

Nurse led hypertension clinics: evidence of benefit or absence of a white coat?

**Chris Clark, Lindsay Smith,
Rod Taylor, John Campbell**

Primary Care Research Group, Institute of Health & Social Care Research,
Peninsula College of Medicine & Dentistry, Smeall Building, St Luke's Campus,
Magdalen Rd, Exeter, Devon, England EX1 2LU

East Somerset Research Consortium, Westlake Surgery, East Coker
Somerset, England, BA22 9AH



Introduction

Nurse led care in hypertension associated with:

- stricter adherence to protocols
- improved prescribing in concordance with guidelines
- more regular follow-up
- potentially lower healthcare costs
- However without associated changes in models of prescribing... little effect on the level of blood pressure

Oakeshott P, Kerry S, Austin A, Cappuccio F. Is there a role for nurse-led blood pressure management in primary care?
Fam Pract 2003; 20(4):469-473.



Introduction

Previous 2005 Cochrane Review found:

- organised system of regular review with vigorous antihypertensive drug therapy significantly reduced BP
- stepped care approach was needed
- Nurse or pharmacist led care was a promising way forward but required further evaluation

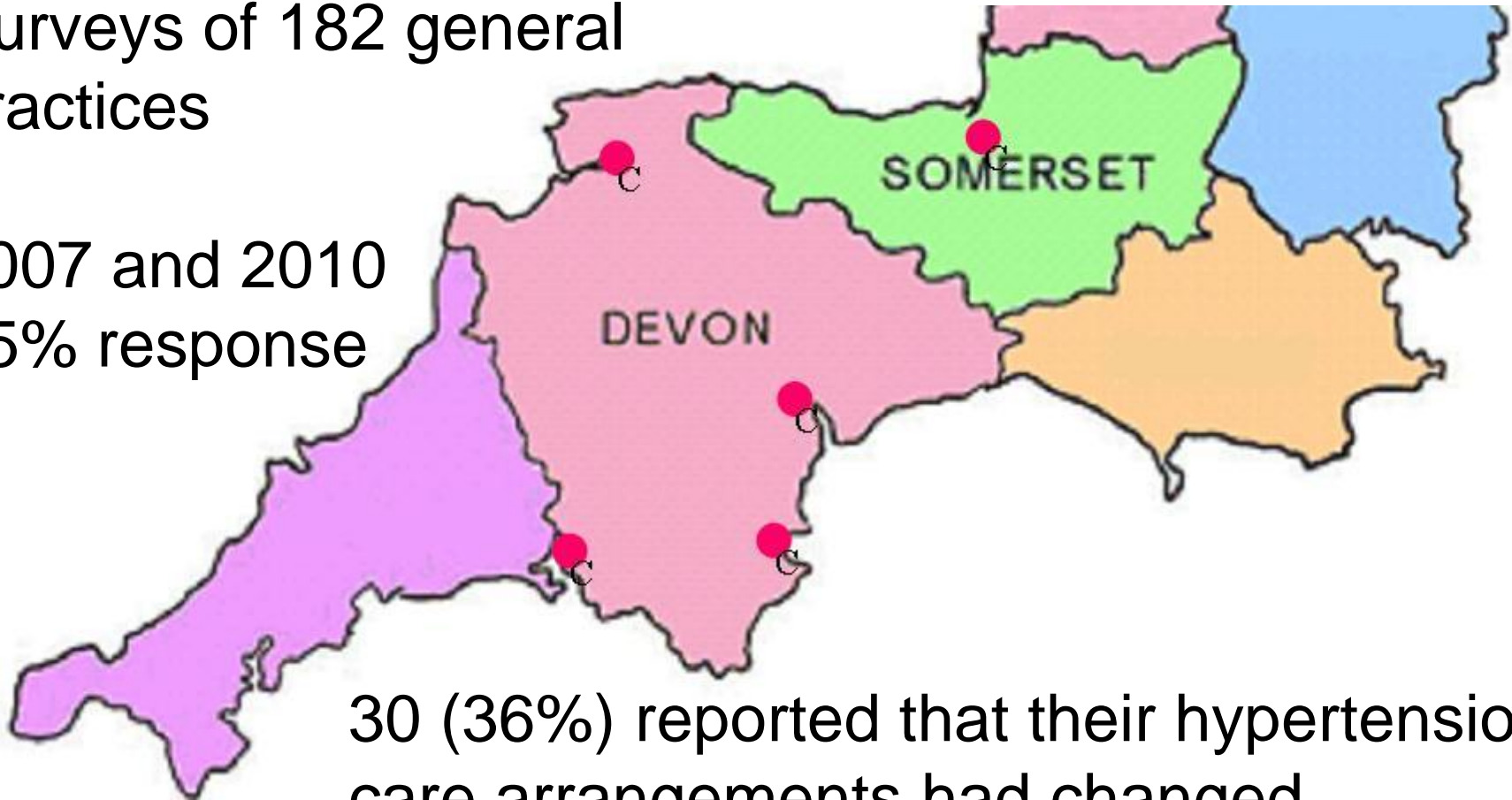
Fahey T, Schroeder K, Ebrahim S, Glynn L. Interventions used to improve control of blood pressure in patients with hypertension. *Cochrane Database Syst Rev* 2005;(1):CD005182.



