 1.05 (0.82 to 1.35)	7938 (4 RCTs)	⊕⊕⊕○ MODERATE <sup>1,2</sup>
Cardiovascular events	131 per 1000	115 per 1000 (102 to 130)	RR 0.88 (0.78 to 0.99)	7938 (4 RCTs)	⊕⊕⊕○ MODERATE <sup>2,3</sup>
Serious adverse events	159 per 1000	151 per 1000 (136 to 168)	RR 0.95 (0.86 to 1.06)	7938 (4 RCTs)	⊕⊕○○ LOW <sup>1,2,4</sup>
Withdrawals due to adverse effects	8 per 1000	19 per 1000 (2 to 159)	RR 2.42 (0.29 to 20.54)	395 (1 RCT)	⊕○○○ VERY LOW <sup>2,4,5</sup>



Individual patient data were collected from AASK, ACCORD-BP and HOT trials (4918 participants, 62% of total review)



In addition to the lack of benefit in total or cardiovascular mortality, the slight decrease in total cardiovascular events linked to a 'Lower' systolic blood pressure target is not reflected in differences concerning serious adverse events, which include, in a single outcome, mortality, cardiovascular events and severe adverse effects.

Thus, at present no proof of a net clinical benefit can be claimed to justify stricter blood pressure targets than the standard ones in hypertensive patients with established cardiovascular disease. Overtreatment is a real concern in this population.

