Note: This is Online Appendix 1 of Okusanya BO, Gadanya M, Nlemadim A, et al. Systematic review of surface disinfection: Spraying versus wiping for COVID-19 prevention. J Public Health Africa. 2025;16(2), a597. https://doi.org/10.4102/jphia.v16i2.597

Appendix 1: Detailed search strategies

Qs# 8-9 Combined Searches – Cleaning in Community (Sept. 6, 2022)

Question 8

SEARCH RESULTS

1129 records exported after deduplication in Ovid of the 4 databases below:

MEDLINE + Embase + CENTRAL + CDSR = 582+691+91+0 (respectively, before dedup)

Embase Classic+Embase 1947 to 2022 September 02, Ovid MEDLINE(R) ALL 1946 to September 02, 2022, EBM Reviews - Cochrane Central Register of Controlled Trials July 2022, EBM Reviews - Cochrane Database of Systematic Reviews 2005 to August 31, 2022

1. Housing/
2. Workplace/
3. schools/ or schools, nursery/ or universities/
4. "non-medical public and private facilities"/ or exp child day care centers/ or libraries/ or restaurants/ or exp "sports and recreational facilities"/ or transportation facilities/ or museums/ or public facilities/
5. household articles/ or household products/
6. (community or communities or home* or house* or housing or residence* or residential or workplace* or work place* or school or schools or college* or universit* or library or libraries or museum* or restaurant* or shop or shops or retail or sport* or athlet* or gym* or recreation* or transportation).ti,ab,kf.
7. (nonmedical or nonhealth* or non medical or non health*).ti,ab,kf.
8. or/1-7
9. exp Health facilities/ or exp hospitals/ or exp Nursing Homes/ or Homes for the Aged/ or assisted living facilities/
10. (hospital* or dental or clinic or clinics or nursing or "Old Age Homes" or "Old Age Home" or ((medical or health or healthcare) adj1 (facility or facilities or centre* or center* or office* or setting*))).ti,kf.

11. ((longterm care or long term care) adj3 (home* or facility or facilities or residen* or hous* or setting*)).ti,kf.
12. 9 or 10 or 11
13. 8 not 12
14. Disinfection/ or exp Disinfectants/ or exp Detergents/ or Fumigation/ or Decontamination/
15. exp chlorine compounds/ or hypochlorous acid/ or sodium hypochlorite/
16. Quaternary Ammonium Compounds/ or Bleaching Agents/ or Hydrogen Peroxide/
17. exp ethanol/ or exp ethanolamines/ or 2-Propanol/
18. methylene blue/
19. ((sanitation or sanitary or housekeep* or janitor*) adj3 (worker* or staff or employee* or personnel or occupation* or team* or department*)).ti,ab,kf.
20. (brush or brushing or clean* or disinfect* or decontaminat* or fogging or fogger* or fumigat* or mist or misting or sanitis* or sanitiz* or scrub or scrubbing or spray* or wipe or wiping).ti,ab,kf. not scrub typhus.mp.
21. (detergent* or soap* or methylene blue or ethanol or bleach* or chlorin* or hypochlorit* or hydrogen peroxide or glutaraldehyde or formaldehyde or aldehyde or dihydrogen dioxide or hydrogen dioxide or hydroperoxide or quaternary ammonium or quaternary bisammonium or quaternized amine or hypochlorous acid).ti,ab,kf.
22. (antiseptic* or iodine or ethanolamin* or isopropanol or isopropyl or propanol or 2propanol).ti,ab,kf.
23. or/14-22
24. (cisplatin/ or exp Hydrochloric acid/) not (chlorine compounds/ or hypochlorous acid/ or sodium hypochlorite/)
25. 23 not 24
26. (hand wash* or hand hygiene or hand sanitisation or hand sanitization or hand disinfection or hand decontamination or skin disinfection or skin decontamination or skin wash* or skin hygiene or skin sanitisation or skin sanitization or hands or eczema* or mouth or oral* or nose or handwash* or skinwash* or mouthwash* or nosewash* or nasal* or topical* or ultraviolet or ultra violet or UV or UVC or UVGI or actinic).ti.
27. ((PPE or "personal protective equipment" or mask* or facemask* or respirator or respirators or N95 or N99 or KN95 or FFP2 or FFP3 or "Filtering face piece" or "Filtering face pieces" or "Filtering facepiece" or "Filtering facepieces" or "respiratory protective device" or "respiratory protective devices") adj2 (disinfect* or decontaminat* or sanitiz* or sanitis* or clean* or wash*)).ti.
28. ((PPE or "personal protective equipment" or mask* or facemask* or respirator or respirators or N95 or N99 or KN95 or FFP2 or FFP3 or "Filtering face piece" or "Filtering face pieces" or "Filtering facepiece" or "Filtering facepieces" or "respiratory protective device" or "respiratory protective devices") not (surface* or touch* or high touch or high traffic or environment* or material* or object or objects or building* or floor* or counter* or bed or beds or equipment* or room or rooms or space* or door* or chair* or wheelchair* or washroom* or bathroom* or elevator* or toilet* or contact time* or wood* or plastic* or metal* or fog* or fumigat* or mist or misting or spray*)).ti.

