

## Supplementary Online Content

Henderson JT, Webber EM, Bean SI. Screening for asymptomatic bacteriuria in adults: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. doi:10.1001/jama.2019.10060

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**eTable 1.** Inclusion and Exclusion Criteria

**eTable 2.** Quality Assessment Criteria

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**eReferences**

This supplementary material has been provided to the authors to give readers additional information about their work.

## eMethods. Literature Search Strategies for Primary Literature

Key:

/ = MeSH subject heading

\* = truncation

\* preceding a word = major focus

ab = word in abstract

exp = explode

fs = MeSH subheading

kf = keyword heading [word not phrase indexed]

kw = keyword

md = methodology

mp = mapping alias (searches within: Title (TI), Abstract (AB), Subject Headings Word (HW), Table of Contents Titles/Headings (TC), Original Title (OT), Test & Measures (TM), and Key Phrase Identifiers (ID) fields)

pt = publication type

ti = word in title

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### Cochrane Central Register of Controlled Trials : Issue 11 of 12, November 2017

- #1 (bacilluria\* or bacteriuria\*):ti,ab,kw
- #2 (asymptomatic\* or nonsymptomatic or non-symptomatic):ti,ab,kw
- #3 (without or no or absence or absent):ti,ab,kw near/3 symptom\*:ti,ab,kw
- #4 #2 or #3
- #5 (bacteria or infection\*):ti,ab,kw and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*):ti,ab,kw
- #6 #4 and #5
- #7 (colonization or colonisation):ti,ab,kw and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*):ti,ab,kw
- #8 #1 or #6 or #7 in Trials

### MEDLINE

Database: Ovid MEDLINE(R) <1946 to November Week 4 2017>, Ovid MEDLINE(R) Epub Ahead of Print <December 04, 2017>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <December 04, 2017>, Ovid MEDLINE(R) Daily Update <December 04, 2017>

### Screening trials, non-pregnant adults

1. Bacteriuria/
2. bacilluria\*.ti,ab,kf.
3. bacteriuria\*.ti,ab,kf.
4. Asymptomatic Infections/
5. (asymptomatic or nonsymptomatic or non symptomatic or ((without or no or absence or absent) adj3 symptom\*)).ti,ab,kf.
6. 4 or 5
7. Urinary Tract Infections/
8. ((bacteria or infection\*) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.

9. 7 or 8
10. 6 and 9
11. ((colonization or colonisation) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
12. 1 or 2 or 3 or 10 or 11
13. Mass screening/
14. Antibody-Coated Bacteria Test, Urinary/
15. Microbial Sensitivity Tests/
16. Microscopy/
17. Reagent Kits, Diagnostic/
18. Reagent Strips/
19. Urinalysis/
20. Predictive Value of Tests/
21. "Sensitivity and Specificity"/
22. (detect\* or predict\* or screen\*).ti,ab,kf.
23. (microb\* adj2 test\*).ti,ab,kf.
24. (micro-scopy or microscopy).ti,ab,kf.
25. culture\*.ti,ab,kf.
26. (dip slide\* or dipslide\* or dip stick\* or dipstick\*).ti,ab,kf.
27. ((re-agent\* or reagent) adj3 (strip\* or test\*)).ti,ab,kf.
28. strip\* test\*.ti,ab,kf.
29. urine test\*.ti,ab,kf.
30. (urinalys\* or urine analys\*).ti,ab,kf.
31. ((accurac\* or diagnostic) adj5 (algorithm\* or test\*)).ti,ab,kf.
32. diagnostic accurac\*.ti,ab,kf.
33. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32
34. 12 and 33
35. \*Bacteriuria/di, pc, mi, ur [Diagnosis, Prevention & Control, Microbiology, Urine]
36. 34 or 35
37. clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials as topic/ or meta-analysis as topic/
38. (clinical trial or controlled clinical trial or meta analysis or randomized controlled trial).pt.
39. Random\*.ti,ab.
40. control groups/ or double-blind method/ or single-blind method/
41. clinical trial\*.ti,ab.
42. controlled trial\*.ti,ab.
43. meta analy\*.ti,ab.
44. 37 or 38 or 39 or 40 or 41 or 42 or 43
45. 36 and 44
46. Animals/ not (Humans/ and Animals/)
47. 45 not 46
48. limit 47 to english language
49. remove duplicates from 48

