

Zoonotic causes of febrile illness in malaria endemic countries: a systematic review

Supplementary Information

Zoonoses Search Concept Construction

To construct a list of frequently reported zoonotic causes of human fever, we conducted preliminary searches of Medline and Embase using the search syntax '(exp Fever/ OR fever.mp.) AND (exp Zoonoses/ OR zoonoses.mp OR zoonosis.mp)' limited to humans.

The outputs of these searches were combined and de-duplicated in R.¹ The complete list of all subject headings associated with these articles was extracted and each heading was classified by two independent reviewers to identify headings for named disease causing agents or named diseases. Headings that referred to non-specific pathogen groups e.g., 'arboviruses' and those that referred to non-specific clinical symptoms, signs, syndromes, or diseases e.g., 'jaundice' and 'parasitic diseases' were excluded. All headings classified as either a pathogen or disease by one or both reviewers (JEBH and PH) were matched to a list of 1,415 infectious organisms known to be pathogenic to humans². Non-zoonotic pathogens or diseases based on the classification by Taylor et al.² were excluded. The frequency of appearance of each zoonosis-related heading in the initial search output dataset was tabulated. Pathogen/disease subject headings that appeared in >10 references identified through the initial 'Fever and Zoonoses' searches were retained.

For the 'zoonoses' concept, the list of zoonotic pathogens identified above was combined with lists of zoonotic diseases from the World Health Organization (WHO)³ and World Organisation of Animal Health (OIE)⁴.

All identified pathogens or diseases were then classified to differentiate pathogens that are normatively acquired by people through direct or indirect transmission from vertebrate animals to humans, as compared to pathogens where zoonotic transmission has been recorded but where sustained transmission within human populations also occurs and the majority of human infections are not acquired through zoonotic transmission. This classification was made following the definitions used in Wolfe et al.⁵ Three reviewers (JAC, SC, and MPR) independently classified listed pathogens or diseases using the stages in the transformation of an animal pathogen into a specialized pathogen of humans described in Wolfe et al.⁵

- Stage 1. A microbe that is present in animals but that has not been detected in humans under natural conditions (that is, excluding modern technologies that can inadvertently transfer microbes, such as blood transfusion, organ transplants, or hypodermic needles).
- Stage 2. A pathogen of animals that, under natural conditions, has been transmitted from animals to humans ('primary infection') but has not been transmitted between humans ('secondary infection').
- Stage 3. Animal pathogens that can undergo only a few cycles of secondary transmission between humans, so that occasional human outbreaks triggered by a primary infection soon die out.
- Stage 4. A disease that exists in animals, and that has a natural (sylvatic) cycle of infecting humans by primary transmission from the animal host, but that also undergoes long sequences of secondary transmission between humans without the involvement of animal hosts.
- Stage 5. A pathogen exclusive to humans.⁵

Tie-breaks were resolved by a fourth independent reviewer (JEBH). Pathogens classified as stages 1 to 3 were retained. Pathogens classified as stage 4 or 5, where sustained chains of transmission between humans occur, were excluded from the review.

Pathogens or diseases included in the list of study zoonoses therefore included all pathogens and diseases that were:

- Identified through the WHO list, OIE list or preliminary zoonoses search approach AND
- Classified as a zoonoses² AND
- Classified as a stage 1, 2 or 3 zoonosis.⁵

The search concept for each pathogen or disease included exploded subject headings for both the pathogen and the diseases caused in humans and terms for both pathogen and disease were also included as keywords (e.g., exp anthrax/ OR anthrax.mp. OR exp Bacillus anthracis/ OR bacillus anthracis.mp.). In instances where pathogen species within the same genus varied in their zoonotic status, search concepts were constructed to include all zoonotic and non-zoonotic species and articles relating to non-zoonotic species were excluded at a later stage. Finally, the list of pathogen- or disease-specific searches were combined using OR syntax to generate the full 'zoonoses' search concept (Medline Search Syntax and Embase Search Syntax sections below).

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Medline Search Syntax

(exp Anaplasmosis/ OR anaplasmosis.mp. OR exp Anaplasma/ OR anaplasma.mp.) [set database shortcode to 'pmez']
(exp Babesiosis/ OR babesiosis.mp. OR exp Babesia/ OR babesia.mp.)
(exp Anthrax/ OR anthrax.mp. OR exp Bacillus anthracis/ OR bacillus anthracis.mp.)
(exp Bartonella Infections/ OR bartonellosis.mp. OR exp Bartonella/ OR bartonella.mp.)
(exp Borrelia Infections/ OR borrelia Infection\$1.mp. OR exp Borrelia/ OR borrelia.mp.)
(exp brucellosis/ OR brucellosis.mp. OR exp Brucella/ OR brucella.mp.)
(exp Burkholderia Infections/ OR glanders.mp. OR exp Burkholderia/ OR burkholderia.mp.)
(exp Campylobacter Infections/ OR exp Campylobacter/ OR campylobacter\$.mp.)
(exp Psittacosis/ OR psittacosis.mp. OR exp Chlamydomphila psittaci/ OR chlamydomphila psittaci.mp.)
(exp Cowpox/ OR exp Cowpox virus/ OR cowpox.mp.)
(exp Q Fever/ OR q fever.mp. OR exp Coxiella/ OR coxiella.mp.)
(exp Hemorrhagic Fever, Crimean/ OR crimean-congo h?emorrhagic fever.mp. OR exp Hemorrhagic Fever Virus, Crimean-Congo/ OR crimean-congo h?emorrhagic fever virus.mp.)
(exp Hemorrhagic Fever, Ebola/ OR ebolavirus infection\$1.mp. OR exp Ebolavirus/ OR ebola\$.mp.)
(exp Echinococcosis/ OR echinococcosis.mp. OR exp Echinococcus/ OR echinococcus.mp.)
(exp Ehrlichiosis/ OR ehrlichiosis.mp. OR exp Ehrlichia/ OR ehrlichia.mp.)
(exp Encephalomyelitis, Equine/ OR exp Encephalitis Virus, Eastern Equine/ OR exp Encephalitis Virus, Venezuelan Equine/ OR exp Encephalitis Virus, Western Equine/ OR equine encephalitis.mp. OR equine encephalomyelitis.mp.)
(exp Escherichia coli Infections/ OR exp Escherichia coli/ OR escherichia coli.mp.)
(exp "Foot-and-Mouth Disease"/ OR exp "Foot-and-Mouth Disease Virus"/ OR "foot and mouth disease".mp. OR "foot-and-mouth".mp.)
(exp Tularemia/ OR tular?emia.mp. OR exp Francisella tularensis/ OR francisella tularensis.mp.)
(exp Hantavirus Infections/ OR hantavirus infection\$1.mp. OR exp Hantavirus/ OR hantavirus.mp.)
(exp Henipavirus Infections/ OR exp Henipavirus/ OR hendra.mp. OR nipah.mp. OR henipavirus.mp.)
(exp Encephalitis, Japanese/ OR exp Encephalitis Virus, Japanese/ OR japanese encephalitis.mp.)
(exp Lassa Fever/ OR exp Lassa virus/ OR lassa.mp.)
(exp Leishmaniasis/ OR leishmaniasis.mp. OR exp Leishmania/ OR leishmania.mp.)
(exp Leptospirosis/ OR leptospirosis.mp. OR exp Leptospira/ OR leptospira.mp.)
(exp Listeriosis/ OR listeriosis.mp. OR exp Listeria/ OR listeria.mp.)
(exp Marburg Virus Disease/ OR marburg h?emorrhagic fever.mp. OR exp Marburgvirus/ OR marburg\$.mp.)
(exp Monkeypox/ OR exp Monkeypox virus/ OR monkeypox.mp.)
(exp Tuberculosis, Bovine/ OR bovine tuberculosis.mp. OR exp Mycobacterium bovis/ OR mycobacterium bovis.mp.)
(exp Paratuberculosis/ OR paratuberculosis.mp. OR exp "Mycobacterium avium subsp. paratuberculosis"/ OR mycobacterium paratuberculosis.mp.)
(exp Newcastle Disease/ OR exp Newcastle disease virus/ OR newcastle disease.mp.)
(exp Pasteurella Infections/ OR pasteurellosis.mp. OR exp Pasteurella/ OR pasteurella.mp.)
(exp Prion Diseases/ OR exp Prions/ OR prion.mp.)
(exp Rabies/ OR rabies.mp. OR exp Rabies virus/ OR rabies virus.mp.)
(exp Rat-Bite Fever/ OR rat-bite.mp. OR rat bite.mp. OR exp Streptobacillus/ OR exp Spirillum/ OR streptobacillus.mp. OR spirillum.mp.)
(exp Rickettsiaceae Infections/ OR rickettsiaceae infection\$1.mp. OR rickettsiosis.mp. OR exp Rickettsiaceae/ OR rickettsia.mp.)
(exp Rift Valley Fever/ OR rift valley fever.mp. OR exp Rift Valley fever virus/ OR rift valley fever virus.mp.)
(exp Salmonella Infections/ OR salmonellosis.mp. OR exp Salmonella/ OR salmonella.mp.)
(exp Schistosomiasis/ OR schistosomiasis.mp. OR exp Schistosoma/ OR schistosoma.mp.)
(exp Streptococcal Infections/ OR streptococcal.mp. OR exp Streptococcus/ OR streptococcus.mp.)
(exp Pseudorabies/ OR pseudorabies.mp. OR exp Herpesvirus 1, Suid/ OR suid herpesvirus.mp. OR aujeszky\$.mp.)
(exp Swine Vesicular Disease/ OR swine vesicular.mp. OR exp Enterovirus/ OR enterovirus.mp.)
(exp Cysticercosis/ OR cysticercosis.mp. OR exp Taenia/ OR taenia.mp.)
(exp Encephalitis, Tick-Borne/ OR tick borne encephalitis.mp. OR exp Encephalitis Viruses, Tick-Borne/ OR tick borne encephalitis virus.mp.)
(exp Toxocariasis/ OR toxocariasis.mp. OR exp Toxocara/ OR toxocara.mp.)
(exp Toxoplasmosis/ OR toxoplasmosis.mp. OR exp Toxoplasma/ OR toxoplasma.mp.)