Introduction

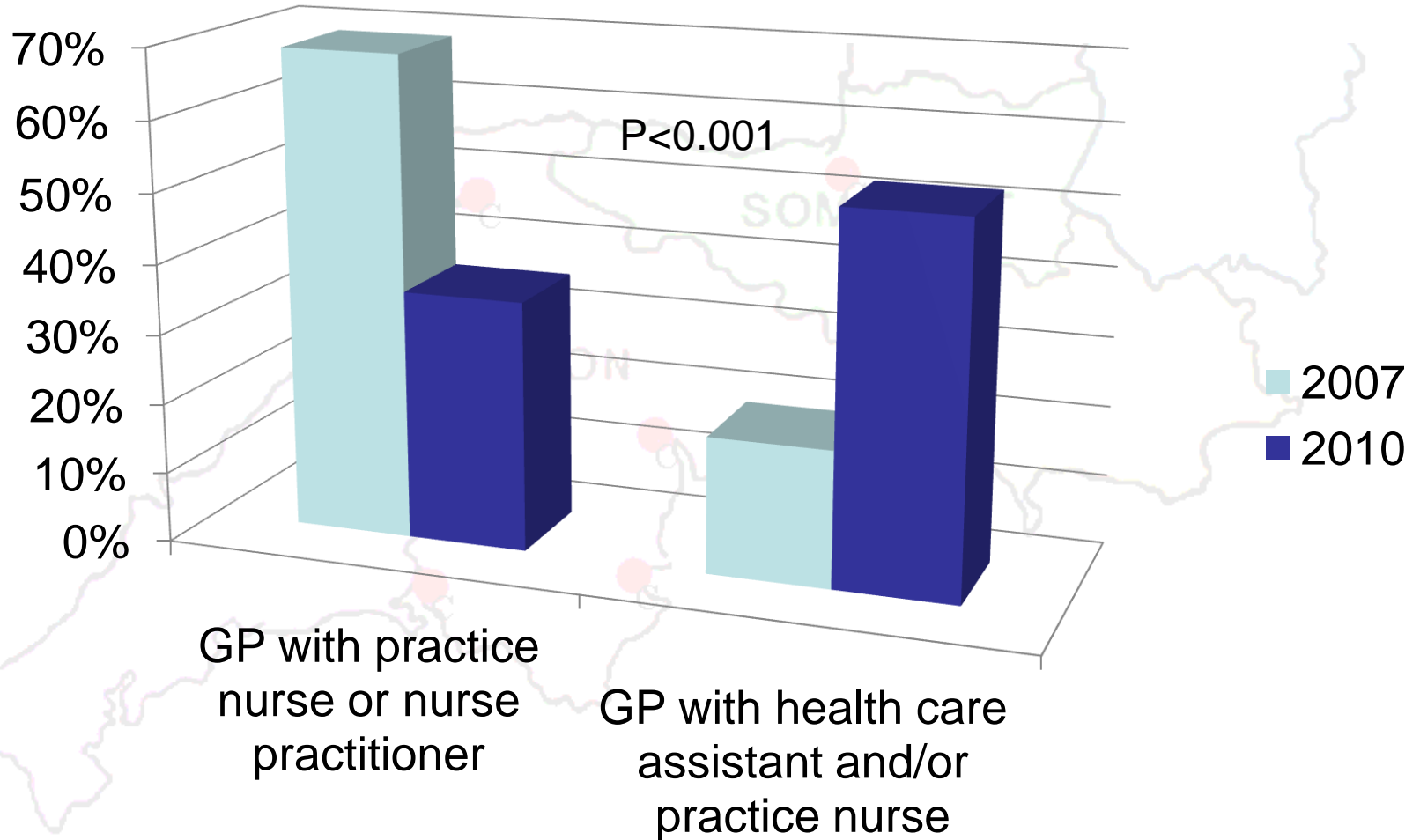
Surveys of 182 general practices

2007 and 2010
45% response

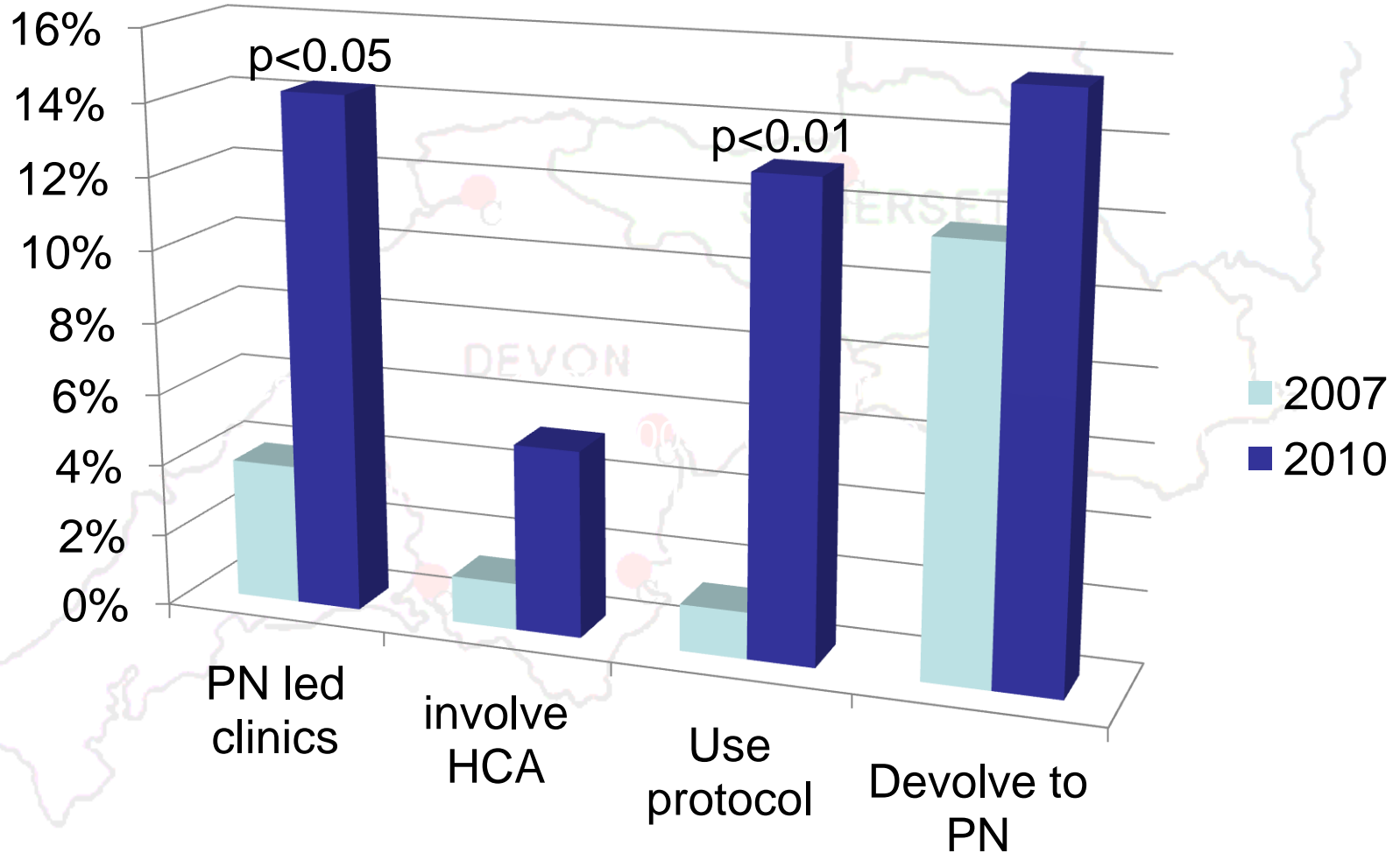


30 (36%) reported that their hypertension care arrangements had changed

