Appendix D. Excluded Studies

Reason for Exclusion*
E1. Study Aim
E2. Setting **E2a.** Non-HDI country **E2b.** Screening and/or intervention is not conducted in, recruited from, or feasible for primary care
E3. Population **E3a.** Patients experience symptoms of AAA **E3b.** Patients with AAAs with an aortic diameter larger than 5.4 cm or smaller than 3.0 cm **E3c.** Patients with known or established CVD
E4. Outcome: No relevant outcomes
E5. Intervention **E5a.** Screening with physical examination, CT, or MRI **E5b.** Non-relevant treatment for small AAA
E6. Comparator: Not an included comparator (e.g., comparison of surveillance interval [KQ2], active intervention [KQ4,5])
E7. Study design: Not an included study design, which includes: KQ1,4= Case-control, cross-sectional, and cohort studies; editorials, letters, and opinions; cost studies; KQ2,3= Case-control and cross-sectional studies; editorials, letters, and opinions; cost studies
E8. Study Quality: Poor
E9. Publication type: Abstract-only, Non-English publication

*Assigned at full-text phase.

Appendix D. Excluded Studies

1. Anonymous. Population-Based Study of Incidence of Acute Abdominal Aortic Aneurysms With Projected Impact of Screening Strategy.[Erratum for J Am Heart Assoc. 2015 Aug;4(8):e001926; PMID: 26289347]. J Am Heart Assoc. 2015;4(10):e001992. PMID: 26486168. https://dx.doi.org/10.1161/JAHA.115.001992 **KQ1E9, KQ2E9, KQ3E9,**
2. Bath MF, Sidloff D, Saratzis A, et al. Impact of abdominal aortic aneurysm screening on quality of life. British Journal of Surgery. 2018;105(3):203-8. PMID: 29405273. https://dx.doi.org/10.1002/bjs.10721 **KQ1E1, KQ2E1, KQ3E7.**
3. Baxter BT, Matsumura J, Curci J, et al. Non-invasive Treatment of Abdominal Aortic Aneurysm Clinical Trial (N-TA(3)CT): Design of a Phase IIb, placebo-controlled, double-blind, randomized clinical trial of doxycycline for the reduction of growth of small abdominal aortic aneurysm. Contemporary clinical trials. 2016;48:91-8. PMID: 27018941. 10.1016/j.cct.2016.03.008 **KQ4E4, KQ5E4.**
4. Bergqvist D, Lindeman JH, Lindholt JS, et al. Antimicrobial treatment to impair expansion of abdominal aortic aneurysm (AAA): a systematic review of the clinical evidence. Current vascular pharmacology. 2013;11(3):288-92. PMID: 22724481. **KQ4E7, KQ5E7.**
5. Candell L, Tucker LY, Goodney P, et al. Early and delayed rupture after endovascular abdominal aortic aneurysm repair in a 10-year multicenter registry. Journal of vascular surgery. 2014;60(5):1146-52. PMID: 24957409. https://dx.doi.org/10.1016/j.jvs.2014.05.046 **KQ4E3b, KQ5E3b.**
6. Chung C, Tadros R, Torres M, et al. Evolution of gender-related differences in outcomes from two decades of endovascular aneurysm repair. Journal of vascular surgery. 2015;61(4):843-52. PMID: 25595407. https://dx.doi.org/10.1016/j.jvs.2014.11.006 **KQ4E3b, KQ5E3b.**