118 (exp Trichinellosis/ OR trichinellosis.mp. OR exp Trichinella/ OR trichinella.mp.)
119 (exp Trypanosomiasis/ OR trypanosomiasis.mp. OR exp Trypanosoma/ OR trypanosoma.mp.)
120 (exp Vaccinia/ OR exp Vaccinia virus/ OR vaccinia.mp.)
121 (exp Vesicular Stomatitis/ OR exp Vesiculovirus/ OR vesicular stomatitis.mp.)
122 (exp West Nile Fever/ OR west nile fever.mp. OR exp West Nile virus/ OR west nile virus.mp.)
123 (exp Yersinia Infections/ OR yersinia infection\$.mp. OR exp Yersinia/ OR yersinia.mp. OR plague.mp.)
124 (exp "Georgia (Republic)"/ OR "Georgia (Republic)".mp.)
125 (exp Afghanistan/ OR Afghanistan.mp.)
126 (exp Algeria/ OR Algeria.mp.)
127 (exp Angola/ OR Angola.mp.)
128 (exp Argentina/ OR Argentina.mp.)
129 (exp Armenia/ OR Armenia.mp.)
130 (exp Azerbaijan/ OR Azerbaijan.mp.)
131 (exp Bahamas/ OR Bahamas.mp.)
132 (exp Bangladesh/ OR Bangladesh.mp.)
133 (exp Belize/ OR Belize.mp.)
134 (exp Benin/ OR Benin.mp.)
135 (exp Bhutan/ OR Bhutan.mp.)
136 (exp Bolivia/ OR Bolivia.mp.)
137 (exp Botswana/ OR Botswana.mp.)
138 (exp Brazil/ OR Brazil.mp.)
139 (exp Burkina Faso/ OR Burkina Faso.mp.)
140 (exp Burundi/ OR Burundi.mp.)
141 (exp Cambodia/ OR Cambodia.mp.)
142 (exp Cameroon/ OR Cameroon.mp.)
143 (exp Cape Verde/ OR Cape Verde.mp.)
144 (exp Central African Republic/ OR Central African Republic.mp.)
145 (exp Chad/ OR Chad.mp.)
146 (exp China/ OR China.mp.)
147 (exp Colombia/ OR Colombia.mp.)
148 (exp Comoros/ OR Comoros.mp.)
149 (exp Congo/ OR Congo.mp.)
150 (exp Costa Rica/ OR Costa Rica.mp.)
151 (exp Cote d'Ivoire/ OR Cote d'Ivoire.mp.)
152 (exp Democratic People's Republic of Korea/ OR Democratic People's Republic of Korea.mp.)
153 (exp Democratic Republic of the Congo/ OR Democratic Republic of the Congo.mp.)
154 (exp Djibouti/ OR Djibouti.mp.)
155 (exp Dominican Republic/ OR Dominican Republic.mp.)
156 (exp East Timor/ OR East Timor.mp.)
157 (exp Ecuador/ OR Ecuador.mp.)
158 (exp Egypt/ OR Egypt.mp.)
159 (exp El Salvador/ OR El Salvador.mp.)
160 (exp Equatorial Guinea/ OR Equatorial Guinea.mp.)
161 (exp Eritrea/ OR Eritrea.mp.)
162 (exp Ethiopia/ OR Ethiopia.mp.)
163 (exp French Guiana/ OR French Guiana.mp.)
164 (exp Gabon/ OR Gabon.mp.)
165 (exp Gambia/ OR Gambia.mp.)
166 (exp Ghana/ OR Ghana.mp.)
167 (exp Guatemala/ OR Guatemala.mp.)
168 (exp Guinea/ OR Guinea.mp.)
169 (exp Guinea-Bissau/ OR Guinea-Bissau.mp.)
170 (exp Guyana/ OR Guyana.mp.)
171 (exp Haiti/ OR Haiti.mp.)
172 (exp Honduras/ OR Honduras.mp.)
173 (exp India/ OR India.mp.)
174 (exp Indonesia/ OR Indonesia.mp.)
175 (exp Iran/ OR Iran.mp.)
176 (exp Iraq/ OR Iraq.mp.)
177 (exp Jamaica/ OR Jamaica.mp.)

178 (exp Kenya/ OR Kenya.mp.)
179 (exp Kyrgyzstan/ OR Kyrgyzstan.mp.)
180 (exp Laos/ OR Laos.mp.)
181 (exp Liberia/ OR Liberia.mp.)
182 (exp Madagascar/ OR Madagascar.mp.)
183 (exp Malawi/ OR Malawi.mp.)
184 (exp Malaysia/ OR Malaysia.mp.)
185 (exp Mali/ OR Mali.mp.)
186 (exp Mauritania/ OR Mauritania.mp.)
187 (exp Mauritius/ OR Mauritius.mp.)
188 (exp Mexico/ OR Mexico.mp.)
189 (exp Morocco/ OR Morocco.mp.)
190 (exp Mozambique/ OR Mozambique.mp.)
191 (exp Myanmar/ OR Myanmar.mp.)
192 (exp Namibia/ OR Namibia.mp.)
193 (exp Nepal/ OR Nepal.mp.)
194 (exp Nicaragua/ OR Nicaragua.mp.)
195 (exp Niger/ OR Niger.mp.)
196 (exp Nigeria/ OR Nigeria.mp.)
197 (exp Oman/ OR Oman.mp.)
198 (exp Pakistan/ OR Pakistan.mp.)
199 (exp Panama/ OR Panama.mp.)
200 (exp Papua New Guinea/ OR Papua New Guinea.mp.)
201 (exp Paraguay/ OR Paraguay.mp.)
202 (exp Peru/ OR Peru.mp.)
203 (exp Philippines/ OR Philippines.mp.)
204 (exp Republic of Korea/ OR Republic of Korea.mp.)
205 (exp Russia/ OR Russia.mp.)
206 (exp Rwanda/ OR Rwanda.mp.)
207 (exp Sao Tome/ OR Sao Tome.mp.)
208 (exp Saudi Arabia/ OR Saudi Arabia.mp.)
209 (exp Senegal/ OR Senegal.mp.)
210 (exp Sierra Leone/ OR Sierra Leone.mp.)
211 (exp Solomon Islands/ OR Solomon Islands.mp.)
212 (exp Somalia/ OR Somalia.mp.)
213 (exp South Africa/ OR South Africa.mp.)
214 (exp Sri Lanka/ OR Sri Lanka.mp.)
215 (exp Sudan/ OR Sudan.mp.)
216 (exp Suriname/ OR Suriname.mp.)
217 (exp Swaziland/ OR Swaziland.mp.)
218 (exp Syria/ OR Syria.mp.)
219 (exp Tajikistan/ OR Tajikistan.mp.)
220 (exp Tanzania/ OR Tanzania.mp.)
221 (exp Thailand/ OR Thailand.mp.)
222 (exp Togo/ OR Togo.mp.)
223 (exp Turkey/ OR Turkey.mp.)
224 (exp Turkmenistan/ OR Turkmenistan.mp.)
225 (exp Uganda/ OR Uganda.mp.)
226 (exp Uzbekistan/ OR Uzbekistan.mp.)
227 (exp Vanuatu/ OR Vanuatu.mp.)
228 (exp Venezuela/ OR Venezuela.mp.)
229 (exp Vietnam/ OR Vietnam.mp.)
230 (exp Yemen/ OR Yemen.mp.)
231 (exp Zambia/ OR Zambia.mp.)
232 (exp Zimbabwe/ OR Zimbabwe.mp.)
233 (exp Africa/ OR africa.mp.)
234 (exp Fever/ OR fever\$1.mp. OR febrile.mp.)
235 or/1-52
236 or/53-162
237 164 AND 165

238 163 AND 166
239 ..1/167 yr=2004-2019
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Embase Search Syntax

(exp anaplasmosis/ OR exp human granulocytic anaplasmosis/ OR anaplasmosis.mp. OR exp Anaplasma/ OR anaplasma.mp.) [set database shortcode to 'emczd']
(exp babesiosis/ OR babesiosis.mp. OR exp Babesia/ OR babesia.mp.)
(exp anthrax/ OR anthrax.mp. OR exp Bacillus anthracis/ OR bacillus anthracis.mp.)
(exp bartonellosis/ OR bartonellosis.mp. OR exp Bartonella/ OR bartonella.mp.)
(exp Borrelia infection/ OR borrelia Infection\$1.mp. OR exp Borrelia/ OR borrelia.mp.)
(exp brucellosis/ OR brucellosis.mp. OR exp Brucella/ OR brucella.mp.)
(exp Burkholderia infection/ OR glanders.mp. OR exp Burkholderia/ OR burkholderia.mp.)
(exp campylobacteriosis/ OR exp Campylobacter/ OR campylobacter\$.mp.)
(exp ornithosis/ OR psittacosis.mp. OR exp Chlamydophila psittaci/ OR chlamydophila psittaci.mp.)
(exp cowpox/ OR exp Cowpox virus/ OR cowpox.mp.)
(exp Q fever/ OR q fever.mp. OR exp Coxiella/ OR coxiella.mp.)
(exp Crimean Congo hemorrhagic fever/ OR crimean-congo h?emorrhagic fever.mp. OR exp Nairo virus/ OR crimean-congo h?emorrhagic fever virus.mp.)
(exp Ebola hemorrhagic fever/ OR ebolavirus infection\$1.mp. OR exp Ebola virus/ OR ebola\$.mp.)
(exp echinococcosis/ OR echinococcosis.mp. OR exp Echinococcus/ OR echinococcus.mp.)
(exp ehrlichiosis/ OR ehrlichiosis.mp. OR exp Ehrlichia/ OR ehrlichia.mp.)
(exp Eastern equine encephalitis/ OR exp Venezuelan equine encephalitis/ OR exp Western equine encephalitis/ OR exp Eastern equine encephalomyelitis virus/ OR exp Venezuelan equine encephalomyelitis alphavirus/ OR exp Western equine encephalomyelitis alphavirus/ OR equine encephalitis.mp. OR equine encephalomyelitis.mp.)
(exp Escherichia coli infection/ OR exp Escherichia coli/ OR escherichia coli.mp.)
(exp "foot and mouth disease"/ OR exp "Foot and mouth disease virus"/ OR "foot and mouth disease".mp. OR "foot-and-mouth".mp.)
(exp tularemia/ OR tular?emia.mp. OR exp Francisella tularensis/ OR francisella tularensis.mp.)
(exp Hantavirus infection/ OR hantavirus infection\$1.mp. OR exp Hantavirus/ OR hantavirus.mp.)
(exp Nipah virus infection/ OR exp Hendra virus infection/ OR exp Nipah virus/ OR exp Hendra virus/ OR hendra.mp. OR nipah.mp. OR henipavirus.mp.)
(exp Japanese encephalitis/ OR exp Japanese encephalitis virus/ OR japanese encephalitis.mp.)
(exp Lassa fever/ OR exp Lassa virus/ OR lassa.mp.)
(exp leishmaniasis/ OR leishmaniasis.mp. OR exp Leishmania/ OR leishmania.mp.)
(exp leptospirosis/ OR leptospirosis.mp. OR exp Leptospira/ OR leptospira.mp.)
(exp listeriosis/ OR listeriosis.mp. OR exp Listeria/ OR listeria.mp.)
(exp Marburg hemorrhagic fever/ OR marburg h?emorrhagic fever.mp. OR exp Marburg virus/ OR marburg\$.mp.)
(exp monkeypox/ OR exp Monkeypox virus/ OR monkeypox.mp.)
(exp bovine tuberculosis/ OR bovine tuberculosis.mp. OR exp Mycobacterium bovis/ OR mycobacterium bovis.mp.)
(exp paratuberculosis/ OR paratuberculosis.mp. OR exp Mycobacterium paratuberculosis/ OR mycobacterium paratuberculosis.mp.)
(exp Newcastle disease/ OR exp Newcastle disease paramyxovirus/ OR newcastle disease.mp.)
(exp pasteurellosis/ OR pasteurellosis.mp. OR exp Pasteurella/ OR pasteurella.mp.)
(exp prion disease/ OR exp prion/ OR prion.mp.)
(exp rabies/ OR rabies.mp. OR exp Rabies virus/ OR rabies virus.mp.)
(exp rat bite fever/ OR rat-bite.mp. OR rat bite.mp. OR exp Streptobacillus/ OR exp Spirillum/ OR streptobacillus.mp. OR spirillum.mp.)
(exp Rickettsiaceae infection/ OR rickettsiaceae infection\$1.mp. OR rickettsiosis.mp. OR exp Rickettsiaceae/ OR rickettsia.mp.)
(exp Rift Valley fever/ OR rift valley fever.mp. OR exp Rift Valley fever bunyavirus/ OR rift valley fever virus.mp.)
(exp salmonellosis/ OR exp animal salmonellosis/ OR salmonellosis.mp. OR exp Salmonella/ OR salmonella.mp.)
(exp schistosomiasis/ OR schistosomiasis.mp. OR exp Schistosoma/ OR schistosoma.mp.)
(exp Streptococcus infection/ OR streptococcal.mp. OR exp Streptococcus/ OR streptococcus.mp.)
(exp pseudorabies/ OR pseudorabies.mp. OR exp Pseudorabies herpesvirus/ OR suid herpesvirus.mp. OR aujeszky\$.mp.)
(exp swine vesicular disease/ OR swine vesicular.mp. OR exp Enterovirus/ OR enterovirus.mp.)