Practice shared care arrangements



Practice plans for change



Interpretation

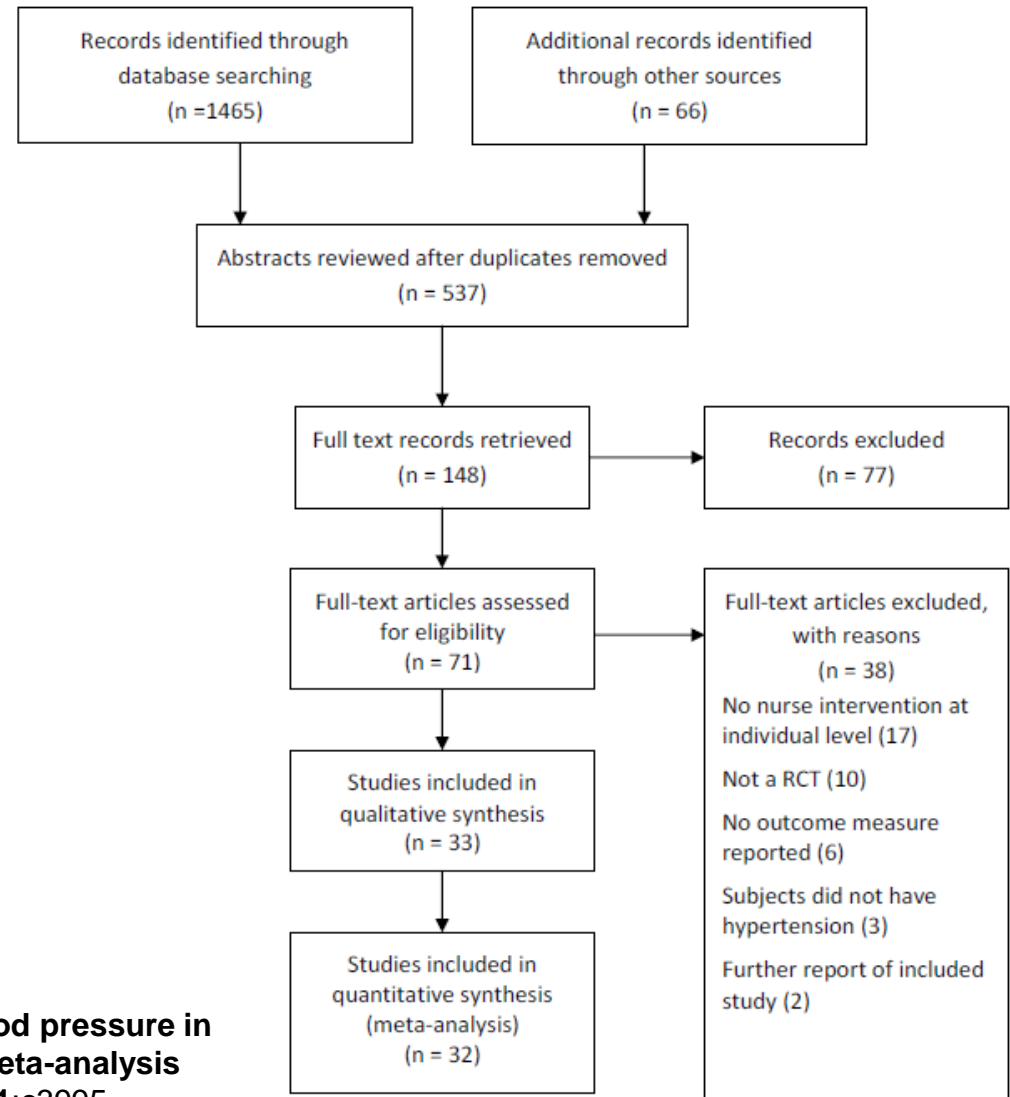
- A shift to shared care with nurses and other primary health care team members has taken place
- This shift is continuing
- Interest in nurse led hypertension clinics is rising

What evidence exists to suggest that these new arrangements can deliver improved results in hypertension care?