7. Cotter AR, Vuong K, Mustelin L, et al. Do psychological harms result from being labelled with an unexpected diagnosis of abdominal aortic aneurysm or prostate cancer through screening? A systematic review. BMJ open. 2017;7(12):e017565. PMID: 29237653. https://dx.doi.org/10.1136/bmjopen-2017-017565 **KQ1E1, KQ2E1, KQ3E7.**
8. Dahl M, Sogaard R, Frost L, et al. Effectiveness of Screening Postmenopausal Women for Cardiovascular Diseases: A Population Based, Prospective Parallel Cohort Study. European Journal of Vascular & Endovascular Surgery. 2018;55(5):721-9. PMID: 29625727. https://dx.doi.org/10.1016/j.ejvs.2018.02.034 **KQ1E7, KQ2E1, KQ3E1.**
9. Dalman RL, Xuan H, Wang W, et al. Angiotensin Receptor Blockers in Abdominal Aortic Aneurysm Management: Evidence Supporting the TEDY Trial. Journal of vascular surgery. 2016;64(2):539. PMID: 27763287. https://dx.doi.org/10.1016/j.jvs.2016.05.009 **KQ4E1, KQ5E1.**
10. Davenport DL, Xenos ES. Deep venous thrombosis after repair of nonruptured abdominal aneurysm. Journal of vascular surgery. 2013;57(3):678-83.e1. PMID: 23343666. https://dx.doi.org/10.1016/j.jvs.2012.09.048 **KQ4E3b, KQ5E3b.**
11. de Blic R, Alsac JM, Julia P, et al. Elective treatment of abdominal aortic aneurysm is reasonable in patients >85 years of age. Annals of vascular surgery. 2014;28(1):209-16. PMID: 24084274. https://dx.doi.org/10.1016/j.avsg.2013.01.022 **KQ4E3b, KQ5E3b.**
12. Deery SE, O'Donnell TFX, Bodewes TCF, et al. Early reintervention after open and endovascular abdominal aortic aneurysm repair is associated with high mortality. Journal of vascular surgery. 2018;67(2):433-40.e1. PMID: 28943011. https://dx.doi.org/10.1016/j.jvs.2017.06.104 **KQ4E1, KQ5E3b.**
13. Deery SE, Schermerhorn ML. Open versus endovascular abdominal aortic aneurysm repair in Medicare beneficiaries. Surgery. 2017;162(4):721-31. PMID: 28343694. https://dx.doi.org/10.1016/j.surg.2017.01.022 **KQ4E3b, KQ5E3b.**
14. Deery SE, Soden PA, Zettervall SL, et al. Sex differences in mortality and morbidity following repair of intact abdominal aortic aneurysms. Journal of vascular surgery. 2017;65(4):1006-13. PMID: 27986477. https://dx.doi.org/10.1016/j.jvs.2016.08.100 **KQ4E3b, KQ5E3b.**
15. Dua A, Ali F, Traudt E, et al. Utilization of the National Inpatient Sample for abdominal aortic aneurysm research. Surgery. 2017;162(4):699-706. PMID: 28237647. https://dx.doi.org/10.1016/j.surg.2016.12.036 **KQ4E1, KQ5E1.**
16. Dua A, Kuy S, Lee CJ, et al. Epidemiology of aortic aneurysm repair in the United States from 2000 to 2010. Journal of vascular surgery. 2014;59(6):1512-7. PMID: 24560865. https://dx.doi.org/10.1016/j.jvs.2014.01.007 **KQ4E7, KQ5E7.**
17. Dubois L, Novick TV, Harris JR, et al. Outcomes after endovascular abdominal aortic aneurysm repair are equivalent between genders despite anatomic differences in women. Journal of vascular surgery. 2013;57(2):382-9.e1. PMID: 23266281. https://dx.doi.org/10.1016/j.jvs.2012.09.075 **KQ4E3b, KQ5E3b.**
18. Duwayri Y, Goss J, Knechtle W, et al. The Readmission Event after Vascular Surgery: Causes and Costs. Annals of vascular surgery. 2016;36:7-12. PMID: 27321981.