302 (exp cysticercosis/ OR cysticercosis.mp. OR exp Taenia/ OR taenia.mp.)
303 (exp tick borne encephalitis/ OR tick borne encephalitis.mp. OR exp Tick borne encephalitis flavivirus/ OR tick
304 borne encephalitis virus.mp.)
305 (exp toxocariasis/ OR toxocariasis.mp. OR exp Toxocara/ OR toxocara.mp.)
306 (exp toxoplasmosis/ OR exp congenital toxoplasmosis/ OR toxoplasmosis.mp. OR exp Toxoplasma/ OR
307 toxoplasma.mp.)
308 (exp trichinosis/ OR trichinellosis.mp. OR exp Trichinella/ OR trichinella.mp.)
309 (exp trypanosomiasis/ OR trypanosomiasis.mp. OR exp Trypanosoma/ OR trypanosoma.mp.)
310 (exp vaccinia/ OR exp Vaccinia virus/ OR vaccinia.mp.)
311 (exp vesicular stomatitis/ OR exp Vesicular stomatitis virus/ OR vesicular stomatitis.mp.)
312 (exp West Nile fever/ OR west nile fever.mp. OR exp West Nile flavivirus/ OR west nile virus.mp.)
313 (exp Yersinia infection/ OR yersinia infection\$.mp. OR exp Yersinia/ OR yersinia.mp. OR plague.mp.)
314 (exp "Georgia (republic)"/ OR "Georgia (republic)".mp.)
315 (exp "Turkey (republic)"/ OR "Turkey (republic)".mp.)
316 (exp Afghanistan/ OR Afghanistan.mp.)
317 (exp Algeria/ OR Algeria.mp.)
318 (exp Angola/ OR Angola.mp.)
319 (exp Argentina/ OR Argentina.mp.)
320 (exp Armenia/ OR Armenia.mp.)
321 (exp Azerbaijan/ OR Azerbaijan.mp.)
322 (exp Bahamas/ OR Bahamas.mp.)
323 (exp Bangladesh/ OR Bangladesh.mp.)
324 (exp Belize/ OR Belize.mp.)
325 (exp Benin/ OR Benin.mp.)
326 (exp Bhutan/ OR Bhutan.mp.)
327 (exp Bolivia/ OR Bolivia.mp.)
328 (exp Botswana/ OR Botswana.mp.)
329 (exp Brazil/ OR Brazil.mp.)
330 (exp Burkina Faso/ OR Burkina Faso.mp.)
331 (exp Burundi/ OR Burundi.mp.)
332 (exp Cambodia/ OR Cambodia.mp.)
333 (exp Cameroon/ OR Cameroon.mp.)
334 (exp Cape Verde/ OR Cape Verde.mp.)
335 (exp Central African Republic/ OR Central African Republic.mp.)
336 (exp Chad/ OR Chad.mp.)
337 (exp China/ OR China.mp.)
338 (exp Colombia/ OR Colombia.mp.)
339 (exp Comoros/ OR Comoros.mp.)
340 (exp Congo/ OR Congo.mp.)
341 (exp Costa Rica/ OR Costa Rica.mp.)
342 (exp Cote d'Ivoire/ OR Cote d'Ivoire.mp.)
343 (exp Democratic Republic Congo/ OR Democratic Republic Congo.mp.)
344 (exp Djibouti/ OR Djibouti.mp.)
345 (exp Dominican Republic/ OR Dominican Republic.mp.)
346 (exp Ecuador/ OR Ecuador.mp.)
347 (exp Egypt/ OR Egypt.mp.)
348 (exp El Salvador/ OR El Salvador.mp.)
349 (exp Equatorial Guinea/ OR Equatorial Guinea.mp.)
350 (exp Eritrea/ OR Eritrea.mp.)
351 (exp Ethiopia/ OR Ethiopia.mp.)
352 (exp French Guiana/ OR French Guiana.mp.)
353 (exp Gabon/ OR Gabon.mp.)
354 (exp Gambia/ OR Gambia.mp.)
355 (exp Ghana/ OR Ghana.mp.)
356 (exp Guatemala/ OR Guatemala.mp.)
357 (exp Guinea/ OR Guinea.mp.)
358 (exp Guinea-Bissau/ OR Guinea-Bissau.mp.)
359 (exp Guyana/ OR Guyana.mp.)
360 (exp Haiti/ OR Haiti.mp.)
361 (exp Honduras/ OR Honduras.mp.)

362 (exp India/ OR India.mp.)
363 (exp Indonesia/ OR Indonesia.mp.)
364 (exp Iran/ OR Iran.mp.)
365 (exp Iraq/ OR Iraq.mp.)
366 (exp Jamaica/ OR Jamaica.mp.)
367 (exp Kenya/ OR Kenya.mp.)
368 (exp Kyrgyzstan/ OR Kyrgyzstan.mp.)
369 (exp Laos/ OR Laos.mp.)
370 (exp Liberia/ OR Liberia.mp.)
371 (exp Madagascar/ OR Madagascar.mp.)
372 (exp Malawi/ OR Malawi.mp.)
373 (exp Malaysia/ OR Malaysia.mp.)
374 (exp Mali/ OR Mali.mp.)
375 (exp Mauritania/ OR Mauritania.mp.)
376 (exp Mauritius/ OR Mauritius.mp.)
377 (exp Mexico/ OR Mexico.mp.)
378 (exp Morocco/ OR Morocco.mp.)
379 (exp Mozambique/ OR Mozambique.mp.)
380 (exp Myanmar/ OR Myanmar.mp.)
381 (exp Namibia/ OR Namibia.mp.)
382 (exp Nepal/ OR Nepal.mp.)
383 (exp Nicaragua/ OR Nicaragua.mp.)
384 (exp Niger/ OR Niger.mp.)
385 (exp Nigeria/ OR Nigeria.mp.)
386 (exp North Korea/ OR North Korea.mp.)
387 (exp Oman/ OR Oman.mp.)
388 (exp Pakistan/ OR Pakistan.mp.)
389 (exp Panama/ OR Panama.mp.)
390 (exp Papua New Guinea/ OR Papua New Guinea.mp.)
391 (exp Paraguay/ OR Paraguay.mp.)
392 (exp Peru/ OR Peru.mp.)
393 (exp Philippines/ OR Philippines.mp.)
394 (exp Russian Federation/ OR Russian Federation.mp.)
395 (exp Rwanda/ OR Rwanda.mp.)
396 (exp Sao Tome and Principe/ OR Sao Tome and Principe.mp.)
397 (exp Saudi Arabia/ OR Saudi Arabia.mp.)
398 (exp Senegal/ OR Senegal.mp.)
399 (exp Sierra Leone/ OR Sierra Leone.mp.)
400 (exp Solomon Islands/ OR Solomon Islands.mp.)
401 (exp Somalia/ OR Somalia.mp.)
402 (exp South Africa/ OR South Africa.mp.)
403 (exp South Korea/ OR South Korea.mp.)
404 (exp Sri Lanka/ OR Sri Lanka.mp.)
405 (exp Sudan/ OR Sudan.mp.)
406 (exp Suriname/ OR Suriname.mp.)
407 (exp Swaziland/ OR Swaziland.mp.)
408 (exp Syrian Arab Republic/ OR Syrian Arab Republic.mp.)
409 (exp Tajikistan/ OR Tajikistan.mp.)
410 (exp Tanzania/ OR Tanzania.mp.)
411 (exp Thailand/ OR Thailand.mp.)
412 (exp Timor-Leste/ OR Timor-Leste.mp.)
413 (exp Togo/ OR Togo.mp.)
414 (exp Turkmenistan/ OR Turkmenistan.mp.)
415 (exp Uganda/ OR Uganda.mp.)
416 (exp Uzbekistan/ OR Uzbekistan.mp.)
417 (exp Vanuatu/ OR Vanuatu.mp.)
418 (exp Venezuela/ OR Venezuela.mp.)
419 (exp Viet Nam/ OR Viet Nam.mp.)
420 (exp Yemen/ OR Yemen.mp.)
421 (exp Zambia/ OR Zambia.mp.)

422 (exp Zimbabwe/ OR Zimbabwe.mp.)
423 (exp Africa/ OR africa.mp)
424 (exp fever/ OR fever\$.mp. OR febrile.mp.)
425 or/1-52
426 or/53-162
427 164 AND 165
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Abstract Screening

Conference proceedings, records that did not include any abstract text, and records that did not have an abstract in English were excluded. Remaining records were evaluated against the criteria listed in table S1. Records that did not present data from a malaria-endemic country were also excluded. Full text articles were sought for all articles not excluded at the abstract review step.