### **Screening, pregnant women**

1. Bacteriuria/

2. bacilluria\*.ti,ab,kf.
3. bacteriuria\*.ti,ab,kf.
4. Asymptomatic Infections/
5. (asymptomatic or nonsymptomatic or non symptomatic or ((without or no or absence or absent) adj3 symptom\*)).ti,ab,kf.
6. 4 or 5
7. Urinary Tract Infections/
8. ((bacteria or infection\*) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
9. 7 or 8
10. 6 and 9
11. ((colonization or colonisation) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
12. 1 or 2 or 3 or 10 or 11
13. Mass screening/
14. Antibody-Coated Bacteria Test, Urinary/
15. Microbial Sensitivity Tests/
16. Microscopy/
17. Reagent Kits, Diagnostic/
18. Reagent Strips/
19. Urinalysis/
20. Predictive Value of Tests/
21. "Sensitivity and Specificity"/
22. (detect\* or predict\* or screen\*).ti,ab,kf.
23. (microb\* adj2 test\*).ti,ab,kf.
24. (micro-scopy or microscopy).ti,ab,kf.
25. culture\*.ti,ab,kf.
26. (dip slide\* or dipslide\* or dip stick\* or dipstick\*).ti,ab,kf.
27. ((re-agent\* or reagent) adj3 (strip\* or test\*)).ti,ab,kf.
28. strip\* test\*.ti,ab,kf.
29. urine test\*.ti,ab,kf.
30. (urinalys\* or urine analys\*).ti,ab,kf.
31. ((accurac\* or diagnostic) adj5 (algorithm\* or test\*)).ti,ab,kf.
32. diagnostic accurac\*.ti,ab,kf.
33. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32
34. 12 and 33
35. \*Bacteriuria/di, pc, mi, ur [Diagnosis, Prevention & Control, Microbiology, Urine]
36. 34 or 35
37. exp Pregnancy/
38. Pregnancy complications, infectious/
39. Pregnant women/
40. Prenatal care/
41. Prenatal diagnosis/
42. Perinatal care/
43. Peripartum period/
44. Maternal Health Services/
45. pregnan\*.ti,ab,kf.
46. prenatal.ti,ab,kf.

47. pre natal.ti,ab,kf.
48. perinatal.ti,ab,kf.
49. peri natal.ti,ab,kf.
50. antenatal.ti,ab,kf.
51. ante natal.ti,ab,kf.
52. antepartum.ti,ab,kf.
53. ante partum.ti,ab,kf.
54. 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53
55. 36 and 54
56. Animals/ not (Humans/ and Animals/)
57. 55 not 56
58. limit 57 to english language
59. remove duplicates from 58

### Screening harms

1. Bacteriuria/
2. bacilluria\*.ti,ab,kf.
3. bacteriuria\*.ti,ab,kf.
4. Asymptomatic Infections/
5. (asymptomatic or nonsymptomatic or non symptomatic or ((without or no or absence or absent) adj3 symptom\*)).ti,ab,kf.
6. 4 or 5
7. Urinary Tract Infections/
8. ((bacteria or infection\*) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
9. 7 or 8
10. 6 and 9
11. ((colonization or colonisation) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
12. 1 or 2 or 3 or 10 or 11
13. Mass screening/
14. Antibody-Coated Bacteria Test, Urinary/
15. Microbial Sensitivity Tests/
16. Microscopy/
17. Reagent Kits, Diagnostic/
18. Reagent Strips/
19. Urinalysis/
20. Predictive Value of Tests/
21. "Sensitivity and Specificity"/
22. (detect\* or predict\* or screen\*).ti,ab,kf.
23. (microb\* adj2 test\*).ti,ab,kf.
24. (micro-scopy or microscopy).ti,ab,kf.
25. culture\*.ti,ab,kf.
26. (dip slide\* or diplslide\* or dip stick\* or dipstick\*).ti,ab,kf.
27. ((re-agent\* or reagent) adj3 (strip\* or test\*)).ti,ab,kf.
28. strip\* test\*.ti,ab,kf.
29. urine test\*.ti,ab,kf.
30. (urinalys\* or urine analys\*).ti,ab,kf.