https://dx.doi.org/10.1016/j.avsg.2016.02.024 **KQ4E3b, KQ5E3b.**

19. Ericsson A, Holst J, Gottsater A, et al. Psychosocial consequences in men taking part in a national screening program for abdominal aortic aneurysm. J Vasc Nurs. 2017;35(4):211-20. PMID: 29153229. https://dx.doi.org/10.1016/j.jvn.2017.06.001 **KQ1E1, KQ2E1, KQ3E7.**
20. Flink BJ, Long CA, Duwayri Y, et al. Women undergoing aortic surgery are at higher risk for unplanned readmissions compared with men especially when discharged home. Journal of vascular surgery. 2016;63(6):1496-504.e1. PMID: 27106246. https://dx.doi.org/10.1016/j.jvs.2015.12.054 **KQ4E3b, KQ5E3b.**
21. Hafez H, Druce PS, Ashton HA. Abdominal aortic aneurysm development in men following a "normal" aortic ultrasound scan. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2008;36(5):553-8. PMID: 18718773. **KQ1E4, KQ2E4, KQ3E4,**
22. Hicks CW, Obeid T, Arhuidese I, et al. Abdominal aortic aneurysm repair in octogenarians is associated with higher mortality compared with nonoctogenarians. Journal of vascular surgery. 2016;64(4):956-65.e1. PMID: 27364946. https://dx.doi.org/10.1016/j.jvs.2016.03.440 **KQ4E5b, KQ5E5b.**
23. Hinterseher I, Kuffner H, Berth H, et al. Long-term quality of life of abdominal aortic aneurysm patients under surveillance or after operative treatment. Annals of vascular surgery. 2013;27(5):553-61. PMID: 23540664. **KQ4E6, KQ5E6.**
24. Hoel AW, Faerber AE, Moore KO, et al. A pilot study for long-term outcome assessment after aortic aneurysm repair using Vascular Quality Initiative data matched to Medicare claims. Journal of vascular surgery. 2017;66(3):751-9.e1. PMID: 28222989. https://dx.doi.org/10.1016/j.jvs.2016.12.100 **KQ4E3b, KQ5E3b.**
25. Hughes K, Abdulrahman H, Prendergast T, et al. Abdominal aortic aneurysm repair in nonagenarians. Annals of vascular surgery. 2015;29(2):183-8. PMID: 25461753. https://dx.doi.org/10.1016/j.avsg.2014.07.037 **KQ4E3b, KQ5E3b.**
26. Hultgren R. Commentary on "Five Year Natural History of Screening Detected Sub-Aneurysms and Abdominal Aortic Aneurysms in 70 Year Old Women and Systematic Review of Repair Rate in Women". European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2017;53(6):810. PMID: 28420552. https://dx.doi.org/10.1016/j.ejvs.2017.03.013 **KQ1E7, KQ2E7, KQ3E7,**
27. Hye RJ, Inui TS, Anthony FF, et al. A multiregional registry experience using an electronic medical record to optimize data capture for longitudinal outcomes in endovascular abdominal aortic aneurysm repair. Journal of vascular surgery. 2015;61(5):1160-6. PMID: 25725597. https://dx.doi.org/10.1016/j.jvs.2014.12.055 **KQ4E3b, KQ5E3b.**
28. Jacomelli J, Summers L, Stevenson A, et al. Update on the prevention of death from ruptured abdominal aortic aneurysm. Journal of medical screening. 2017;24(3):166-8. PMID: 28756762. https://dx.doi.org/10.1177/0969141316667409 **KQ1E4, KQ2E4, KQ3E4,**
29. Karthikesalingam A, Bahia SS, Patterson BO, et al. The shortfall in long-term survival of patients with repaired thoracic or abdominal aortic aneurysms: retrospective case-control analysis of hospital episode statistics. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2013;46(5):533-41. PMID: 24091096. https://dx.doi.org/10.1016/j.ejvs.2013.09.008 **KQ4E3b, KQ5E3b.**
30. Khashram M, Thomson IA, Jones GT, et al. Abdominal aortic aneurysm repair in New Zealand: a validation of the Australasian Vascular Audit. ANZ J Surg. 2017;87(5):394-8. PMID: 27492991. https://dx.doi.org/10.1111/ans.13702 **KQ4E3b, KQ5E3b.**