Table S1. Criteria applied for abstract screening.

Criterion	Guidance	Outcome
Inc1FeverPopn	Does the Title/Abstract refer to clinical and/or laboratory evaluation of a group of two or more humans that are explicitly described using one or more of the of the following terms: Febrile / fever(s) / pyrexia(s) /temperature $\geq 38.0C$ / body temperature elevation?	If Yes, retain and evaluate Inc1ZooPath. If No, exclude.
Inc1ZooPath	Does the Title/Abstract refer to diagnosis of this febrile population with one or more of the pathogens/diseases included in this study (table 1 in main paper)?	If Yes, retain and evaluate Exc1PathogenFocus. If No, evaluate Inc1Bcx.
Inc1Bcx	Does the Title/Abstract refer to the use of blood culture for the diagnosis of this febrile population?	If Yes, retain and evaluate Exc1PathogenFocus. If No, exclude.
Exc1PathogenFocus	Does the Title/Abstract refer to a group of two or more humans that are principally classified on the basis of a common (i.e. 100% frequency) aetiological diagnosis, some proportion of which may also have fever?	If Yes, exclude. If No, retain for full text review.

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Full Text Review

Full text articles were evaluated by two independent reviewers against the criteria listed in table S2.

Table S2. Criteria applied for full text review of articles.

Criterion	Guidance	Outcome
Inc2FP	Does the article provide details/inclusion criteria for one or more human population(s) (of more than one person) that explicitly includes acute fever/febrile illness as part of the inclusion criteria?	If Yes, retain and evaluate Inc2ZP. If No, exclude.
Inc2ZP	Does the article provide data on the diagnosis of a zoonotic pathogen as defined on the species level list (table 1 in main paper)?	If Yes, retain and evaluate Inc2DT. If No, exclude.
Inc2DT	Does the article provide details of one or more diagnostic test procedure(s) for one or more of the zoonotic pathogens included in this study that meets >1 of the following criteria and are used to test >1 febrile people? 1 – culture of the pathogen from sample(s) collected from a febrile person 2 – direct detection of the pathogen (e.g., by PCR based techniques) from sample(s) collected from a febrile person 3 – serological diagnosis of acute infection based on testing of both acute and convalescent phase serum samples and demonstration of seroconversion 4 – diagnosis of acute infection based on detection of pathogen-specific antibody or antigens in a single serum sample only for selected pathogens, for which widely accepted case definitions deemed pathogen-specific antibody or antigen detection sufficiently accurate (table 2 in main paper) 5 – IgM detection in CSF for selected pathogens for which widely accepted case definitions include IgM detection in CSF (table 2 in main paper)	If Yes, retain, record coding of valid tests and evaluate Exc2nTests. If No, exclude.
Exc2nTests	Does the article lack detail on the number of people tested for each study pathogen with each testing method/case definition that meets the above criteria?	If Yes, exclude. If No, retain and evaluate Exc2AllNeg.
Exc2AllNeg	Does the article give the number of people tested for a study pathogen with a test method/case definition that meets the above criteria, but all tested individuals are negative?	If Yes, exclude. If No, retain and evaluate Exc2DV.
Exc2DV	Does the article present data from a study designed to evaluate diagnostic test and/or vaccine performance without presenting ‘new data’ on the number/proportion of patients diagnosed with pathogen x from a described population of febrile humans?	If Yes, exclude. If No, retain and evaluate Exc2Rev.
Exc2Rev	Does the article provide a review of previously published data only, without presenting ‘new’ primary data on the number/proportion of patients diagnosed with pathogen x?	If Yes, exclude. If No, retain and evaluate Exc2PF.

Exc2PF	Does the article refer to a group of two or more humans that are principally classified on the basis of a common (e.g., 100% frequency) aetiological diagnosis, some proportion of which may also have fever?	If Yes, exclude. If No, retain and carry forward for data extraction.
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Data extraction

Articles were excluded during data extraction if they did not meet one or more of the study inclusion criteria or did meet one or more of the exclusion criteria described above for full text review. For all included studies, data were extracted in two stages. First, article level data were extracted following the guidance given in table S3.

Article level data collection on individual pathogens included the names of each of the zoonotic pathogens that the article described diagnostic methods for and the names of the zoonotic pathogens that were diagnosed in the study. These classifications record the named zoonoses that each study reported looking for and diagnosing, irrespective of the diagnostic approach used or level of detail given.

At the second step, data were extracted the for each combination of zoonotic pathogen and diagnostic test approach that met study validity criteria following the guidance given in table S4. In instances where more than one diagnostic method was used for a given pathogen (e.g., culture and serology-based case definitions), data on the total number of individuals tested and positive using valid diagnostics for a given pathogen were aggregated. Data were only extracted for diagnosed pathogens and no data were extracted for pathogens not identified, even when common diagnostic approaches were used. For example, in studies conducting blood cultures the number of individuals tested and positive for each identified zoonosis were extracted but no data were extracted on the number of individuals who tested negative for other pathogens that could be identified by that blood culture.

When duplicate records were identified, e.g., when two articles reported identical data on pathogen detection in the same population, the later duplicate record was removed from the dataset for analysis.

Extracted data were used to classify study and outcome level attributes according to the pre-defined criteria for bias assessment given in table S5.

Table S3. Data extracted for each article included in the review.

Data to be extracted	Guidance
Country and WHO region	Record the country or countries in which the reported study was conducted (i.e. the country where the febrile population was identified, and data were collected). Country name spellings and regional classifications are as defined by the WHO.
Start year of data collection	Record the start year for the period over which the reported study was conducted (i.e. the period when the febrile population was identified, and data were collected).
End of data collection	Record the end year for the period over which the reported study was conducted (i.e. the period when the febrile population was identified, and data were collected).
Fever population description	Record a general description of the febrile population investigated in this study.
Fever population eligibility	Record the inclusion and exclusion criteria used to define eligibility of participants in this study.
Specific aetiologies excluded	Record if patients with any specific aetiologies or syndromes were excluded in this study. Generalised exclusions such as “known causes of fever”, “obvious focus of infection” or “obvious explanations of febrile illness” were not classified here.
Details of exclusions	Record the details of the named aetiologies and/or syndromes excluded.
Differentiated or undifferentiated fever	Classify each study population as undifferentiated febrile population or differentiated febrile population according to the reported clinical presentation.
Febrile population classification	Classify differentiated febrile populations as: i) febrile neurologic presentation; ii) febrile haemorrhagic presentation; iii) febrile gastrointestinal presentation; iv) febrile respiratory presentation; v) specific febrile aetiology suspected (i.e., leishmaniasis, leptospirosis, plague, and rickettsiosis); vi) fever in a high specific co-morbid group (i.e. malignancy, immunocompromise).
Age	Record details provided about the ages of the febrile population
Demographic restriction	Record the details of any demographic restriction of the study population e.g., restriction of the study population to individuals meeting specific criteria for age or sex.
Urban or rural population	Record whether or not the study was conducted in a predominantly urban population, predominantly rural or mixed.
Inpatient or outpatient population	Record whether or not the febrile population described were inpatients (e.g., admitted to a healthcare facility), outpatients (e.g., patients seeking care at a healthcare facility but apparently not admitted) or if the study was population-based.
Outbreak	Record whether or not the study reports that data collection was conducted during a reported outbreak or not and the disease/syndrome described if Yes.

Zoonotic pathogens diagnosed among febrile patients	Was any proportion of the reported febrile population diagnosed with a zoonotic pathogen?
Pathogens looked for	For each zoonosis mentioned in the article record 1 if the article describes a diagnostic approach taken to identify individuals infected with that pathogen. Record 0 for each zoonosis where this is not the case.
Pathogens diagnosed	For each zoonosis mentioned in the article record 1 if the article reports more than one member of a febrile population diagnosed with this pathogen (irrespective of the diagnostics used). Record 0 for each zoonosis where this is not the case.

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Table S4. Data extracted for each zoonotic pathogen diagnosed by a valid method.

Data to be extracted	Guidance
Zoonotic pathogen identified	Record the pathogen diagnosed using valid diagnostic methods.
Type of sample	Record the details of the sample(s) tested with each specific test/approach.
Diagnostic method used	Record the type of diagnostic test(s) used for each specific test/approach.
Number of individuals tested for that pathogen by valid methods	Record the number of febrile patients tested using the valid diagnostics described in this row of the dataset specifically.
Number of individuals diagnosed as positive for that pathogen by valid methods	Record the number of febrile patients classified as positive using the valid diagnostics described in this row of the dataset specifically.
Indicator for multiple diagnostic methods for given pathogen in this reference	Record Yes (1) if there is more than one row of data for this pathogen and reference combination.

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Bias evaluation

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Each population was classified as low, medium or high risk of bias against the representativeness and precision criteria as detailed in table S5.

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Table S5. Criteria for bias assessment and classification of study and population level attributes.

Criteria	Risk of bias classification	Description
Study representativeness	Low	Undifferentiated febrile population with no demographic restriction and no aetiologies or syndromes excluded.
	Medium	Undifferentiated febrile population with demographic restriction or one or more aetiologies and/or syndromes excluded.
	High	Febrile population classified as differentiated (table S4) or sampled during an identified disease outbreak.
Precision of percentage fevers attributed to zoonosis	Low	Number of individual tested > 385.
	Medium	Number of individuals tested > 139 and ≤385.
	High	Number of individuals tested ≤ 139.

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Results

Table S6: Characteristics and summary of the 244 articles and 309 records of zoonosis diagnosis included in the review.

Study population abbreviations: UN = undifferentiated; D = differentiated; COMORBID = febrile co-morbid group GI = febrile gastrointestinal; HEM = febrile haemorrhagic; NEU = febrile neurological; RESP; febrile respiratory; SP = specific febrile aetiology suspected.

Diagnostics abbreviations: ELISA = enzyme linked immunosorbent assay; HI = haemagglutination inhibition test; IFA = immunofluorescence assay; IgM = IgM detection; MAT = microscopic agglutination test; PCR = polymerase chain reaction-based test; PRNT = plaque reduction neutralisation test. When multiple diagnostics used different tests are separated by “,”.

