

Appendix 1. Search strategy

1. Sleep/ or sleep.mp.
2. sleep duration.mp.
3. stroke.mp. or Stroke/
4. ischemic.mp.
5. ischaemic.mp.
6. hemorrhagic.mp.
7. haemorrhagic.mp.
8. 4 or 5 or 6 or 7
9. 3 and 8
10. cerebrovascular accident.mp.
11. cerebrovascular disorders.mp. or Cerebrovascular Disorders/
12. cerebral infarction.mp. or Cerebral Infarction/
13. cerebral hemorrhage.mp. or Cerebral Hemorrhage/
14. cerebral haemorrhage.mp.
15. cardiovascular disease.mp. or Cardiovascular Diseases/
16. 10 or 11 or 12 or 13 or 14 or 15
17. coronary heart disease.mp. or Coronary Disease/
18. coronary artery disease.mp. or Coronary Artery Disease/
19. myocardial infarction.mp. or Myocardial Infarction/
20. acute coronary syndrome.mp. or Acute Coronary Syndrome/
21. coronary disease.mp. or Coronary Disease/
22. Angina Pectoris/ or angina.mp.
23. unstable angina.mp. or Angina, Unstable/
24. ischaemic heart disease.mp.
25. ischemic heart disease.mp. or Myocardial Ischemia/
26. heart attack.mp.
27. heart disease.mp. or Heart Diseases/
28. 27 or 25 or 21 or 26 or 17 or 20 or 22 or 18 or 24 or 19 or 23
29. peripheral vascular disease.mp. or Peripheral Vascular Diseases/
30. 3 or 9 or 16 or 28 or 29
31. 1 or 2
32. 30 and 31

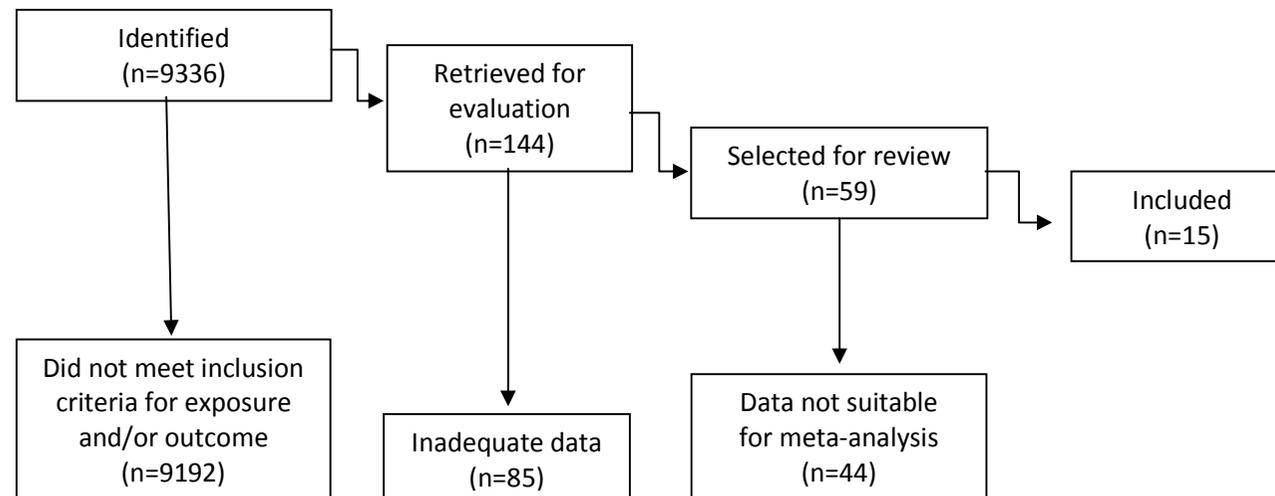
Appendix 2. The PRISMA Checklist †

1. Title - The report is identified as a systematic review and a meta-analysis
2. Structure summary - The structured abstract includes objectives, data sources, study selection, data extraction, data synthesis and conclusions.
3. Rationale - Described in the Introduction
4. Objectives - Stated in the Introduction
5. Protocol and Registration – The protocol is described in the Methods and in Appendix 1. Registration does not apply
6. Eligibility criteria – They are defined in the Methods
7. Information sources – Described in the Methods
8. Search – Described in the Methods and Appendix 1
9. Study selection - Described in the Methods and Appendix 3
10. Data collection process – Described in the Methods
11. Data items – Described in Methods and summarized in Table 1
12. Risk of bias in individual studies – We explored heterogeneity with a variety of methods (Methods and Table 2), including quality of study. Randomization does not apply given the prospective nature of the studies
13. Summary measures – Risk Ratio
14. Planned methods of analysis – Described in Statistical Analysis
15. Risk of bias across studies – Described in Statistical Analysis and reported in detail in Results
16. Additional analyses – Sensitivity analysis, sub-group analysis (see Table 2)
17. Study selection – see Flow diagram in Appendix 3
18. Study characteristics – shown in Table 1
19. Risk of bias within studies – see 12
20. Results of individual studies – shown in Forest plots
21. Syntheses of results – shown in Results and in Forest plots captions