31. ((accurac\* or diagnostic) adj5 (algorithm\* or test\*)).ti,ab,kf.
32. diagnostic accurac\*.ti,ab,kf.
33. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32
34. 12 and 33
35. \*Bacteriuria/di, pc, mi, ur [Diagnosis, Prevention & Control, Microbiology, Urine]
36. 34 or 35
37. Mortality/
38. Morbidity/
39. Death/
40. safety.ti,ab,kf.
41. harm\*.ti,ab,kf.
42. mortality.ti,ab,kf.
43. complication\*.ti,ab,kf.
44. (death or deaths).ti,ab,kf.
45. (adverse adj2 (interaction\* or response\* or effect\* or event\* or reaction\* or outcome\*)).ti,ab,kf.
46. adverse effects.fs.
47. mortality.fs.
48. 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47
49. 36 and 48
50. Animals/ not (Humans/ and Animals/)
51. 49 not 50
52. limit 51 to english language
53. remove duplicates from 52

### **Treatment trials, non-pregnant adults**

1. Bacteriuria/
2. bacilluria\*.ti,ab,kf.
3. bacteriuria\*.ti,ab,kf.
4. Asymptomatic Infections/
5. (asymptomatic or nonsymptomatic or non symptomatic or ((without or no or absence or absent) adj3 symptom\*)).ti,ab,kf.
6. 4 or 5
7. Urinary Tract Infections/
8. ((bacteria or infection\*) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
9. 7 or 8
10. 6 and 9
11. ((colonization or colonisation) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
12. 1 or 2 or 3 or 10 or 11
13. Anti-Bacterial Agents/
14. Antibiotic Prophylaxis/
15. Anti-Infective Agents, Urinary/
16. Drug Therapy, Combination/
17. Norfloxacin/
18. exp Penicillins/
19. exp Sulfonamides/

20. amoxicillin\*.mp.
21. ampicillin\*.mp.
22. (anti-bacteria\* or antibacteria\*).ti,ab,kf.
23. (anti-biotic\* or antibiotic\*).ti,ab,kf.
24. aztreonam\*.mp.
25. cefadroxil\*.mp.
26. cefepime\*.mp.
27. ceftibuten\*.mp.
28. ceftri?xone\*.mp.
29. cefuroxime\*.mp.
30. cephalixin\*.mp.
31. cephalosporin\*.mp.
32. cephradine\*.mp.
33. clindamycin\*.mp.
34. (co-trimoxazole\* or cotrimoxazole\*).mp.
35. cycloserine\*.mp.
36. fosfomycin\*.mp.
37. gentam#cin\*.mp.
38. nalidixic acid\*.mp.
39. nitrofurantoin\*.mp.
40. penicillin\*.mp.
41. piperacillin\*.mp.
42. pivampicillin\*.mp.
43. pivmecillinam\*.mp.
44. sulfadimethoxine\*.mp.
45. sulfadiazine\*.mp.
46. sulfamethizole\*.mp.
47. sulfamethoxazole\*.mp.
48. sulfamethoxypyridazine\*.mp.
49. sulfonamide\*.mp.
50. sulphadimidine\*.mp.
51. sulphonamide\*.mp.
52. tetracycline\*.mp.
53. vancomycin\*.mp.
54. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53
55. 12 and 54
56. \*Bacteriuria/dt, th [Drug therapy, Therapy]
57. 55 or 56
58. clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials as topic/ or meta-analysis as topic/
59. (clinical trial or controlled clinical trial or meta analysis or randomized controlled trial).pt.
60. Random\*.ti,ab.
61. control groups/ or double-blind method/ or single-blind method/
62. clinical trial\*.ti,ab.
63. controlled trial\*.ti,ab.
64. meta analy\*.ti,ab.