An excel format version of this table, including additional data fields is accessible at: <http://dx.doi.org/10.5525/gla.researchdata.890>

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Anaplasma phagocytophilum</i>	Lee et al. (2018) ⁶	Republic of Korea	2015-2017	UN	PCR	380	14	Medium	Medium
<i>Anaplasma phagocytophilum</i>	Yi et al. (2017) ⁷	Republic of Korea	2003-2012	UN	PCR	70	5	Low	High
<i>Anaplasma phagocytophilum</i>	Zhang et al. (2011) ⁸	China	2004-2006	D SP	PCR, IFA	26	8	High	High
<i>Anaplasma phagocytophilum</i>	Zhang et al. (2013) ⁹	China	2009-2010	UN	Culture, IFA, PCR	421	46	Low	Low
<i>Babesia microti</i>	Zhou et al. (2013) ¹⁰	China	2012-2013	UN	PCR	449	10	Low	Low
<i>Bartonella</i> spp.	Chaudhry et al. (2018) ¹¹	India	2012-2016	UN	PCR	28	2	Medium	High
<i>Bartonella</i> spp.	Faruque et al. (2017) ¹²	Thailand	2008-2009	UN	Culture	720	1	Medium	Low
<i>Bartonella</i> spp.	Hercik et al. (2017) ¹³	United Republic of Tanzania	2014-2015	UN	PCR	842	4	Low	Low
<i>Bartonella</i> spp.	Kosoy et al. (2010) ¹⁴	Thailand	2002-2003	UN	Culture, PCR	261	14	Low	Medium
<i>Bartonella</i> spp.	Simpson et al. (2018) ¹⁵	South Africa	2012-2013	UN	PCR	74	7	Medium	High
<i>Bartonella</i> spp.	Sokhna et al. (2013) ¹⁶	Senegal	2011-2012	UN	PCR	440	23	Low	Low
<i>Borrelia</i> spp.	Aarsland et al. (2012) ¹⁷	Ethiopia	2009-2010	UN	PCR	102	2	Low	High
<i>Borrelia</i> spp.	Elhelw et al. (2014) ¹⁸	Egypt	2008-2009	UN	PCR	15	4	Medium	High
<i>Borrelia</i> spp.	Fotso Fotso et al. (2015) ¹⁹	Algeria	2012-2012	UN	PCR	257	4	Low	Medium
<i>Borrelia</i> spp.	Mediannikov et al. (2014) ²⁰	Senegal	2010-2011	UN	PCR	1566	115	Low	Low
<i>Borrelia</i> spp.	Nordstrand et al. (2007) ²¹	Togo	2002-2004	UN	PCR	237	21	Low	Medium
<i>Borrelia</i> spp.	Parola et al. (2011) ²²	Senegal	2008-2009	UN	PCR	206	27	Medium	Medium

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Borrelia</i> spp.	Reller et al. (2011) ²³	United Republic of Tanzania	NA-NA	UN	PCR	310	13	Low	Medium
<i>Borrelia</i> spp.	Sarih et al. (2009) ²⁴	Morocco	2005-2006	UN	PCR	127	23	Medium	High
<i>Borrelia</i> spp.	Sokhna et al. (2013) ¹⁶	Senegal	2011-2012	UN	PCR	440	35	Low	Low
<i>Borrelia</i> spp.	Toure et al. (2017) ²⁵	Mali	2012-2012	UN	PCR	8	3	Medium	High
<i>Brucella</i> spp.	Afifi et al. (2005) ²⁶	Egypt	1999-2003	D SP	Culture	9883	275	High	Low
<i>Brucella</i> spp.	Barua et al. (2016) ²⁷	India	2010-2012	D SP	Culture	102	18	High	High
<i>Brucella</i> spp.	Boone et al. (2017) ²⁸	Madagascar	2011-2013	UN	PCR	1020	15	Low	Low
<i>Brucella</i> spp.	Bouley et al. (2012) ²⁹	United Republic of Tanzania	2007-2008	UN	MAT	455	16	Low	Low
<i>Brucella</i> spp.	Carugati et al. (2018) ³⁰	United Republic of Tanzania	2007-2014	UN	MAT	1680	45	Low	Low
<i>Brucella</i> spp.	Cash-Goldwasser et al. (2018) ³¹	United Republic of Tanzania	2012-2014	UN	Microagglutination test	562	39	Low	Low
<i>Brucella</i> spp.	Ciftdogan et al. (2011) ³²	Turkey	2003-2008	UN	Culture	92	3	Low	High
<i>Brucella</i> spp.	Crump et al. (2013) ³³	United Republic of Tanzania	2007-2008	UN	MAT	453	16	Low	Low
<i>Brucella</i> spp.	Fadeel et al. (2006) ³⁴	Egypt	1999-2003	UN	Culture	1177	202	Low	Low
<i>Brucella</i> spp.	Jennings et al. (2007) ³⁵	Egypt	2002-2003	UN	Culture	4490	115	Medium	Low
<i>Brucella</i> spp.	Kamal et al. (2013) ³⁶	Saudi Arabia	2009-2011	UN	PCR	101	50	Low	High
<i>Brucella</i> spp.	Kuila et al. (2017) ³⁷	India	2013-2015	UN	PCR	2088	88	Low	Low
<i>Brucella</i> spp.	Manock et al. (2009) ³⁸	Ecuador	2001-2004	UN	ELISA	275	4	Medium	Medium
<i>Brucella</i> spp.	Mattar et al. (2017) ³⁹	Colombia	2012-2013	UN	Rose Bengal plate test	100	1	Medium	High
<i>Brucella</i> spp.	Migisha et al. (2018) ⁴⁰	Uganda	2017-2017	D SP	Culture	235	10	High	Medium
<i>Brucella</i> spp.	Nandagopal et al. (2012) ⁴¹	India	2008-2009	UN	PCR	301	3	Low	Medium
<i>Brucella</i> spp.	Paul et al. (2017) ⁴²	Saudi Arabia	2014-2016	UN	Culture	377	37	Low	Medium
<i>Brucella</i> spp.	Rahman et al. (2016) ⁴³	Bangladesh	2007-2008	D SP	PCR	6	3	High	High

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Campylobacter</i> spp.	Ali et al. (2016) ⁴⁴	Pakistan	2011-2014	D RESP	Culture	356	2	High	Medium
<i>Campylobacter</i> spp.	Bottieau et al. (2011) ⁴⁵	No Specific Country	2000-2006	D GI	Stool examination, Culture	512	47	High	Low
<i>Campylobacter</i> spp.	Hogan et al. (2018) ⁴⁶	Ghana	2013-2015	UN	PCR	240	21	Low	Medium
<i>Campylobacter</i> spp.	Naheed et al. (2008) ⁴⁷	Bangladesh	2003-2004	UN	Culture	867	1	Low	Low
<i>Coxiella burnetii</i>	Angelakis et al. (2014) ⁴⁸	No Specific Country	2008-2012	UN	PCR	1888	7	Low	Low
<i>Coxiella burnetii</i>	Crump et al. (2013) ³³	United Republic of Tanzania	2007-2008	UN	IFA	482	24	Low	Low
<i>Coxiella burnetii</i>	Esmacili et al. (2017) ⁴⁹	Iran (Islamic Republic of)	2013-2013	UN	ELISA	116	16	Medium	High
<i>Coxiella burnetii</i>	Greiner et al. (2018) ⁵⁰	Thailand	2002-2005	UN	IFA	1784	5	Medium	Low
<i>Coxiella burnetii</i>	Hamilton et al. (2011) ⁵¹	Iraq	2008-2008	UN	PCR, IFA	18	8	Low	High
<i>Coxiella burnetii</i>	Hercik et al. (2017) ¹³	United Republic of Tanzania	2014-2015	UN	PCR	842	2	Low	Low
<i>Coxiella burnetii</i>	Khalili et al. (2016) ⁵²	Iran (Islamic Republic of)	2014-2015	UN	PCR	92	7	Low	High
<i>Coxiella burnetii</i>	Manock et al. (2009) ³⁸	Ecuador	2001-2004	UN	ELISA	33	15	Medium	High
<i>Coxiella burnetii</i>	Mazyad et al. (2007) ⁵³	Egypt	2006-2006	UN	PCR	150	5	Low	Medium
<i>Coxiella burnetii</i>	Metanat et al. (2014) ⁵⁴	Iran (Islamic Republic of)	2011-2011	UN	IFA	105	23	Low	High
<i>Coxiella burnetii</i>	Njeru et al. (2016) ⁵⁵	Kenya	2014-2015	UN	PCR	448	10	Low	Low
<i>Coxiella burnetii</i>	Pradeep et al. (2017) ⁵⁶	India	2016-2016	UN	PCR	72	2	Medium	High
<i>Coxiella burnetii</i>	Ratmanov et al. (2013) ⁵⁷	Senegal	2008-2011	UN	PCR	874	4	Low	Low
<i>Coxiella burnetii</i>	Reller et al. (2016) ⁵⁸	Nicaragua	2008-2009	UN	IFA	748	10	Low	Low
<i>Coxiella burnetii</i>	Sokhna et al. (2013) ¹⁶	Senegal	2011-2012	UN	PCR	440	2	Low	Low
<i>Coxiella burnetii</i>	Toure et al. (2017) ²⁵	Mali	2012-2012	UN	PCR	8	1	Medium	High
Crimean-Congo haemorrhagic fever virus	Alam et al. (2013) ⁵⁹	Pakistan	2008-2008	D HEM	PCR, IgM	44	16	High	High

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
Crimean-Congo haemorrhagic fever virus	Ali et al. (2007) ⁶⁰	Pakistan	2001-2001	D HEM	PCR	10	3	High	High
Crimean-Congo haemorrhagic fever virus	Bukbuk et al. (2016) ⁶¹	Nigeria	2010-2014	D SP	PCR	380	1	High	Medium
Crimean-Congo haemorrhagic fever virus	Kuchuloria et al. (2016) ⁶²	Georgia	2008-2011	UN	IgM	537	3	Medium	Low
Eastern equine encephalitis virus	Aguilar et al. (2007) ⁶³	Peru	NA-NA	D NEU	ELISA	153	2	High	Medium
<i>Ehrlichia</i> spp.	Chikeka et al. (2016) ⁶⁴	Nicaragua	NA-NA	UN	IFA	748	1	Low	Low
<i>Ehrlichia</i> spp.	Ndip et al. (2009) ⁶⁵	Cameroon	2003-2003	UN	PCR	118	12	Medium	High
Hantavirus	Armien et al. (2013) ⁶⁶	Panama	2006-2010	D SP	PCR	150	117	High	Medium
Hantavirus	Castillo Ore et al. (2012) ⁶⁷	Peru	2007-2010	UN	IgM	5174	9	Low	Low
Hantavirus	Chandy et al. (2005) ⁶⁸	India	2002-2003	D HEM	ELISA	152	23	High	Medium
Hantavirus	Chandy et al. (2009) ⁶⁹	India	2005-2007	UN	ELISA, IFA, PCR	347	86	Low	Medium
Hantavirus	Chau et al. (2017) ⁷⁰	Mozambique	2012-2014	UN	ELISA	200	4	Low	Medium
Hantavirus	Chen et al. (2014) ⁷¹	China	2011-2012	D HEM	PCR, IFA	85	33	High	High
Hantavirus	Chrispal et al. (2010) ⁷²	India	2007-2008	UN	ELISA	398	1	Low	Low
Hantavirus	Cruz et al. (2012) ⁷³	Bolivia (Plurinational State of)	2008-2009	UN	PCR, IgM	372	9	Low	Medium
Hantavirus	Klempa et al. (2010) ⁷⁴	Guinea	2001-2005	D HEM	ELISA, Neutralization test	717	8	High	Low
Hantavirus	Kuchuloria et al. (2014) ⁷⁵	Georgia	2008-2011	UN	IgM	537	2	Low	Low
Hantavirus	Liu et al. (2007) ⁷⁶	China	2002-2004	UN	IFA, PCR	130	49	Low	High
Hantavirus	Mattar et al. (2017) ³⁹	Colombia	2012-2013	UN	ELISA	100	4	Medium	High
Hantavirus	Suharti et al. (2009) ⁷⁷	Indonesia	1995-1996	D SP	ELISA	60	5	High	High
Hantavirus	Thompson et al. (2015) ⁷⁸	Nepal	2008-2011	UN	IgM	125	2	Low	High
Hantavirus	Zhan et al. (2017) ⁷⁹	China	2011-2011	D SP	IgM, PCR	141	2	High	Medium