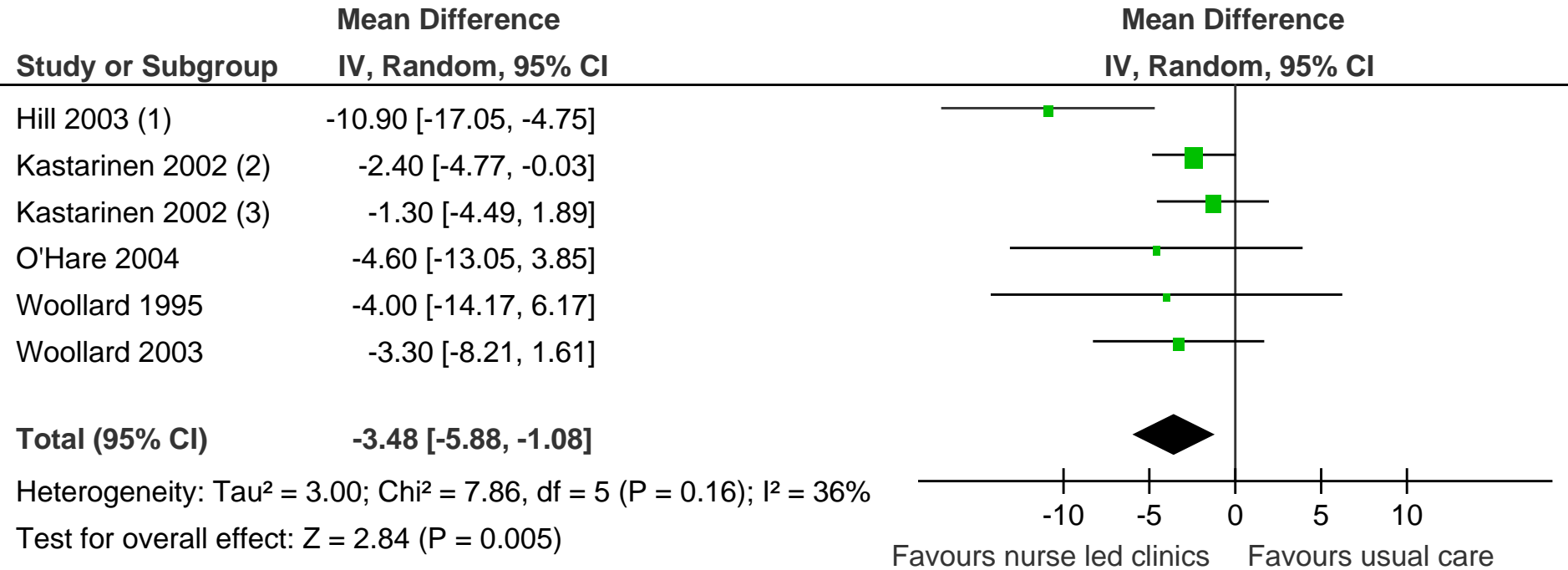
Systematic Review

Search for evidence from randomised controlled trials comparing nurse-led interventions to usual care



Nurse led interventions used to improve control of blood pressure in patients with hypertension: A systematic review and meta-analysis
Clark CE, Smith LFP, Taylor R Campbell JL. *BMJ* 2010;**341**:c3995

Primary care nurse led clinics



Changes in systolic blood pressure with primary care nurse led clinics compared with usual care