65. 58 or 59 or 60 or 61 or 62 or 63 or 64
66. 57 and 65
67. Animals/ not (Humans/ and Animals/)
68. 66 not 67
69. limit 68 to english language
70. remove duplicates from 69

### **Treatment, pregnant women**

1. Bacteriuria/
2. bacilluria\*.ti,ab,kf.
3. bacteriuria\*.ti,ab,kf.
4. Asymptomatic Infections/
5. (asymptomatic or nonsymptomatic or non symptomatic or ((without or no or absence or absent) adj3 symptom\*)).ti,ab,kf.
6. 4 or 5
7. Urinary Tract Infections/
8. ((bacteria or infection\*) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
9. 7 or 8
10. 6 and 9
11. ((colonization or colonisation) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
12. 1 or 2 or 3 or 10 or 11
13. Anti-Bacterial Agents/
14. Antibiotic Prophylaxis/
15. Anti-Infective Agents, Urinary/
16. Drug Therapy, Combination/
17. Norfloxacin/
18. exp Penicillins/
19. exp Sulfonamides/
20. amoxicillin\*.mp.
21. ampicillin\*.mp.
22. (anti-bacteria\* or antibacteria\*).ti,ab,kf.
23. (anti-biotic\* or antibiotic\*).ti,ab,kf.
24. aztreonam\*.mp.
25. cefadroxil\*.mp.
26. cefepime\*.mp.
27. ceftibuten\*.mp.
28. ceftri?xone\*.mp.
29. cefuroxime\*.mp.
30. cephalixin\*.mp.
31. cephalosporin\*.mp.
32. cephradine\*.mp.
33. clindamycin\*.mp.
34. (co-trimoxazole\* or cotrimoxazole\*).mp.
35. cycloserine\*.mp.
36. fosfomycin\*.mp.



37. gentam#cin\*.mp.
38. nalidixic acid\*.mp.
39. nitrofurantoin\*.mp.
40. penicillin\*.mp.
41. piperacillin\*.mp.
42. pivampicillin\*.mp.
43. pivmecillinam\*.mp.
44. sulfadimethoxine\*.mp.
45. sulfadiazine\*.mp.
46. sulfamethizole\*.mp.
47. sulfamethoxazole\*.mp.
48. sulfamethoxypyridazine\*.mp.
49. sulfonamide\*.mp.
50. sulphadimidine\*.mp.
51. sulphonamide\*.mp.
52. tetracycline\*.mp.
53. vancomycin\*.mp.
54. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53
55. 12 and 54
56. \*Bacteriuria/dt, th
57. 55 or 56
58. exp Pregnancy/
59. Pregnancy complications, infectious/
60. Pregnant women/
61. Prenatal care/
62. Prenatal diagnosis/
63. Perinatal care/
64. Peripartum period/
65. Maternal Health Services/
66. pregnan\*.ti,ab,kf.
67. prenatal.ti,ab,kf.
68. pre natal.ti,ab,kf.
69. perinatal.ti,ab,kf.
70. peri natal.ti,ab,kf.
71. antenatal.ti,ab,kf.
72. ante natal.ti,ab,kf.
73. antepartum.ti,ab,kf.
74. ante partum.ti,ab,kf.
75. 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74
76. 57 and 75
77. Animals/ not (Humans/ and Animals/)
78. 76 not 77
79. limit 78 to english language
80. remove duplicates from 79

## Treatment harms

1. Bacteriuria/
2. bacilluria\*.ti,ab,kf.
3. bacteriuria\*.ti,ab,kf.
4. Asymptomatic Infections/
5. (asymptomatic or ((without or no) adj3 symptom\*)).ti,ab,kf.
6. 4 or 5
7. Urinary Tract Infections/
8. ((bacteria or infection\*) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
9. 7 or 8
10. 6 and 9
11. ((colonization or colonisation) and (bladder\* or kidney\* or urin\* or genitourin\* or urogenita\*)).ti,ab,kf.
12. 1 or 2 or 3 or 10 or 11
13. Anti-Bacterial Agents/
14. Antibiotic Prophylaxis/
15. Anti-Infective Agents, Urinary/
16. Drug Therapy, Combination/
17. Norfloxacin/
18. exp Penicillins/
19. exp Sulfonamides/
20. amoxicillin\*.mp.
21. ampicillin\*.mp.
22. (anti-bacteria\* or antibacteria\*).ti,ab,kf.
23. (anti-biotic\* or antibiotic\*).ti,ab,kf.
24. aztreonam\*.mp.
25. cefadroxil\*.mp.
26. cefepime\*.mp.
27. ceftibuten\*.mp.
28. ceftri?xone\*.mp.
29. cefuroxime\*.mp.
30. cephalixin\*.mp.
31. cephalosporin\*.mp.
32. cephradine\*.mp.
33. clindamycin\*.mp.
34. (co-trimoxazole\* or cotrimoxazole\*).mp.
35. cycloserine\*.mp.
36. fosfomycin\*.mp.
37. gentam#cin\*.mp.
38. nalidixic acid\*.mp.
39. nitrofurantoin\*.mp.
40. penicillin\*.mp.
41. piperacillin\*.mp.
42. pivampicillin\*.mp.
43. pivmecillinam\*.mp.
44. sulfadimethoxine\*.mp.
45. sulfadiazine\*.mp.