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
Japanese encephalitis virus	Anga et al. (2010) ⁸⁰	Papua New Guinea	2007-2008	D NEU	IgM	129	2	High	High
Japanese encephalitis virus	Chatterjee et al. (2004) ⁸¹	India	1996-1999	D NEU	HI	72	24	High	High
Japanese encephalitis virus	Chheng et al. (2013) ⁸²	Cambodia	2009-2010	UN	ELISA	107	6	Low	High
Japanese encephalitis virus	Dias et al. (2018) ⁸³	India	2014-2014	UN	RNA sequencing	4	1	Low	High
Japanese encephalitis virus	Ellis et al. (2006) ⁸⁴	Thailand	1999-2002	UN	ELISA	530	1	Low	Low
Japanese encephalitis virus	Joshi et al. (2013) ⁸⁵	India	2007-2007	D NEU	ELISA	152	4	High	Medium
Japanese encephalitis virus	Kakoti et al. (2013) ⁸⁶	India	2012-2012	D HEM	IgM	223	49	High	Medium
Japanese encephalitis virus	Kumar et al. (2015) ⁸⁷	India	NA-NA	D NEU	IgM	108	54	High	High
Japanese encephalitis virus	Maude et al. (2016) ⁸⁸	Bangladesh	2012-2012	UN	IgM	300	1	Medium	Medium
Japanese encephalitis virus	Medhi et al. (2017) ⁸⁹	India	2012-2014	D NEU	ELISA	1707	601	High	Low
Japanese encephalitis virus	Rasul et al. (2012) ⁹⁰	Bangladesh	2007-2009	D NEU	ELISA	130	2	High	High
Japanese encephalitis virus	Rauf et al. (2018) ⁹¹	India	2014-2014	D NEU	IgM, PCR	54	8	High	High
Japanese encephalitis virus	Rayamajhi et al. (2006) ⁹²	Nepal	2000-2001	D NEU	IgM	117	54	High	High
Japanese encephalitis virus	Rayamajhi et al. (2007) ⁹³	Nepal	2000-2001	D NEU	IgM	94	54	High	High
Japanese encephalitis virus	Rayamajhi et al. (2011) ⁹⁴	Nepal	2006-2008	D NEU	IgM	86	9	High	High
Japanese encephalitis virus	Sarkar et al. (2012) ⁹⁵	India	2010-2010	D NEU	IgM	43	23	High	High
Japanese encephalitis virus	Singh et al. (2009) ⁹⁶	Nepal	2003-2004	D NEU	IgM	107	19	High	High
Japanese encephalitis virus	Singh et al. (2014) ⁹⁷	India	2008-2011	D NEU	PCR	1410	10	High	Low
Japanese encephalitis virus	Swami et al. (2008) ⁹⁸	India	2003-2005	D NEU	IgM, PCR	40	9	High	High
Japanese encephalitis virus	Taraphdar et al. (2012) ⁹⁹	India	2010-2010	UN	PCR	58	23	Low	High
Lassa virus	Akhuemokhan et al. (2017) ¹⁰⁰	Nigeria	2009-2010	UN	PCR	243	13	Low	Medium
Lassa virus	Boisen et al. (2015) ¹⁰¹	Sierra Leone	2012-2012	D SP	PCR, Antigen detection	53	29	High	High

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
Lassa virus	Ehichioya et al. (2012) ¹⁰²	Nigeria	2005-2008	D SP	PCR	451	2	High	Low
Lassa virus	Schoepp et al. (2014) ¹⁰³	Sierra Leone	2006-2008	D SP	ELISA	253	7	High	Medium
Lassa virus	Shehu et al. (2018) ¹⁰⁴	Nigeria	2016-2016	D SP	PCR	34	11	High	High
Lassa virus	Stremlau et al. (2015) ¹⁰⁵	Nigeria	NA-NA	D HEM	Sequencing	195	104	High	Medium
<i>Leishmania donovani</i>	Hailu et al. (2006) ¹⁰⁶	Ethiopia	NA-NA	D SP	Microscopy, Culture	103	49	High	High
<i>Leishmania donovani</i>	Joshi et al. (2006) ¹⁰⁷	Nepal	1998-2002	D SP	Bone marrow examination	996	284	High	Low
<i>Leishmania donovani</i>	Mukhtar et al. (2015) ¹⁰⁸	Sudan	2012-2014	D SP	Culture	285	191	High	Medium
<i>Leishmania donovani</i>	Rijal et al. (2004) ¹⁰⁹	Nepal	2000-2002	D SP	Microscopy	261	155	High	Medium
<i>Leptospira</i> spp.	Albuquerque Filho et al. (2011) ¹¹⁰	Brazil	2009-2009	UN	Culture	97	56	Low	High
<i>Leptospira</i> spp.	Alia et al. (2019) ¹¹¹	Malaysia	2016-2017	D SP	PCR	50	13	High	High
<i>Leptospira</i> spp.	Barragan et al. (2016) ¹¹²	Ecuador	2013-2015	UN	PCR	668	100	Low	Low
<i>Leptospira</i> spp.	Biggs et al. (2011) ¹¹³	United Republic of Tanzania	2007-2008	UN	MAT	831	70	Low	Low
<i>Leptospira</i> spp.	Blacksell et al. (2006) ¹¹⁴	Lao People's Democratic Republic	2001-2003	UN	MAT	186	5	Medium	Medium
<i>Leptospira</i> spp.	Boonsilp et al. (2011) ¹¹⁵	Thailand	2001-2002	UN	Culture, PCR	418	120	Medium	Low
<i>Leptospira</i> spp.	Chansamouth et al. (2016) ¹¹⁶	Lao People's Democratic Republic	2006-2010	UN	MAT	158	1	Medium	Medium
<i>Leptospira</i> spp.	Chheng et al. (2013) ⁸²	Cambodia	2009-2010	UN	Culture, PCR	1179	17	Low	Low
<i>Leptospira</i> spp.	Chiriboga et al. (2015) ¹¹⁷	Ecuador	2011-2012	UN	PCR	210	132	Low	Medium
<i>Leptospira</i> spp.	Cohen et al. (2007) ¹¹⁸	Thailand	2002-2003	UN	MAT	704	67	Low	Low
<i>Leptospira</i> spp.	Crump et al. (2013) ³³	United Republic of Tanzania	2007-2008	UN	MAT	453	40	Low	Low
<i>Leptospira</i> spp.	Dassanayake et al. (2009) ¹¹⁹	Sri Lanka	2007-2008	UN	MAT	123	62	Low	High
<i>Leptospira</i> spp.	Dittrich et al. (2018) ¹²⁰	Lao People's Democratic Republic	2014-2015	D SP	MAT	248	12	High	Medium

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Leptospira</i> spp.	Ellis et al. (2006) ⁸⁴	Thailand	1999-2002	UN	IgM, MAT	613	107	Low	Low
<i>Leptospira</i> spp.	Faruque et al. (2017) ¹²	Thailand	2008-2009	UN	Culture	720	1	Medium	Low
<i>Leptospira</i> spp.	Gasem et al. (2009) ¹²¹	Indonesia	2005-2006	UN	PCR	137	4	Low	High
<i>Leptospira</i> spp.	Guillebaud et al. (2018) ¹²²	Madagascar	2014-2015	UN	PCR	682	1	Low	Low
<i>Leptospira</i> spp.	Hem et al. (2016) ¹²³	Cambodia	2007-2009	UN	MAT	2044	17	Low	Low
<i>Leptospira</i> spp.	Hercik et al. (2017) ¹³	United Republic of Tanzania	2014-2015	UN	PCR	842	22	Low	Low
<i>Leptospira</i> spp.	Hercik et al. (2018) ¹²⁴	United Republic of Tanzania	2014-2014	UN	PCR	191	3	Low	Medium
<i>Leptospira</i> spp.	Ismail et al. (2006) ¹²⁵	Egypt	1999-2003	UN	MAT	886	141	Low	Low
<i>Leptospira</i> spp.	Kendall et al. (2010) ¹²⁶	Bangladesh	2001-2001	UN	MAT	78	7	Low	High
<i>Leptospira</i> spp.	Koizumi et al. (2009) ¹²⁷	Sri Lanka	2008-2008	D SP	PCR	107	3	High	High
<i>Leptospira</i> spp.	LaRocque et al. (2005) ¹²⁸	Bangladesh	2001-2001	D SP	PCR	359	63	High	Medium
<i>Leptospira</i> spp.	Libraty et al. (2007) ¹²⁹	Thailand	1994-1999	UN	MAT	812	14	Low	Low
<i>Leptospira</i> spp.	Mattar et al. (2017) ³⁹	Colombia	2012-2013	UN	ELISA, MAT	100	27	Medium	High
<i>Leptospira</i> spp.	Matthias et al. (2008) ¹³⁰	Peru	2003-2006	UN	Culture	881	45	Medium	Low
<i>Leptospira</i> spp.	Mayxay et al. (2013) ¹³¹	Lao People's Democratic Republic	2008-2010	UN	Culture, MAT, PCR	1932	137	Low	Low
<i>Leptospira</i> spp.	Maze et al. (2016) ¹³²	United Republic of Tanzania	2012-2014	UN	MAT	1017	19	Low	Low
<i>Leptospira</i> spp.	McGready et al. (2010) ¹³³	Thailand	2004-2006	UN	Culture, MAT	203	5	Medium	Medium
<i>Leptospira</i> spp.	Mueller et al. (2014) ¹³⁴	Cambodia	2008-2010	UN	PCR	1193	112	Low	Low
<i>Leptospira</i> spp.	Murdoch et al. (2004) ¹³⁵	Nepal	2001-2001	UN	PCR	26	11	Low	High
<i>Leptospira</i> spp.	Murray et al. (2011) ¹³⁶	Egypt	2005-2007	UN	Culture	2441	47	Low	Low
<i>Leptospira</i> spp.	Natarajaseenivasan et al. (2004) ¹³⁷	India	2000-2000	D SP	MAT, Culture	29	7	High	High