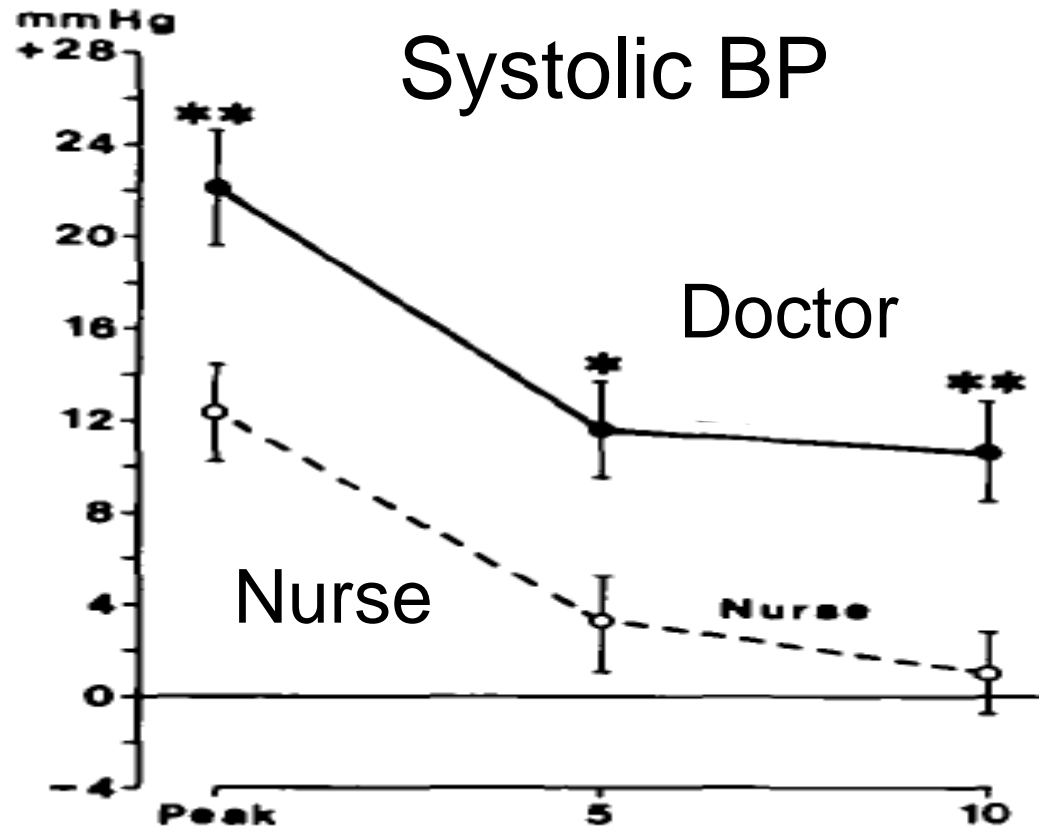
Conclusion of review

“although this review has found evidence of benefit for nurse led interventions in the management of blood pressure, evidence is insufficient to support the widespread use of nurses in hypertension management within the UK healthcare systems.”



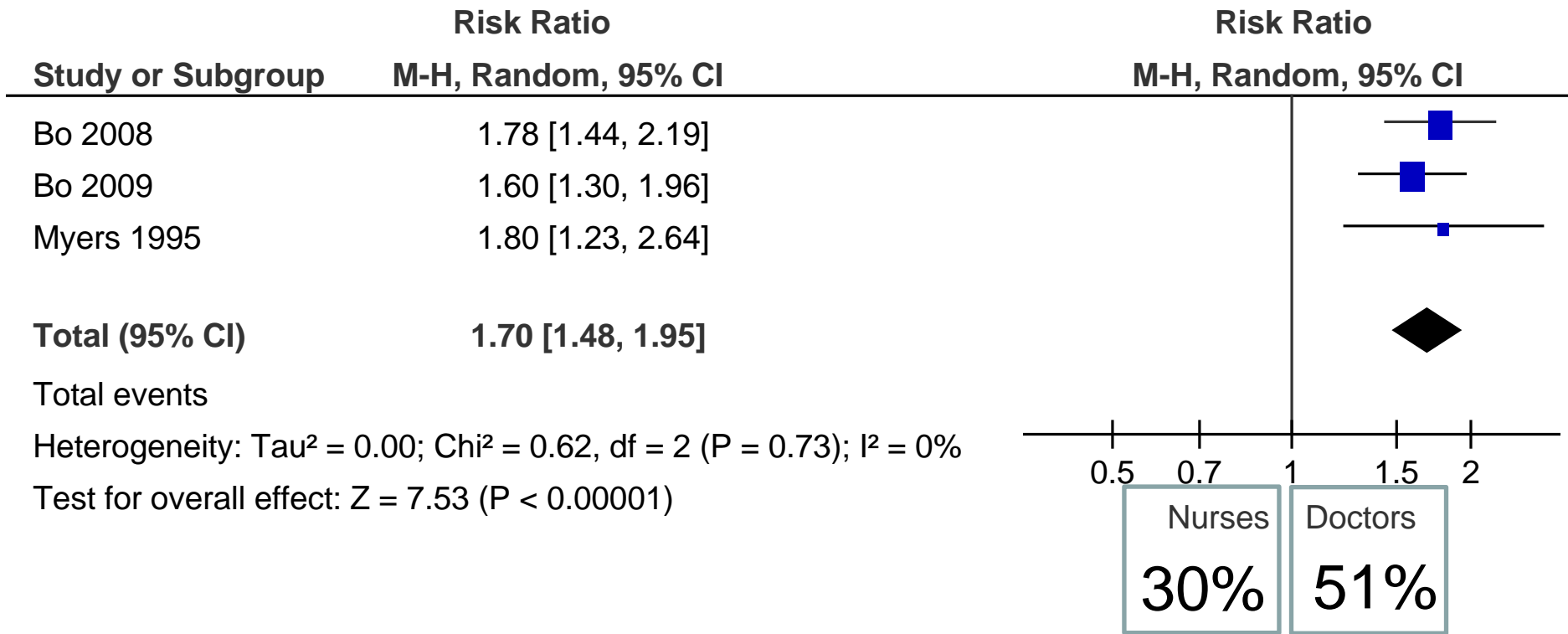
Could results be white coat effect?