46. sulfamethizole\*.mp.
47. sulfamethoxazole\*.mp.
48. sulfamethoxypyridazine\*.mp.
49. sulfonamide\*.mp.
50. sulphadimidine\*.mp.
51. sulphonamide\*.mp.
52. tetracycline\*.mp.
53. vancomycin\*.mp.
54. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53
55. 12 and 54
56. \*Bacteriuria/dt, th
57. 55 or 56
58. Mortality/
59. Morbidity/
60. Death/
61. "Drug-Related Side Effects and Adverse Reactions"/
62. safety.ti,ab,kf.
63. harm\*.ti,ab,kf.
64. mortality.ti,ab,kf.
65. toxicity.ti,ab,kf.
66. complication\*.ti,ab,kf.
67. (death or deaths).ti,ab,kf.
68. (adverse adj2 (interaction\* or response\* or effect\* or event\* or reaction\* or outcome\*)).ti,ab,kf.
69. adverse effects.fs.
70. toxicity.fs.
71. mortality.fs.
72. abnormalities, drug-induced/
73. Congenital abnormalities/
74. exp Pregnancy Complications/
75. exp Infant, Low Birth Weight/
76. exp Infant, Premature/
77. exp Drug Resistance, Bacterial/
78. Drug Resistance/
79. Coinfection/
80. Hypersensitivity/
81. Drug Hypersensitivity/
82. ((birth or fetal or congenital) adj (defect\* or anomal\* or abnormal\*)).ti,ab,kf.
83. (stillbirth\* or still birth\*).ti,ab,kf.
84. birth weight\*.ti,ab,kf.
85. (preterm or pre term).ti,ab,kf.
86. ((drug or antibiotic or antimicrobial or bacteria\*) adj resist\*).ti,ab,kf.
87. (coinfection\* or co infection\* or secondary infection\*).ti,ab,kf.
88. allergic reaction\*.ti,ab,kf.
89. 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88
90. 57 and 89

- 91. Animals/ not (Humans/ and Animals/)
  - 92. 90 not 91
  - 93. limit 92 to english language
  - 94. remove duplicates from 93
- 

**PubMed [publisher-supplied records]**

Search	Query
#9	Search ((#8) AND English[Language]) AND publisher[sb]
#8	Search #1 OR #2 OR #6 OR #7
#7	Search (colonization[tiab] or colonization[tiab]) and (bladder*[tiab] or kidney*[tiab] or urin*[tiab] or genitourin*[tiab] or urogenita*[tiab])
#6	Search (#3 OR #4) AND #5
#5	Search asymptomatic[tiab] OR nonsymptomatic[tiab] OR non-symptomatic[tiab] OR absence of symptom*[tiab]
#4	Search (bacteria[tiab] or infection*[tiab]) and (bladder*[tiab] or kidney*[tiab] or urin*[tiab] or genitourin*[tiab] or urogenita*[tiab])
#3	Search urinary tract infection*[tiab] OR UTI[tiab] OR UTIs[tiab]
#2	Search urinary tract infection*[title] OR UTI[title] OR UTIs[title]
#1	Search bacilluria*[tiab] OR bacteriuria*[tiab]