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Leptospira</i> spp.	Natarajaseenivasan et al. (2012) ¹³⁸	India	2009-2009	D SP	PCR	75	71	High	High
<i>Leptospira</i> spp.	Phimda et al. (2007) ¹³⁹	Thailand	2003-2005	D SP	Culture, MAT	296	55	High	Medium
<i>Leptospira</i> spp.	Rafizah et al. (2013) ¹⁴⁰	Malaysia	NA-NA	UN	MAT	999	53	Medium	Low
<i>Leptospira</i> spp.	Rao et al. (2005) ¹⁴¹	India	NA-NA	D SP	ELISA	70	2	High	High
<i>Leptospira</i> spp.	Ravindar et al. (2018) ¹⁴²	India	2016-2017	UN	PCR	100	13	Low	High
<i>Leptospira</i> spp.	Reller et al. (2014) ¹⁴³	Nicaragua	2008-2009	UN	PCR	748	17	Low	Low
<i>Leptospira</i> spp.	Ribeiro et al. (2017) ¹⁴⁴	Mozambique	2012-2015	UN	ELISA, MAT	373	3	Low	Medium
<i>Leptospira</i> spp.	Ricapa-Antay et al. (2018) ¹⁴⁵	Peru	2016-2016	UN	PCR	139	16	Medium	Medium
<i>Leptospira</i> spp.	Rubbo et al. (2018) ¹⁴⁶	Central African Republic	2012-2015	UN	MAT	32	2	Medium	High
<i>Leptospira</i> spp.	Sengupta et al. (2017) ¹⁴⁷	India	2012-2014	UN	PCR	150	5	Medium	Medium
<i>Leptospira</i> spp.	Suttinont et al. (2006) ¹⁴⁸	Thailand	2001-2002	UN	Culture, MAT, IFA	845	293	Medium	Low
<i>Leptospira</i> spp.	Thipmontree et al. (2014) ¹⁴⁹	Thailand	2001-2012	UN	Culture, IFA, PCR	726	118	Medium	Low
<i>Leptospira</i> spp.	Waggoner et al. (2017) ¹⁵⁰	Kenya	2014-2015	UN	PCR	385	1	Low	Low
<i>Leptospira</i> spp.	Wuthiekanun et al. (2007) ¹⁵¹	Thailand	2001-2002	UN	Culture	989	83	Low	Low
<i>Leptospira</i> spp.	Zida et al. (2018) ¹⁵²	Burkina Faso	2014-2015	UN	PCR	781	1	Low	Low
<i>Listeria</i> spp.	El-Mahallawy et al. (2005) ¹⁵³	Egypt	1999-1999	D COMORBID	Culture	1135	1	High	Low
Nipah virus	Chadha et al. (2006) ¹⁵⁴	India	2001-2001	D NEU	PCR	6	5	High	High
<i>Orientia tsutsugamushi</i>	Blacksell et al. (2007) ¹⁵⁵	Nepal	2002-2004	UN	IFA	103	5	Low	High
<i>Orientia tsutsugamushi</i>	Blacksell et al. (2010) ¹⁵⁶	Lao People's Democratic Republic	2003-2007	D SP	IFA	1030	101	High	Low
<i>Orientia tsutsugamushi</i>	Blacksell et al. (2016) ¹⁵⁷	Thailand	2006-2007	UN	IFA, PCR, Culture	152	37	Medium	Medium
<i>Orientia tsutsugamushi</i>	Blacksell et al. (2016) ¹⁵⁸	Thailand	2007-2008	UN	PCR, Culture	135	22	Medium	High
<i>Orientia tsutsugamushi</i>	Chansamouth et al. (2016) ¹¹⁶	Lao People's Democratic Republic	2006-2010	UN	IFA, Culture, PCR	217	16	Medium	Medium

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Orientia tsutsugamushi</i>	Chen et al. (2014) ⁷¹	China	2011-2012	D HEM	PCR	85	1	High	High
<i>Orientia tsutsugamushi</i>	Chheng et al. (2013) ⁸²	Cambodia	2009-2010	UN	PCR, IFA	1179	17	Low	Low
<i>Orientia tsutsugamushi</i>	Jung et al. (2015) ¹⁵⁹	Democratic People's Republic of Korea	2009-2013	UN	IFA	382	3	Low	Medium
<i>Orientia tsutsugamushi</i>	Kingston et al. (2018) ¹⁶⁰	Bangladesh	2014-2015	UN	PCR	416	45	Low	Low
<i>Orientia tsutsugamushi</i>	Kocher et al. (2017) ¹⁶¹	Peru	2013-2013	UN	ELISA	1124	1	Low	Low
<i>Orientia tsutsugamushi</i>	Kumar et al. (2014) ¹⁶²	India	2011-2012	UN	PCR	199	48	Low	Medium
<i>Orientia tsutsugamushi</i>	Liu et al. (2007) ⁷⁶	China	2002-2004	UN	IFA, PCR	130	46	Low	High
<i>Orientia tsutsugamushi</i>	Maude et al. (2015) ¹⁶³	Bangladesh	2012-2012	UN	PCR	300	1	Low	Medium
<i>Orientia tsutsugamushi</i>	Mayxay et al. (2013) ¹³¹	Lao People's Democratic Republic	2008-2010	UN	Culture, PCR	1871	170	Low	Low
<i>Orientia tsutsugamushi</i>	McGready et al. (2010) ¹³³	Thailand	2004-2006	UN	Culture, PCR, IFA	203	11	Medium	Medium
<i>Orientia tsutsugamushi</i>	Mueller et al. (2014) ¹³⁴	Cambodia	2008-2010	UN	PCR	1193	47	Low	Low
<i>Orientia tsutsugamushi</i>	Paris et al. (2011) ¹⁶⁴	Thailand	2007-2008	UN	IFA, Culture, PCR	138	26	Medium	High
<i>Orientia tsutsugamushi</i>	Phimda et al. (2007) ¹³⁹	Thailand	2003-2005	D SP	IFA	230	34	High	Medium
<i>Orientia tsutsugamushi</i>	Reller et al. (2012) ¹⁶⁵	Sri Lanka	2007-2007	UN	ELISA	883	17	Low	Low
<i>Orientia tsutsugamushi</i>	Saisongkorh et al. (2004) ¹⁶⁶	Thailand	NA-NA	UN	PCR	36	9	Medium	High
<i>Orientia tsutsugamushi</i>	Sonthayanon et al. (2006) ¹⁶⁷	Thailand	2000-2001	UN	IFA	722	183	Low	Low
<i>Orientia tsutsugamushi</i>	Srinivasan et al. (2017) ¹⁶⁸	India	2014-2015	D SP	PCR	68	6	High	High
<i>Orientia tsutsugamushi</i>	Thipmontree et al. (2016) ¹⁶⁹	Thailand	2011-2012	UN	IFA	495	98	Low	Low
<i>Orientia tsutsugamushi</i>	Tshokey et al. (2018) ¹⁷⁰	Bhutan	2014-2015	UN	PCR	1044	7	Medium	Low
<i>Pasteurella</i> spp.	Bengre et al. (2012) ¹⁷¹	India	2009-2011	D COMORBID	Culture	50	1	High	High
<i>Pasteurella</i> spp.	El-Mahallawy et al. (2005) ¹⁵³	Egypt	1999-1999	D COMORBID	Culture	1135	6	High	Low

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Rickettsia</i> (SFGR)	Aarsland et al. (2012) ¹⁷	Ethiopia	2009-2010	UN	PCR	102	4	Low	High
<i>Rickettsia</i> (SFGR)	Bouchaib et al. (2018) ¹⁷²	Algeria	2013-2015	UN	PCR	166	57	Low	Medium
<i>Rickettsia</i> (SFGR)	Chowdhury et al. (2017) ¹⁷³	Bangladesh	2015-2016	D SP	PCR	414	81	High	Low
<i>Rickettsia</i> (SFGR)	Crump et al. (2013) ³³	United Republic of Tanzania	2007-2008	UN	IFA	450	36	Low	Low
<i>Rickettsia</i> (SFGR)	dos Santos et al. (2012) ¹⁷⁴	Brazil	2009-2010	D HEM	PCR	110	36	High	High
<i>Rickettsia</i> (SFGR)	Eremeeva et al. (2013) ¹⁷⁵	Guatemala	2007-2007	UN	PCR, IFA	17	1	High	High
<i>Rickettsia</i> (SFGR)	Faruque et al. (2017) ¹²	Thailand	2008-2009	UN	PCR	360	1	Medium	Medium
<i>Rickettsia</i> (SFGR)	Gaowa et al. (2018) ¹⁷⁶	China	2015-2016	UN	PCR	261	6	Medium	Medium
<i>Rickettsia</i> (SFGR)	Hidalgo et al. (2013) ¹⁷⁷	Colombia	2010-2011	D SP	IFA	26	7	High	High
<i>Rickettsia</i> (SFGR)	Kingston et al. (2018) ¹⁶⁰	Bangladesh	2014-2015	UN	PCR	416	2	Low	Low
<i>Rickettsia</i> (SFGR)	Kuloglu et al. (2012) ¹⁷⁸	Turkey	2003-2009	D SP	PCR, IFA	126	97	High	High
<i>Rickettsia</i> (SFGR)	Liu et al. (2016) ¹⁷⁹	China	2014-2014	D SP	PCR	733	56	High	Low
<i>Rickettsia</i> (SFGR)	Maina et al. (2012) ¹⁸⁰	Kenya	2008-2010	UN	PCR	699	50	Low	Low
<i>Rickettsia</i> (SFGR)	Manock et al. (2009) ³⁸	Ecuador	2001-2004	UN	ELISA	214	6	Medium	Medium
<i>Rickettsia</i> (SFGR)	Mattar et al. (2017) ³⁹	Colombia	2012-2013	UN	IFI	100	2	Medium	High
<i>Rickettsia</i> (SFGR)	Mayxay et al. (2013) ¹³¹	Lao People's Democratic Republic	2008-2010	UN	PCR	1849	2	Low	Low
<i>Rickettsia</i> (SFGR)	Mediannikov et al. (2010) ¹⁸¹	Senegal	2008-2009	UN	PCR	204	8	Medium	Medium
<i>Rickettsia</i> (SFGR)	Mediannikov et al. (2013) ¹⁸²	No Specific Country	2010-2012	UN	PCR	2612	321	Low	Low
<i>Rickettsia</i> (SFGR)	Mongkol et al. (2018) ¹⁸³	Thailand	2012-2014	D SP	PCR	168	8	High	Medium
<i>Rickettsia</i> (SFGR)	Mourembou et al. (2015) ¹⁸⁴	Gabon	2011-2012	UN	PCR	793	8	Low	Low
<i>Rickettsia</i> (SFGR)	Mourembou et al. (2015) ¹⁸⁵	Gabon	2013-2014	UN	PCR	410	42	Low	Low