29. 26 or 27 or 28
30. 25 not 29
31. limit 30 to covid-19
32. randomized controlled trial.pt.
33. controlled clinical trial.pt.
34. randomized.ab.
35. placebo.ab.
36. randomly.ab.
37. trial.ab.
38. groups.ab.
39. or/32-38
40. exp animals/ not humans.sh.
41. 39 not 40
42. exp cohort studies/ or exp epidemiologic studies/ or exp clinical trial/ or exp evaluation studies as topic/ or exp statistics as topic/
43. ((time and factors) or program or survey* or ci or cohort or comparative stud* or evaluation studies or follow-up*).mp.
44. (control and (group* or study)).mp.
45. or/42-44
46. (animals/ not humans/) or comment/ or editorial/ or exp review/ or meta analysis/ or consensus/ or exp guideline/
47. hi.fs. or case report.mp.
48. or/46-47
49. 45 not 48
50. exp Animals/ not Humans/
51. (comment or editorial or newspaper article).pt.
52. ((sanitation or sanitary or housekeep* or janitor*) adj (worker* or staff or employee* or personnel or occupation* or team* or department*)).ti,ab,kw.
53. (clean* or disinfect* or decontaminat* or sanitis* or sanitiz*).ti,ab,kw.
54. (mist or misting or scrub or scrubbing or spray* or wipe or wiping).ti,ab. not scrub typhus.mp.
55. (brush or brushing or fogging or fogger* or fumigat*).ti,ab.
56. (detergent* or soap* or methylene blue or ethanol or bleach* or chlorin* or hypochlorit* or hydrogen peroxide or glutaraldehyde or formaldehyde or aldehyde or dihydrogen dioxide or hydrogen dioxide or hydroperoxide or quaternary ammonium or quaternary bisammonium or quaternized amine or hypochlorous acid).ti,ab,kw.
57. (antiseptic* or iodine or ethanolamin* or isopropanol or isopropyl or propanol or 2propanol).ti,ab,kw.

58. (hand* or skin* or eczema* or mouth* or oral* or nose* or nasal* or intranasal* or inhal* or nebuli* or throat* or gargl* or topical* or ultraviolet or ultra violet or UV or UVC or UVGI or actinic).ti,kw.
59. (PPE or "personal protective equipment" or mask* or facemask* or respirator or respirators or N95 or N99 or KN95 or FFP2 or FFP3 or "Filtering face piece" or "Filtering face pieces" or "Filtering facepiece" or "Filtering facepieces" or "respiratory protective device" or "respiratory protective devices").ti,kw. or exp mask/ or exp respiratory protection/ or protective equipment/
60. drinking/ or exp alcoholism/ or exp drug dependence/ or exp addiction/
61. 58 or 59 or 60
62. disinfection/
63. decontamination/
64. fumigation/
65. exp disinfectant agent/ or 2 propanol/ or alcohol/ or formaldehyde/ or glutaraldehyde/ or hypochlorite sodium/ or iodine/
66. detergent/
67. chlorine/ or chlorine derivative/
68. hypochlorous acid/
69. quaternary ammonium derivative/ or benzalkonium/ or benzalkonium chloride/ or tetrylammonium/
70. bleaching agent/ or hydrogen peroxide/
71. ethanolamine derivative/ or ethanolamine/
72. methylene blue/
73. or/52-57,62-72
74. 73 not 61
75. limit 74 to covid-19
76. randomized controlled trial/ or controlled clinical trial/ or randomization/ or exp intermethod comparison/ or double-blind procedure/
77. human experiment/
78. (random$ or crossover or cross over or volunteer or volunteers or placebo or allocated or assigned or (open adj label)).ti,ab.
79. (compare or compared or comparison).ti.
80. ((evaluated or evaluate or evaluating or assessed or assess) and (compare or compared or comparing or comparison)).ab.
81. ((double or single or doubly or singly) adj (blind or blinded or blindly)).ti,ab.
82. parallel group$1.ti,ab.
83. ((assign$ or match or matched or allocation) adj5 (alternate or group$1 or intervention$1 or patient$1 or subject$1 or participant$1)).ti,ab.
84. (controlled adj7 (study or design or trial)).ti,ab.
85. trial.ti.