31. Lederle FA. Does Abdominal Aortic Aneurysm Screening Save Lives? JAMA Surgery. 2016;151(8):697-8. PMID: 27119312. https://dx.doi.org/10.1001/jamasurg.2016.0044 **KQ1E7, KQ2E7, KQ3E7,**
32. Lee SY, Peacock MR, Farber A, et al. Perioperative Infections after Open Abdominal Aortic Aneurysm Repair Lead to Increased Risk of Subsequent Complications. Annals of vascular surgery. 2017;4:203-10. PMID: 28483623. https://dx.doi.org/10.1016/j.avsg.2017.04.022 **KQ4E3b, KQ5E3b.**
33. Lijftogt N, Vahl AC, Wilschut ED, et al. Adjusted Hospital Outcomes of Abdominal Aortic Aneurysm Surgery Reported in the Dutch Surgical Aneurysm Audit. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2017;53(4):520-32. PMID: 28256396. https://dx.doi.org/10.1016/j.ejvs.2016.12.037 **KQ4E3b, KQ5E3b.**
34. Lilja F, Mani K, Wanhainen A. Editor's Choice - Trend-break in Abdominal Aortic Aneurysm Repair With Decreasing Surgical Workload. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2017;53(6):811-9. PMID: 28392057. https://dx.doi.org/10.1016/j.ejvs.2017.02.031 **KQ4E3b, KQ5E3b.**

35. Lindholt JS, Vammen S, Fasting H, et al. Psychological consequences of screening for abdominal aortic aneurysm and conservative treatment of small abdominal aortic aneurysms. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2000;20(1):79-83. PMID: 10906303. https://doi.org/10.1053/ejvs.1999.1087 **KQ1E4, KQ2E4, KQ3E6,**
36. Locham S, Lee R, Nejim B, et al. Mortality after endovascular versus open repair of abdominal aortic aneurysm in the elderly. J Surg Res. 2017;215:153-9. PMID: 28688641. https://dx.doi.org/10.1016/j.jss.2017.03.061 **KQ4E3b, KQ5E3b.**
37. Loftus I, Vascular Society of Great B, Ireland. National Vascular Registry Report on surgical outcomes and implications for vascular centres (Br J Surg 2014; 101: 637-642). British Journal of Surgery. 2014;101(6):642. PMID: 24723018. **KQ4E7, KQ5E7.**
38. Makrygiannis G, Labalue P, Erpicum M, et al. Extending Abdominal Aortic Aneurysm Detection to Older Age Groups: Preliminary Results from the Liege Screening Programme. Annals of vascular surgery. 2016;36:55-63. PMID: 27364735. https://dx.doi.org/10.1016/j.avsg.2016.02.034 **KQ1E4, KQ2E4, KQ3E4,**
39. Mani K, Bjorck M, Wanhainen A. Changes in the management of infrarenal abdominal aortic aneurysm disease in Sweden. British Journal of Surgery. 2013;100(5):638-44. PMID: 23334950. https://dx.doi.org/10.1002/bjs.9046 **KQ4E3b, KQ5E3b.**
40. Matyal R, Shakil O, Hess PE, et al. Impact of gender and body surface area on outcome after abdominal aortic aneurysm repair. Am J Surg. 2015;209(2):315-23. PMID: 25457240. https://dx.doi.org/10.1016/j.amjsurg.2014.07.008 **KQ4E3b, KQ5E3b.**
41. Mayor S. Women having surgery for abdominal aortic aneurysm are nearly twice as likely to die as men. BMJ. 2017;357:j2054. PMID: 28446431. https://dx.doi.org/10.1136/bmj.j2054 **KQ4E9, KQ5E9.**
42. Morris DR, Cunningham MA, Ahimastos AA, et al. TElmisartan in the management of abDominal aortic aneurYsm (TEDY): The study protocol for a randomized controlled trial. Trials. 2015;16:274. PMID: 26081587. 10.1186/s13063-015-0793-z **KQ4E4, KQ5E4.**
43. Morris DR, Cunningham MA, Ahimastos AA, et al. Erratum to: 'TElmisartan in the management of abDominal aortic aneurYsm (TEDY): The study protocol for a randomized controlled trial'.[Erratum for Trials. 2015;16:274; PMID: 26081587]. Trials [Electronic Resource]. 2016;17:43. PMID: 26791257. https://dx.doi.org/10.1186/s13063-016-1183-x **KQ4E4, KQ5E4.**