**eTable 1. Inclusion and Exclusion Criteria**

	<b>Included</b>	<b>Excluded</b>
<b>Populations</b>	<p><b>KQs 1, 2:</b> Unselected, asymptomatic, community-dwelling adults age ≥18 years (including those residing in independent living facilities)</p> <p><b>KQs 3, 4:</b> Community-dwelling adults age ≥18 years with asymptomatic bacteriuria (including those residing in independent living facilities); unselected, asymptomatic pregnant women receiving routine prenatal care (any age)</p>	<ul style="list-style-type: none"> <li>• Persons with symptoms of or suspected urinary tract infection (cystitis or pyelonephritis) or with a history of recurrent urinary tract infection</li> <li>• Persons who have a compromised immune system</li> <li>• Persons who have a catheter, urinary stent, or nephrostomy tube; recipients of a kidney or other organ transplant; patients on kidney dialysis</li> <li>• Pregnant women with sickle cell disease</li> <li>• Persons seen in specialty care for treatment or follow-up of conditions affecting the urinary tract (e.g., prostate cancer)</li> <li>• Persons being tested in preparation for urological procedures</li> <li>• Persons with spinal cord injuries Studies conducted exclusively among persons who are institutionalized or hospitalized</li> </ul>
<b>Interventions</b>	<p><b>KQs 1, 2:</b> Screening with urine testing (e.g., urine culture, urinalysis with microscopy, dipstick, dipslide, screening with reflex urine culture)</p> <p><b>KQs 3, 4:</b> Treatment (e.g., antibiotics) or interventions to prevent urinary tract infection in patients with screen-detected, asymptomatic bacteriuria</p>	Interventions to prevent asymptomatic bacteriuria
<b>Comparisons</b>	<p><b>KQ 1:</b> No screening</p> <p><b>KQ 3:</b> No treatment; treatment with placebo</p>	
<b>Outcomes</b>	<p><b>KQs 1, 3:</b> <i>General health outcomes:</i></p> <ul style="list-style-type: none"> <li>• Urinary tract infection, including cystitis and pyelonephritis</li> <li>• Kidney failure</li> <li>• Quality of life</li> <li>• Mortality</li> </ul> <p><i>Pregnancy-specific health outcomes:</i></p> <ul style="list-style-type: none"> <li>• Complications of pregnancy associated with maternal or fetal morbidity: preterm birth (before 37 weeks' gestation), low birth weight (&lt;2,500 g), preeclampsia, eclampsia, HELLP syndrome, congenital malformations (birth defects)</li> <li>• Maternal and fetal/infant mortality</li> </ul> <p><b>KQs 2, 4:</b> All of the above health outcomes, with a focus on fetal anomalies, stillbirth, and adverse effects of treatment with antibiotics (e.g., recurrent and/or antimicrobial resistant infections, allergic reactions, secondary infections, and longer-term child health outcomes)</p>	
<b>Setting</b>	Prenatal or primary care settings	Studies conducted exclusively in populations living in special settings outside of the community (e.g., hospital, nursing or care home, rehabilitation center, or other long-term care facility), emergency departments, and other settings not generalizable to primary care

	Included	Excluded
<b>Study Design</b>	<p><b>KQs 1, 3:</b> <i>Nonpregnant adults:</i> RCTs</p> <p><i>Pregnant women*:</i> RCTs, observational cohort studies with a comparator of no screening or no treatment</p> <p><b>KQs 2, 4:</b> RCTs, observational cohort studies with and without a comparison group, registry studies</p>	<p><b>KQs 1, 3:</b> <i>Nonpregnant adults:</i> Study designs other than RCTs</p> <p><i>Pregnant women*:</i> Study designs other than RCTs or observational cohort studies with a comparator of no screening or no treatment</p> <p><b>KQs 2, 4:</b> Case control studies, case series and case reports, qualitative studies</p>
<b>Countries</b>	<p><i>Nonpregnant adults:</i> Studies conducted in countries categorized as “Very High” on the 2016 Human Development Index (as defined by the United Nations Development Programme)</p> <p><i>Pregnant women<sup>a</sup>:</i> Studies conducted in countries categorized as “Very High” and “High” on the 2016 Human Development Index</p>	<p><i>Nonpregnant adults:</i> Studies not conducted in countries categorized as “Very High” on the 2016 Human Development Index</p> <p><i>Pregnant women*:</i> Studies not conducted in countries categorized as “Very High” or “High” on the 2016 Human Development Index</p>
<b>Publication Language</b>	English	Languages other than English

<sup>a</sup> The inclusion criteria for studies of screening for and treatment of asymptomatic bacteriuria in pregnant women are more broad because prior evidence from trials and ensuing recommendations have established a standard practice of screening and treatment.