BP responses to doctor and nurse measurements



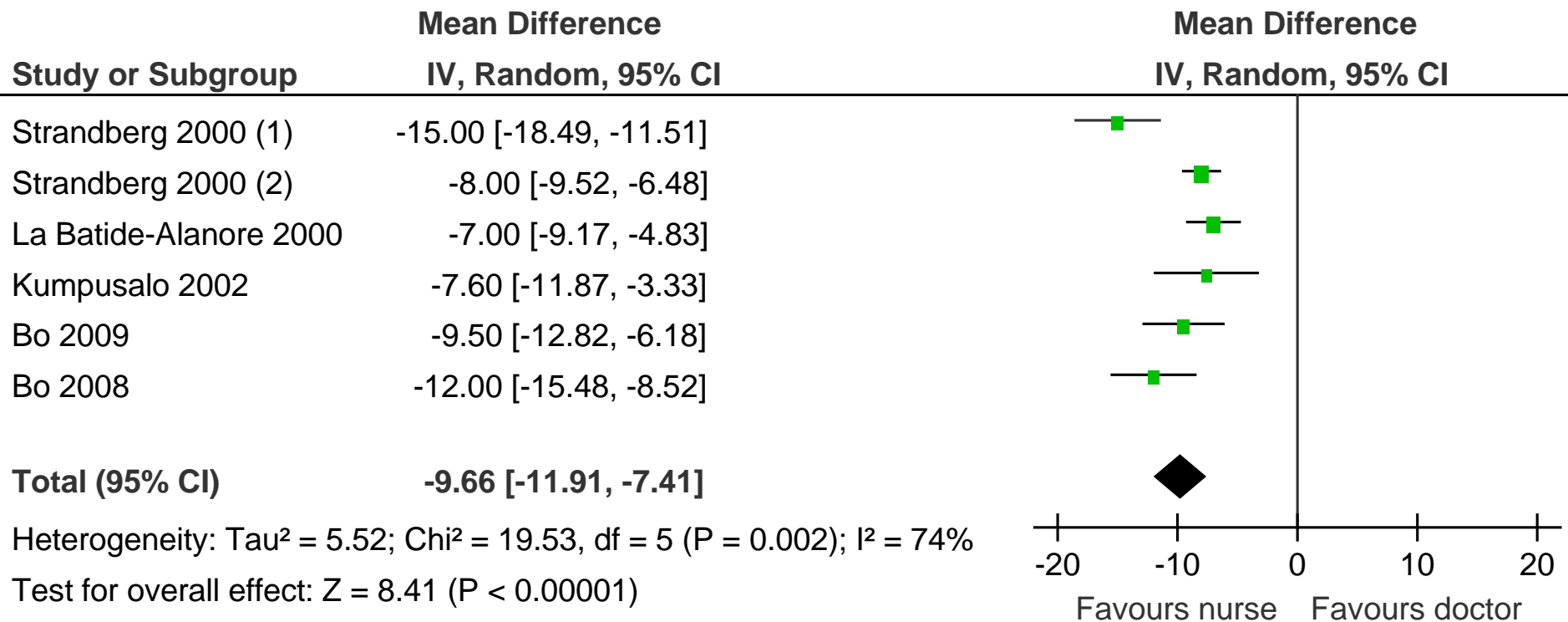
Mancia G, Parati G, Pomidossi G, Grassi G, Casadei R, Zanchetti A. Alerting reaction and rise in blood pressure during measurement by physician and nurse. *Hypertension* 1987; 9(2):209-215.

