

# Byrne P, Cullinan J, Smith A, Smith S. Statins for the primary prevention of cardiovascular disease: an overview of systematic reviews

Supplementary Appendix 1: Search Documentation Details

Supplementary Appendix 2: Excluded Final 27 Systematic Reviews and Reasons for Exclusion

## Supplementary Appendix 1 Search Documentation Details

**Table 1 Basic Search Strategy**

Cardiovascular disease term
<b>and</b>
Primary prevention term
<b>and</b>
Statin term
<b>and</b>
Systematic review term

**Table 2 Basic Search Terms MEDLINE**

Cardiovascular Disease term	1. *Cardiovascular Diseases/ 2. cardiovascular disease*.tw. 3. heart disease*.tw. 4. (coronary adj2 disease*).tw. 5. (arteriosclerosis or atherosclerosis).tw. 6. angina*.tw. 7. infarct*.tw. 8. exp Stroke/ 9. (stroke or strokes).tw. 10. hypertens*.tw. 11. ((blood or diastolic or systolic) adj2 pressure*).tw. 12. exp Hyperlipidemias/ 13. hyperlipid*.tw. 14. hypercholesterol*.tw. 15. cholesterol*.tw. 16. hypercholesterol?emia*.tw. 17. hyperlipi?emia*.tw. 18. triglycerid*.tw. 19. hypertriglycerid?emia*.tw. 20. hyperlipoprotein?emia*.tw. 21. ldl.tw. 22. hdl.tw.
<b>and</b>	
Primary prevention term	28. exp Primary Prevention/ 29. (prevent* or prophyla*).tw.
<b>and</b>	
Statin term	23. exp Hydroxymethylglutaryl-CoA Reductase Inhibitors/ 24. hydroxymethylglutaryl*.tw.

	<p>25. HMG-CoA*.tw.</p> <p>26. (statin or statins).tw.</p> <p>27. (atorvastatin or lipitor or cerivastatin or baycol or compactin or fluvastatin or fluindostatin or lescol or lovastatin or mevacor or mevinolin or pitavastatin or pitava or livalo or pravastatin or pravachol or lipostat or rosuvastatin or crestor or simvastatin or zocor).tw.</p>
<b>and</b>	
Systematic review term	<p>30. (MEDLINE or systematic review).tw. or meta analysis.pt.</p> <p>31. exp Meta-Analysis/</p> <p>32. systematic review.mp.</p>

## Supplementary Appendix 2: Excluded Final 27 Systematic Reviews and Reasons for Exclusion

Systematic review	Reason for exclusion
1. Bukkapatnam 2009(1)	Reports percentage of trial participants with prior CHD but not CVD
2. Chang 2013 (2)	Do not specify what percentage of trial participants are primary prevention
3. Chen 2012 (3)	Reports percentage of trial participants with prior CHD but not CVD
4. Chou 2016 (4)	Include studies in which the proportion of patients with prior CVD events is less than 10%
5. Corvol (5)	Do not specify what percentage of trial participants are primary prevention
6. Costa (6)	Do not specify what percentage of trial participants are primary prevention
7. Danninger (7)	Do not specify what percentage of trial participants are primary prevention
8. deVries (8)	Do not specify what percentage of trial participants are primary prevention
9. Ijioma (9)	Do not specify what percentage of trial are primary prevention trials. One included meta-analysis (Mora) differentiates exclusively primary prevention trials and predominantly primary prevention.
10. Kostis (10)	Includes primary and secondary prevention trials.
11. Major (11)	Do not specify what percentage of trial participants are primary prevention
12. Mills (12)	Includes primary and secondary prevention trials.
13. Naci (13)	Do not specify what percentage of trial participants are primary prevention
14. Naci (14)	Include studies in which the proportion of patients with prior CVD events is 20% or fewer
15. O'Regan (15)	Includes primary and secondary prevention trials.
16. Petretta (16)	Do not specify what percentage of trial participants are primary prevention
17. Pignone (17)	Do not specify what percentage of trial participants are primary prevention
18. Preiss (18)	Do not specify what percentage of trial participants are primary prevention
19. Savarese (19)	Do not specify what percentage of trial are primary prevention
20. Slinin (20)	Includes only one exclusively primary prevention trial
21. Taylor (21)	Do not specify what percentage of trial participants are primary prevention
22. Teng (22)	Includes only one exclusively primary prevention trial
23. Thavendirnathan (23)	Include studies in which the proportion of patients with prior CVD events is up to 16.2%
24. Tonelli (24)	Do not specify what percentage of trial are primary prevention
25. Vijan (25)	Include studies in which a proportion of patients had prior CVD events
26. Warshafsky (26)	Do not specify what percentage of trial participants are primary prevention
27. Zhang (27)	Do not specify what percentage of trial participants are primary prevention