**eTable 2. Quality Assessment Criteria**

Study Design	Adapted Quality Criteria
Randomized and non-randomized controlled trials, adapted from the U.S. Preventive Services Task Force methods <sup>1</sup>	<p><b>Bias arising in the randomization process or due to confounding</b></p> <ul style="list-style-type: none"> <li>• Valid random assignment/random sequence generation method used</li> <li>• Allocation concealed</li> <li>• Balance in baseline characteristics</li> </ul> <p><b>Bias in selecting participants into the study</b></p> <ul style="list-style-type: none"> <li>• CCT only: No evidence of biased selection of sample</li> </ul> <p><b>Bias due to departures from intended interventions</b></p> <ul style="list-style-type: none"> <li>• Fidelity to the intervention protocol</li> <li>• Low risk of contamination between groups</li> <li>• Participants were analyzed as originally allocated</li> </ul> <p><b>Bias from missing data</b></p> <ul style="list-style-type: none"> <li>• No, or minimal, post-randomization exclusions</li> <li>• Outcome data are reasonably complete and comparable between groups</li> <li>• Reasons for missing data are similar across groups</li> <li>• Missing data are unlikely to bias results</li> </ul> <p><b>Bias in measurement of outcomes</b></p> <ul style="list-style-type: none"> <li>• Blinding of outcome assessors</li> <li>• Outcomes are measured using consistent and appropriate procedures and instruments across treatment groups</li> <li>• No evidence of inferential statistics</li> </ul> <p><b>Bias in reporting results selectively</b></p> <ul style="list-style-type: none"> <li>• No evidence that the measures, analyses, or subgroup analyses are selectively reported</li> </ul>

<sup>a</sup> Good quality studies generally meet all quality criteria. Fair quality studies do not meet all the criteria but do not have critical limitations that could invalidate study findings. Poor quality studies have a single fatal flaw or multiple important limitations that could invalidate study findings. Critical appraisal of studies using *a priori* quality criteria are conducted independently by at least two reviewers. Disagreements in final quality assessment are resolved by consensus, and, if needed, consultation with a third independent reviewer

**eTable 3. Health Outcomes and Adverse Events Reported in Trials of Screening for Asymptomatic Bacteriuria in Pregnant Women (2 Studies)**

Author, Year	Outcome	Events in Screening Cohort n/N (%)	Events in Unscreened Cohort n/N (%)	RR (95% CI)
Uncu, 2002 <sup>2</sup>	Fetal abnormalities	3/186 (1.6%)	2/186 (1.1%)	1.5 (0.25 to 8.87)
	Hypertension	8/186 (4.3%)	18/186 (9.7%)	0.44 (0.20 to 1)
	Intrauterine death <sup>a</sup>	1/186 (0.5%)	7/186 (3.8%)	0.14 (0.02 to 1.15)
	Intrauterine growth retardation <sup>a</sup>	1/186 (0.5%)	5/186 (2.7%)	0.20 (0.02 to 1.7) <sup>b</sup>
	Prematurity <sup>a</sup>	22/186 (11.8%)	18/186 (9.7%)	1.22 (0.68 to 2.2)
	Pyelonephritis <sup>a</sup>	1/186 (0.5%)	4/186 (2.2%)	0.25 (0.03 to 2.22) <sup>b</sup>
Gratacos, 1994 <sup>3</sup>	Pyelonephritis <sup>c</sup>	9/1652 (0.5%)	60/3265 (1.8%)	0.30 (0.15 to 0.60) <sup>d</sup>

<sup>a</sup> Definition NR

<sup>b</sup> The study reported a statistically significant between group difference ( $p \leq 0.05$ ), but based on the reported data and methods, it is unclear what accounted for this result

<sup>c</sup> Fever, flank pain, tenderness in the costovertebral angle, and positive urine culture

<sup>d</sup> Study reported inverse calculation of RR: 3.37 (1.68 to 6.78)

**Abbreviations:** CI = confidence interval; n = number of events; mos = months; N = number of participants; NR = not reported; NS = not significant; RR = relative risk