86. or/76-85
87. (Systematic review not (trial or study)).ti.
88. (random cluster adj3 sampl$).ti,ab.
89. (review.ab. and review.pt.) not trial.ti.
90. (databases adj4 searched).ab.
91. "we searched".ab. and (review.ti. or review.pt.)
92. "update review".ab.
93. Random field$.ti,ab.
94. (nonrandom$ not random$).ti,ab.
95. (random$ adj sampl$ adj7 (cross section$ or questionnaire$1 or survey$ or database$1)).ti,ab. not (comparative study/ or controlled study/ or randomi?ed controlled.ti,ab. or randomly assigned.ti,ab.)
96. Cross-sectional study/ not (randomized controlled trial/ or controlled clinical trial/ or controlled study/ or randomi?ed controlled.ti,ab. or control group$1.ti,ab.)
97. (((case adj control$) and random$) not randomi?ed controlled).ti,ab.
98. (rat or rats or mouse or mice or swine or porcine or murine or sheep or lambs or pigs or piglets or rabbit or rabbits or cat or cats or dog or dogs or cattle or bovine or monkey or monkeys or trout or marmoset$1).ti. and animal experiment/
99. Animal experiment/ not (human experiment/ or human/)
100. ("cochrane database of systematic reviews" or "cochrane database of systematic reviews online").jn.
101. or/87-100
102. 86 not 101
103. Clinical article/ or controlled study/ or major clinical study/ or prospective study/ or cohort.mp. or compared.mp. or groups.mp. or multivariate.mp.
104. exp animal/ not exp human/
105. editorial.pt.
106. 14 or 15 or 16 or 17 or 18 or 52 or 53 or 54 or 55 or 56 or 57
107. 106 not 29
108. (nCoV* or 2019nCoV or 19nCoV or COVID19* or COVID or SARS-COV-2 or SARSCOV-2 or SARS-COV2 or SARSCOV2 or coronavirus* or corona virus* or betacoronavirus* or CoV or HCoV).mp.
109. limit 108 to yr="2019 -Current"
110. (community or communities or home* or house* or housing or residence* or residential or domestic or workplace* or work place* or school or schools or college* or universit* or library or libraries or museum* or restaurant* or shop or shops or retail or sport* or athlet* or gym* or recreation* or transportation).ti,ab,kw.
111. (nonmedical or nonhealth* or non medical or non health*).ti,ab,kw.
112. housing/
113. home/

114. workplace/
115. exp school/
116. building/
117. library/
118. restaurant/
119. exp sport facility/
120. "traffic and transport"/
121. household/
122. domestic chemical/
123. or/110-122
124. exp health care facility/ or assisted living facility/ or exp hospital/ or nursing home/ or home for the aged/
125. (hospital* or dental or clinic or clinics or nursing or "Old Age Homes" or "Old Age Home" or ((medical or health or healthcare) adj1 (facility or facilities or centre* or center* or office* or setting*))).ti,kw.
126. ((longterm care or long term care) adj3 (home* or facility or facilities or residen* or hous* or setting*)).ti,kw.
127. 124 or 125 or 126
128. 123 not 127
129. 13 and 31
130. limit 129 to (meta analysis or "systematic review")
131. 41 or 49
132. 129 and 131
133. 130 or 132
134. exp Animals/ not Humans/
135. 133 not 134
136. (comment or editorial or newspaper article).pt.
137. 135 not 136
138. 137 use medall
139. 75 and 128
140. limit 139 to "systematic review"
141. 102 or 103
142. 139 and 141
143. 140 or 142
144. exp animal/ not exp human/
145. 143 not 144
146. editorial.pt.
147. 145 not 146
148. 147 use emczd

149. or/1-5,128
150. 107 and 109 and 149
151. 150 use cctr
152. 150 use coch
153. 138 or 148 or 151 or 152
154. remove duplicates from 153

Filters used were:

[*adapted from the Cochrane HSSS RCT filter*]

[*NRS filter by Waffenschmidt et al. 2020*]

[*Cochrane Embase RCT filter 2022 revision (Glanville et al. 2019)*]

[*NRS filter by Furlan et al. 2006 for Embase*]

[*COVID-19 filter adapted from CADTH Search Strings*]