Prevalence of white coat effect

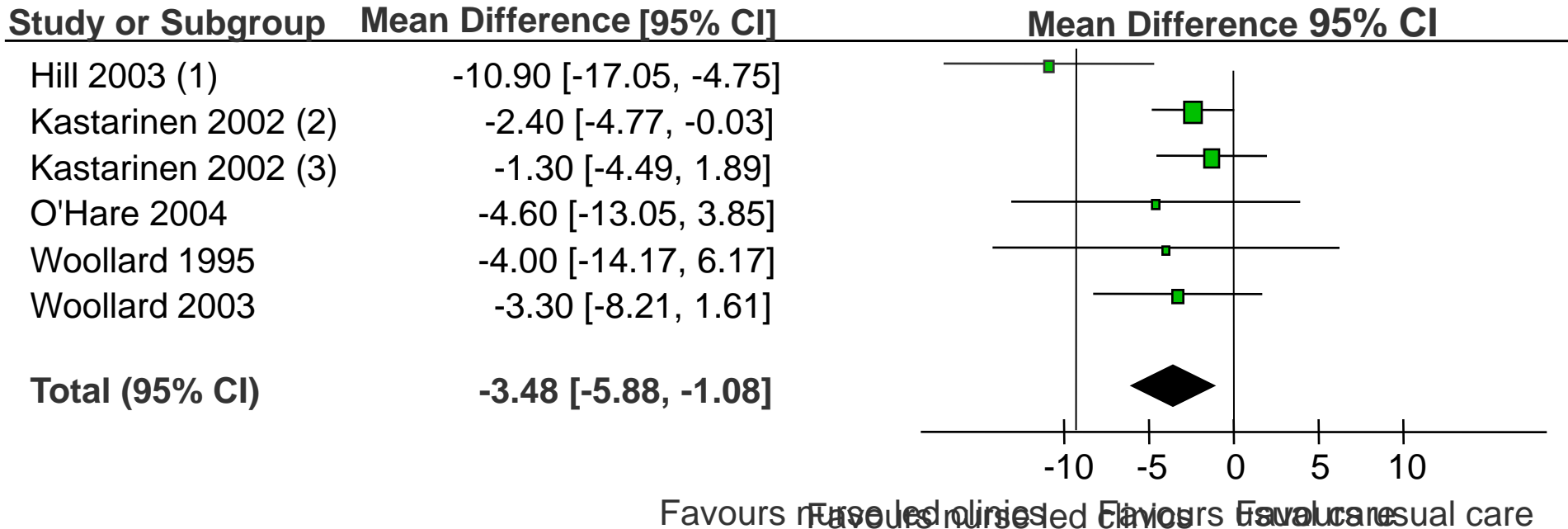


White coat effect = BP rise >20/10mmHg over baseline

Systolic Blood Pressure measured by doctors and nurses



Primary care nurse led clinics



systolic blood pressure

Conclusions

- Nurse led clinics are becoming adopted (in South West England)
- They appear to achieve greater BP reductions in primary care settings
- The UK primary care evidence base is poor
- The evidence could be confounded by the white coat effect
- ***Further carefully controlled studies are required***



Acknowledgements

Prof John Campbell

Prof Rod Taylor

Prof Angela Shore

Peninsula College of Medicine & Dentistry

Dr Lindsay Smith, East Coker, Somerset



Royal College of
General Practitioners

Scientific Foundation Board

NHS

*National Institute for
Health Research*

Peninsula CLAHRC



PENINSULA
MEDICAL SCHOOL
UNIVERSITIES OF EXETER & PLYMOUTH