44. Murohara T, Kureishi BY, Nishigami K, et al. Effects of angiotensin-II receptor blocker or calcium channel blocker on abdominal aortic aneurysm growth at presurgical stage. European heart journal. 2015;36:880-1. PMID: None. 10.1093/eurheartj/ehv401 **KQ4E9, KQ5E9.**
45. Myers J, McElrath M, Jaffe A, et al. A randomized trial of exercise training in abdominal aortic aneurysm disease. Med Sci Sports Exerc. 2014;46(1):2-9. PMID: 23793234. https://dx.doi.org/10.1249/MSS.0b013e3182a088b8 **KQ4E5b, KQ5E5b.**
46. Nevidomskyte D, Shalhub S, Niten S, et al., editors. Influence of gender on abdominal aortic aneurysm repair in the community. Annals of vascular surgery. Conference: 25th annual winter meeting vascular and endovascular surgery society. United states; 2015; United States. KQ Search 20170914 - CENTRAL. **KQ4E9, KQ5E9.**
47. Nevidomskyte D, Shalhub S, Singh N, et al. Influence of Gender on Abdominal Aortic Aneurysm Repair in the Community. Annals of vascular surgery. 2017;39:128-36. PMID: 27575306. https://dx.doi.org/10.1016/j.avsg.2016.06.012 **KQ4E3b, KQ5E3b.**
48. Park BD, Azefor NM, Huang CC, et al. Elective endovascular aneurysm repair in the elderly: trends and outcomes from the Nationwide Inpatient Sample. Annals of vascular surgery. 2014;28(4):798-807. PMID: 24189191. https://dx.doi.org/10.1016/j.avsg.2013.07.029 **KQ4E3b, KQ5E3b.**
49. Powell JT. Prophylactic Abdominal Aortic Aneurysm Repair? Open Repair Brings Early Pain but Later Gain. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2016;52(6):719-20. PMID: 27914533. https://dx.doi.org/10.1016/j.ejvs.2016.07.008 **KQ4E7, KQ5E7.**
50. Qadura M, Pervaiz F, Harlock J, et al. Mortality and reintervention following elective abdominal aortic aneurysm repair. Journal of vascular surgery. 2013;57(6):1676-83. PMID: 23719040. **KQ4E3b, KQ5E3b.**
51. Quinn AA, Mehta M, Teymouri MJ, et al. The incidence and fate of endoleaks vary between ruptured and elective endovascular abdominal aortic aneurysm repair. Journal of vascular surgery. 2017;65(6):1617-24. PMID: 28268109. https://dx.doi.org/10.1016/j.jvs.2016.10.092 **KQ4E3b, KQ5E3b.**
52. RESCAN Collaborators, Bown MJ, Sweeting MJ, et al. Surveillance intervals for small abdominal aortic aneurysms: a meta-analysis. JAMA. 2013;309(8):806-13. PMID: 23443444. **KQ1E4, KQ2E4, KQ3E4,**
53. Roddy SP. Abdominal aortic aneurysm screening. Journal of vascular surgery. 2017;65(5):1537. PMID: 28434598.

https://dx.doi.org/10.1016/j.jvs.2017.02.021 **KQ1E7, KQ2E7, KQ3E7,**

54. Schmitz-Rixen T, Steffen M, Grundmann R. Treatment of abdominal aortic aneurysms (AAA) 2015: registry report from the German Institute of Vascular Healthcare Research (DIGG) of the German Society for Vascular Surgery and Vascular Medicine (DGG).Gerasschirurgie. 2017:1-9. PMID: None. 10.1007/s00772-017-0253-z **KQ4E9, KQ5E9.**
55. Sillesen H, Eldrup N, Hultgren R, et al. Randomized clinical trial of mast cell inhibition in patients with a medium-sized abdominal aortic aneurysm.[Erratum for Br J Surg. 2015 Jul;102(8):894-901; PMID: 25963302]. British Journal of Surgery. 2015;102(10):1295. PMID: 26267607. https://dx.doi.org/10.1002/bjs.9917 **KQ4E9, KQ5E9.**