**eTable 4. Results of Treatment for Asymptomatic Bacteriuria on Symptomatic Infections in General Adult Populations (4 Studies)**

Pop	Author, Year	FU (mos)	Outcome	Description	IG	Events in IG n/N (%)	Events in CG n/N (%)	RR (95% CI)
Adults	Asscher, 1969 <sup>4</sup>	12	Symptomatic UTI/Pyelonephritis	Complained of frequency and dysuria lasting 24 hr or more, or if she developed loin pain and fever	IG1	18/49 (36.7%)	16/45 (35.6%)	1.03 (0.60 to 1.77)
Adults with diabetes	Harding, 2002 <sup>5</sup>	1.5	Treated for symptomatic infection		IG1	1/49 (2.0%)	2/50 (4.0%)	0.51 (0.05 to 5.45)
		36	Pyelonephritis	The presence of costovertebral-angle pain or tenderness and a positive urine culture ( $\geq 10^4$ CFU of a urinary pathogen per ml) with or without systemic symptoms such as fever	IG1	0.13 per 1000 days	0.28 per 1000 days	0.47 (0.18 to 1.23) <sup>a</sup>
			Renal failure	Clinically significant renal failure	IG1	2/55 (3.6%)	2/50 (4.0%)	0.91 (0.13 to 6.21)
			Symptomatic UTI	Acute onset of symptoms of irritation of the lower tract, such as dysuria, urgency, and frequency, in the absence of fever or costovertebral-angle pain or tenderness, and in the presence of a positive urine culture ( $\geq 10^3$ CFU of a urinary pathogen/ml)	IG1	0.80 per 1000 days	0.83 per 1000 days	0.97 (0.61 to 1.54) <sup>b</sup>
Older adults	Giamarellou, 1998 <sup>6</sup>	6	Sepsis or shock	NR	IG1	0/32 (0.0%)	0/29 (0.0%)	NA
					IG2	0/32 (0.0%)	0/29 (0.0%)	NA
Older adults	Boscia, 1987 <sup>7</sup>	6	Symptomatic UTI/Pyelonephritis	Symptoms of urinary tract infection (dysuria, urgency, frequency, suprapubic pain, flank pain, and fever)	IG1	5/63 (7.9%)	10/61 (16.4%)	0.48 (0.18 to 1.33)
		6	Treated for symptomatic infection	Antimicrobial therapy during the 6-month FU for symptomatic UTI infection	IG1	4/55 (7.3%)	8/55 (14.5%)	0.50 (0.16 to 1.56)

<sup>a</sup> Study reported inverse calculation of RR 2.13 (95% CI 0.81 to 5.62)

<sup>b</sup> Study reported inverse calculation of RR 1.03 (95% CI 0.65 to 1.65)

**Abbreviations:** CFU = colony forming units; CG = control group; CI = confidence interval; FU = followup; hr = hour; IG = intervention group; Int = intervention; ml = milliliter; n = number of events; N = number of participants; mos = months; N = number of participants; NR = not reported; NS = not significant; Pop = Population; RR = relative risk; UTI = urinary tract infection

**eTable 5. Results of Treatment for Asymptomatic Bacteriuria on Mortality in General Adult Populations (3 Studies)**

Author, Year	FU (mos)	Int. arm	Events in IG n/N (%)	Events in CG n/N (%)	RR (95% CI)
Boscia, 1987 <sup>7</sup>	6	IG1	2/63 (3.2%)	3/61 (4.9%)	0.65 (0.11 to 3.73)
Giamarellou, 1998 <sup>6</sup>	6	IG1	2/32 (6.3%)	2/29 (6.9%)	0.91 (0.14 to 6.03)
		IG2	0/32 (0.0%)	2/29 (6.9%)	0.18 (0.01 to 3.64)
Abrutyn, 1994 <sup>8</sup>	100	IG1	30/166 (18.1%)	39/192 (20.3%)	0.92 (0.5 to 1.47) <sup>a</sup>

<sup>a</sup> Hazard ratio, calculated RR: 0.89 (0.58 to 1.37)

**Abbreviations:** CG = control group; CI = confidence interval; FU = followup; IG = intervention group; Int = intervention; n = number of events; mos = months; N = number of participants; NR = not reported; RR = relative risk

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