## Excluded Final 27 Systematic Reviews Reference List

1. Bukkapatnam RN, Gabler NB, Lewis WR. Statins for Primary Prevention of Cardiovascular Mortality in Women: A Systematic Review and Meta - Analysis. *Prev Cardiol*. 2010;13(2):84-90.
2. Chang YH, Hsieh MC, Wang CY, Lin KC, Lee YJ. Reassessing the benefits of statins in the prevention of cardiovascular disease in diabetic patients - A systematic review and meta-analysis. *Rev Diabetic Stud*. 2013;10(2-3):157-70.
3. Chen Y, Feng B, Chen Z. Statins for primary prevention of cardiovascular and cerebrovascular events in diabetic patients without established cardiovascular diseases: a meta-analysis (Structured abstract). *Experimental and Clinical Endocrinology and Diabetes* [Internet]. 2012; 120(2):[116-20 pp.]. Available from:  
<http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12012011721/frame.html>.
4. Chou R, Dana T, Blazina I, Daeges M, Jeanne TL. Statins for Prevention of Cardiovascular Disease in Adults: Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2016;316(19):2008-24.
5. Corvol JC, Bouzamondo A, Sirol M, Hulot JS, Sanchez P, Lechat P. Differential effects of lipid-lowering therapies on stroke prevention: a meta-analysis of randomized trials. *Arch Int Med*. 2003;163(6):669-76.
6. Costa J, Borges M, David C, Carneiro AV. Efficacy of lipid lowering drug treatment for diabetic and non-diabetic patients: metaanalysis of randomised controlled trials. *BMJ* 2006;332(7550):1115-24.
7. Danninger K, Hoppe UC, Pieringer H. Do statins reduce the cardiovascular risk in patients with rheumatoid arthritis? *Int J Rheum Dis*. 2014;17(6):606-11.
8. De Vries FM, Denig P, Pouwels KB, Postma MJ, Hak E. Primary prevention of major cardiovascular and cerebrovascular events with statins in diabetic patients: A meta-analysis. *Drugs*. 2012;72(18):2365-73.
9. Ijioma N, Robinson JG. Statins and Primary Prevention of Cardiovascular Disease in Women A Critical Appraisal of the Evidence. *Am J Lifestyle Med*. 2015;9(2):114-29.
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11. Major RW, Cheung CK, Gray LJ, Brunskill NJ. Statins and Cardiovascular Primary Prevention in CKD: A Meta-Analysis. *Clinical journal of the American Society of Nephrology : CJASN*. 2015;10(5):732-9.
12. Mills EJ, Rachlis B, Wu P, Devereaux PJ, Arora P, Perri D. Primary prevention of cardiovascular mortality and events with statin treatments: a network meta-analysis involving more than 65,000 patients. *J Am Coll Card* 2008;52(22):1769-81.
13. Naci H, Brugts JJ, Fleurence R, Ades AE. Comparative effects of statins on major cerebrovascular events: a multiple-treatments meta-analysis of placebo-controlled and active-comparator trials. *QJM*. 2013;106(4):299-306.
14. Naci H, Brugts JJ, Fleurence R, Tsoi B, Toor H, Ades AE. Comparative benefits of statins in the primary and secondary prevention of major coronary

events and all-cause mortality: a network meta-analysis of placebo-controlled and active-comparator trials. *Eur J Prev Cardiol.* 2013;20(4):641-57.

15. O'Regan C, Wu P, Arora P, Perri D, Mills E. Statin therapy in stroke prevention: a meta-analysis involving 121,000 patients (Structured abstract). *American Journal of Medicine* [Internet]. 2008; 121(1):[24-33 pp.]. Available from: <http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12008005203/frame.html>.

16. Petretta M, Costanzo P, Perrone-Filardi P, Chiariello M. Impact of gender in primary prevention of coronary heart disease with statin therapy: a meta-analysis. *Int J Cardiol.* 2010;138(1):25-31.

17. Pignone M, Phillips C, Mulrow C. Use of lipid lowering drugs for primary prevention of coronary heart disease: meta-analysis of randomised trials. *BMJ.* 2000;321(7267):983-6.

18. Preiss D, Campbell RT, Murray HM, Ford I, Packard CJ, Sattar N, et al. The effect of statin therapy on heart failure events: a collaborative meta-analysis of unpublished data from major randomized trials. *Eur Heart J.* 2015;36(24):1536-46.

19. Savarese G, Gotto AM, Jr., Paolillo S, D'Amore C, Losco T, Musella F, et al. Benefits of statins in elderly subjects without established cardiovascular disease: a meta-analysis.[Erratum appears in *J Am Coll Cardiol.* 2014 Mar 25;63(11):1122]. *Am J Cardiol.* 2013;62(22):2090-9.

20. Slinin Y, Ishani A, Rector T, Fitzgerald P, MacDonald R, Tacklind J, et al. Management of hyperglycemia, dyslipidemia, and albuminuria in patients with diabetes and CKD: a systematic review for a KDOQI clinical practice guideline. *Am J Kidney Dis* 2012;60(5):747-69.

21. Taylor FC, Huffman M, Ebrahim S. Statin therapy for primary prevention of cardiovascular disease. *JAMA.* 2013;310(22):2451-2.

22. Teng M, Lin L, Zhao YJ, Khoo AL, Davis BR, Yong QW, et al. Statins for primary prevention of cardiovascular disease in elderly patients: systematic review and meta-analysis. *Drugs Aging.* 2015;32(8):649-61.

23. Thavendiranathan P, Bagai A, Brookhart MA, Choudhry NK. Primary prevention of cardiovascular diseases with statin therapy: a meta-analysis of randomized controlled trials. *Arch Int Med.* 2006;166(21):2307-13.

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a systematic review and meta-analysis of randomized clinical trials. BMC Cardiovasc Disord. 2014;14:19.