56. Sillesen H, Eldrup N, Hultgren R, et al. Randomized clinical trial of mast cell inhibition in patients with a medium-sized abdominal aortic aneurysm.[Erratum appears in Br J Surg. 2015 Sep;102(10):1295; PMID: 26267607], [Erratum appears in Br J Surg. 2016 Feb;103(3):308; PMID: 26785648]. British Journal of Surgery. 2015;102(8):894-901. PMID: 25963302. https://dx.doi.org/10.1002/bjs.9824 **KQ4E9, KQ5E9.**
57. Stather P, Sidloff D, Dattani N, et al. Systematic review and meta-analysis of the early and late outcomes of open and endovascular repair of abdominal aortic aneurysm (Provisional abstract). British Journal of Surgery. 2013;100(7):863-72. PMID: None. **KQ4E7, KQ5E7.**
58. Takagi H, Umemoto T, Group A. A meta-analysis pooling survival curves in randomized controlled trials and propensity-score matched studies of endovascular versus open abdominal aortic aneurysm repair. International journal of cardiology. 2014;174(3):785-8. PMID: 24798785. **KQ4E3b, KQ5E3b.**
59. Tan TW, Eslami M, Rybin D, et al. Outcomes of endovascular and open surgical repair of ruptured abdominal aortic aneurysms in elderly patients. Journal of vascular surgery. 2017;66(1):64-70. PMID: 28216354. https://dx.doi.org/10.1016/j.jvs.2016.10.119 **KQ4E3a, KQ5E3a.**
60. Tomee SM, Lijftogt N, Vahl A, et al. A registry-based rationale for discrete intervention thresholds for open and endovascular elective abdominal aortic aneurysm repair in female patients. Journal of vascular surgery. 2017;27:27. PMID: 28964619. **KQ4E3b, KQ5E3b.**
61. Trenner M, Haller B, Storck M, et al. Trends in Patient Safety of Intact Abdominal Aortic Aneurysm Repair: German Registry Data on 36,594 Procedures. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2017;53(5):641-7. PMID: 28110907. https://dx.doi.org/10.1016/j.ejvs.2016.12.024 **KQ4E3b, KQ5E3b.**
62. Ulug P, Sweeting MJ, von Allmen RS, et al. Morphological suitability for endovascular repair, non-intervention rates, and operative mortality in women and men assessed for intact abdominal aortic aneurysm repair: systematic reviews with meta-analysis. Lancet. 2017;389(10088):2482-91. PMID: 28455148. https://dx.doi.org/10.1016/S0140-6736(17)30639-6 **KQ4E3b, KQ5E3b.**
63. van de Luijtgaarden KM, Bastos Goncalves F, Hoeks SE, et al. Higher 30 Day Mortality in Patients with Familial Abdominal Aortic Aneurysm after EVAR. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2017;54(2):142-9. PMID: 28579278. https://dx.doi.org/10.1016/j.ejvs.2017.04.018 **KQ4E3b, KQ5E3b.**
64. Wang GJ. Commentary on "Should Abdominal Aortic Aneurysms in Women Be Repaired at a Lower Diameter Threshold?". Vascular & Endovascular Surgery. 2017:1538574417723483. PMID: 28782416. https://dx.doi.org/10.1177/1538574417723483 **KQ1E7, KQ2E7, KQ3E7,**
65. Wendt K, Kristiansen R, Krohg-Sorensen K, et al. Trends in Abdominal Aortic and Iliac Aneurysm Repairs in Norway from 2001 to 2013. European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery. 2016;51(2):194-201. PMID: 26482508. https://dx.doi.org/10.1016/j.ejvs.2015.08.015 **KQ4E4, KQ5E4.**
66. Yin K, Locham SS, Schermerhorn ML, et al. Trends of 30-day mortality and morbidities in endovascular repair of intact abdominal aortic aneurysm during the last decade. Journal of vascular surgery. 2018. PMID: 29914839. https://doi.org/10.1016/j.jvs.2018.04.032 **KQ4E1, KQ5E3b.**
67. Zettervall SL, Buck DB, Soden PA, et al. Regional variation exists in patient selection and treatment of abdominal aortic aneurysms. Journal of vascular surgery. 2016;64(4):921-7.e1. PMID: 27066949. https://dx.doi.org/10.1016/j.jvs.2016.02.036 **KQ4E3b, KQ5E3b.**