22. Risk of bias across studies – see 15
23. Additional analyses – results reported in Table 2
24. Summary of evidence – stated early in Discussion
25. Limitations – addressed in Discussion
26. Conclusion – addressed in the last paragraphs of manuscript
27. Funding – not applicable in this instance

† Liberati A, Altman DG, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *Br Med J* 2009; 339: b2700

Appendix 3. Flow chart



Appendix 4

Reference list of papers included in the meta-analysis (1-15)

1. Qureshi AI, Giles WH, Croft JB, Bliwise DL. Habitual sleep patterns and risk for stroke and coronary heart disease: a 10-year follow-up from NHANES I. *Neurology* 1997;**48**(4):904-911.
2. Heslop P, Smith GD, Metcalfe C, Macleod J, Hart C. Sleep duration and mortality: The effect of short or long sleep duration on cardiovascular and all-cause mortality in working men and women. *Sleep Med* 2002;**3**(4):305-314.
3. Mallon L, Broman JE, Hetta J. Sleep complaints predict coronary artery disease mortality in males: a 12-year follow-up study of a middle-aged Swedish population. *J Intern Med* 2002;**251**(3):207-216.
4. Ayas NT, White DP, Manson JE, Stampfer MJ, Speizer FE, Malhotra A, Hu FB. A prospective study of sleep duration and coronary heart disease in women. *Arch Intern Med* 2003;**163**:205-209.
5. Burazeri G, Gofin J, Kark JD. Over 8 hours of sleep--marker of increased mortality in Mediterranean population: follow-up population study. *Croat Med J* 2003;**44**(2):193-198.
6. Amagai Y, Ishikawa S, Gotoh T, Doi Y, Kayaba K, Nakamura Y, Kajii E. Sleep duration and mortality in Japan: the Jichi Medical School Cohort Study. *J Epidemiol* 2004;**14**(4):124-128.
7. Ferrie JE, Shipley MJ, Cappuccio FP, Brunner E, Miller MA, Kumari M, Marmot MG. A prospective study of change in sleep duration: associations with mortality in the Whitehall II cohort. *Sleep* 2007;**30**(12):1659-1666.
8. Patel SR, Ayas NT, Malhotra MR, White DP, Schernhammer ES, Speizer FE, Stampfer MJ, Hu FB. A prospective study of sleep duration and mortality risk in women. *Sleep* 2004;**27**(3):440-444.
9. Lan TY, Lan TH, Wen CP, Lin YH, Chuang YL. Nighttime sleep, Chinese afternoon nap, and mortality in the elderly. *Sleep* 2007;**30**(9):1105-1110.
10. Meisinger C, Heier M, Lowel H, Schneider A, Doring A. Sleep duration and sleep complaints and risk of myocardial infarction in middle-aged men and women from the general population: the MONICA/KORA Augsburg Cohort Study. *Sleep* 2007;**30**(9):1121-1127.
11. Chen JC, Brunner RL, Ren H, Wassertheil-Smoller S, Larson JC, Levine DW, Allison M, Naughton MJ, Stefanick ML. Sleep duration and risk of ischemic stroke in postmenopausal women. *Stroke* 2008;**39**(12):3185-3192.
12. Shankar A, Koh WP, Yuan JM, Lee HP, Yu MC. Sleep duration and coronary heart disease mortality among Chinese adults in Singapore: a population-based cohort study. *Am J Epidemiol* 2008;**168**(12):1367-1373.
13. Ikehara S, Iso H, Date C, Kikuchi S, Watanabe Y, Wada Y, Inaba Y, Tamakoshi A. Association of sleep duration with mortality from cardiovascular disease and other causes for Japanese men and women: the JACC study. *Sleep* 2009;**32**(3):295-301.
14. Stone KL, Ewing SK, Ancoli-Israel S, Ensrud KE, Redline S, Bauer DC, Cauley JA, Hillier TA, Cummings SR. Self-reported sleep and nap habits and risk of mortality in a large cohort of older women. *J Am Geriatr Soc* 2009;**57**(4):604-611.
15. Suzuki E, Yorifuji T, Ueshima K, Takao S, Sugiyama M, Ohta T, Ishikawa-Takata K, Doi H. Sleep duration, sleep quality and cardiovascular disease mortality among the elderly: a population-based cohort study. *Prev Med* 2009;**49**(2-3):135-141.