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Rickettsia</i> (SFGR)	Ndip et al. (2004) ¹⁸⁶	Cameroon	2003-2003	UN	PCR	118	7	Medium	High
<i>Rickettsia</i> (SFGR)	Prakash et al. (2012) ¹⁸⁷	India	2006-2008	D SP	PCR	58	34	High	High
<i>Rickettsia</i> (SFGR)	Reller et al. (2012) ¹⁶⁵	Sri Lanka	2007-2007	UN	IFA	883	108	Low	Low
<i>Rickettsia</i> (SFGR)	Reller et al. (2016) ⁵⁸	Nicaragua	2008-2009	UN	IFA	748	6	Low	Low
<i>Rickettsia</i> (SFGR)	Richards et al. (2010) ¹⁸⁸	Kenya	2006-2008	UN	PCR	163	6	Medium	Medium
<i>Rickettsia</i> (SFGR)	Sokhna et al. (2013) ¹⁶	Senegal	2011-2012	UN	PCR	440	28	Low	Low
<i>Rickettsia</i> (SFGR)	Sothmann et al. (2017) ¹⁸⁹	Ghana	2012-2012	UN	PCR	431	6	Medium	Low
<i>Rickettsia</i> (TGR)	Blacksell et al. (2007) ¹⁵⁵	Nepal	2002-2004	UN	IFA	103	9	Low	High
<i>Rickettsia</i> (TGR)	Blacksell et al. (2010) ¹⁵⁶	Lao People's Democratic Republic	2003-2007	D SP	IFA	1030	183	High	Low
<i>Rickettsia</i> (TGR)	Chansamouth et al. (2016) ¹¹⁶	Lao People's Democratic Republic	2006-2010	UN	IFA, Culture, PCR	217	15	Medium	Medium
<i>Rickettsia</i> (TGR)	Chen et al. (2014) ⁷¹	China	2011-2012	D HEM	IFA	85	1	High	High
<i>Rickettsia</i> (TGR)	Chheng et al. (2013) ⁸²	Cambodia	2009-2010	UN	PCR, IFA	1179	5	Low	Low
<i>Rickettsia</i> (TGR)	Chowdhury et al. (2017) ¹⁷³	Bangladesh	2015-2016	D SP	PCR	414	1	High	Low
<i>Rickettsia</i> (TGR)	Crump et al. (2013) ³³	United Republic of Tanzania	2007-2008	UN	IFA	450	2	Low	Low
<i>Rickettsia</i> (TGR)	Faruque et al. (2017) ¹²	Thailand	2008-2009	UN	PCR	720	1	Medium	Low
<i>Rickettsia</i> (TGR)	Gasem et al. (2009) ¹²¹	Indonesia	2005-2006	UN	IFA	137	4	Low	High
<i>Rickettsia</i> (TGR)	Hidalgo et al. (2008) ¹⁹⁰	Colombia	2005-2005	UN	IFA	120	14	Low	High
<i>Rickettsia</i> (TGR)	Hidalgo et al. (2013) ¹⁷⁷	Colombia	2010-2011	D SP	IFA	26	2	High	High
<i>Rickettsia</i> (TGR)	Kingston et al. (2018) ¹⁶⁰	Bangladesh	2014-2015	UN	PCR	416	24	Low	Low
<i>Rickettsia</i> (TGR)	Manock et al. (2009) ³⁸	Ecuador	2001-2004	UN	ELISA	255	8	Medium	Medium
<i>Rickettsia</i> (TGR)	Maude et al. (2015) ¹⁶³	Bangladesh	2012-2012	UN	PCR	300	2	Low	Medium

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Rickettsia</i> (TGR)	Mayxay et al. (2013) ¹³¹	Lao People's Democratic Republic	2008-2010	UN	PCR	1849	12	Low	Low
<i>Rickettsia</i> (TGR)	McGready et al. (2010) ¹³³	Thailand	2004-2006	UN	Culture, PCR, IFA	203	14	Medium	Medium
<i>Rickettsia</i> (TGR)	Mongkol et al. (2018) ¹⁸³	Thailand	2012-2014	D SP	PCR	168	3	High	Medium
<i>Rickettsia</i> (TGR)	Pradhan et al. (2012) ¹⁹¹	Nepal	2006-2007	UN	PCR	1039	22	Low	Low
<i>Rickettsia</i> (TGR)	Reller et al. (2012) ¹⁶⁵	Sri Lanka	2007-2007	UN	IFA	883	61	Low	Low
<i>Rickettsia</i> (TGR)	Reller et al. (2016) ⁵⁸	Nicaragua	2008-2009	UN	IFA	748	1	Low	Low
<i>Rickettsia</i> (TGR)	Thompson et al. (2015) ⁷⁸	Nepal	2008-2011	UN	IFA	125	21	Low	High
<i>Rickettsia</i> (TGR)	Zimmerman et al. (2008) ¹⁹²	Nepal	2001-2001	UN	PCR	756	50	Low	Low
<i>Rickettsia</i> spp.	Hercik et al. (2017) ¹³	United Republic of Tanzania	2014-2015	UN	PCR	842	2	Low	Low
<i>Rickettsia</i> spp.	Kingston et al. (2018) ¹⁶⁰	Bangladesh	2014-2015	UN	PCR	416	3	Low	Low
<i>Rickettsia</i> spp.	Mongkol et al. (2018) ¹⁸³	Thailand	2012-2014	D SP	PCR	168	15	High	Medium
<i>Rickettsia</i> spp.	Mueller et al. (2014) ¹³⁴	Cambodia	2008-2010	UN	PCR	1193	2	Low	Low
<i>Rickettsia</i> spp.	Ricapa-Antay et al. (2018) ¹⁴⁵	Peru	2016-2016	UN	PCR	139	9	Medium	Medium
Rift Valley fever virus	Baudin et al. (2016) ¹⁹³	Sudan	2011-2012	UN	IgM	130	17	Medium	High
Rift Valley fever virus	Guillebaud et al. (2018) ¹²²	Madagascar	2014-2015	UN	PCR	682	1	Low	Low
Rift Valley fever virus	Schoepp et al. (2014) ¹⁰³	Sierra Leone	2006-2008	D SP	ELISA	253	5	High	Medium
Rift Valley fever virus	Sow et al. (2016) ¹⁹⁴	Senegal	2009-2013	UN	PCR	13845	1	Low	Low
<i>Salmonella</i> (non-Typhi)	Akinyemi et al. (2007) ¹⁹⁵	Nigeria	2004-2005	D GI	Culture	235	16	High	Medium
<i>Salmonella</i> (non-Typhi)	Akinyemi et al. (2015) ¹⁹⁶	Nigeria	2010-2011	UN	Culture	135	2	Low	High
<i>Salmonella</i> (non-Typhi)	Al-Emran et al. (2016) ¹⁹⁷	No Specific Country	2011-2013	UN	Culture	8161	28	Low	Low
<i>Salmonella</i> (non-Typhi)	Al-Emran et al. (2016) ¹⁹⁸	No Specific Country	NA-NA	UN	Culture	10636	77	Low	Low

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Salmonella</i> (non-Typhi)	Andualem et al. (2014) ¹⁹⁹	Ethiopia	2010-2011	D SP	Culture	270	7	High	Medium
<i>Salmonella</i> (non-Typhi)	Bello et al. (2018) ²⁰⁰	Nigeria	NA-NA	D COMORBID	Culture	225	10	High	Medium
<i>Salmonella</i> (non-Typhi)	Biggs et al. (2014) ²⁰¹	United Republic of Tanzania	2006-2008	UN	Culture	4106	163	Low	Low
<i>Salmonella</i> (non-Typhi)	Bilman et al. (2017) ²⁰²	Turkey	2014-2014	D GI	Culture	48	10	High	High
<i>Salmonella</i> (non-Typhi)	Brooks et al. (2005) ²⁰³	Bangladesh	2000-2001	UN	Culture	888	2	Low	Low
<i>Salmonella</i> (non-Typhi)	Brown et al. (2017) ²⁰⁴	Nigeria	2013-2014	D COMORBID	Culture	116	1	High	High
<i>Salmonella</i> (non-Typhi)	Chheng et al. (2013) ⁸²	Cambodia	2009-2010	UN	Culture	1180	1	Low	Low
<i>Salmonella</i> (non-Typhi)	Crump et al. (2011) ²⁰⁵	United Republic of Tanzania	2007-2008	UN	Culture	224	2	Low	Medium
<i>Salmonella</i> (non-Typhi)	Crump et al. (2011) ²⁰⁶	United Republic of Tanzania	2007-2008	UN	Culture	139	1	Low	Medium
<i>Salmonella</i> (non-Typhi)	D'Acremont et al. (2014) ²⁰⁷	United Republic of Tanzania	2008-2008	UN	Culture	424	1	Low	Low
<i>Salmonella</i> (non-Typhi)	Davies et al. (2016) ²⁰⁸	Nigeria	NA-NA	UN	Culture	129	15	Low	High
<i>Salmonella</i> (non-Typhi)	Dong et al. (2014) ²⁰⁹	China	2009-2011	UN	Culture	2529	3	Low	Low
<i>Salmonella</i> (non-Typhi)	Eibach et al. (2016) ²¹⁰	Ghana	2007-2012	UN	Culture	7172	215	Low	Low
<i>Salmonella</i> (non-Typhi)	Gordon et al. (2010) ²¹¹	Malawi	NA-NA	UN	Culture	355	70	Low	Medium
<i>Salmonella</i> (non-Typhi)	Hercik et al. (2017) ¹³	United Republic of Tanzania	2014-2015	UN	PCR	842	4	Low	Low
<i>Salmonella</i> (non-Typhi)	Hogan et al. (2018) ⁴⁶	Ghana	2013-2015	UN	Culture	1238	28	Low	Low
<i>Salmonella</i> (non-Typhi)	Saha et al. (2017) ²¹²	Bangladesh	2012-2016	UN	Culture	5185	1	Medium	Low
<i>Salmonella</i> (non-Typhi)	Jeon et al. (2018) ²¹³	No Specific Country	2010-2014	UN	Culture	13431	94	Low	Low
<i>Salmonella</i> (non-Typhi)	Kibuuka et al. (2015) ²¹⁴	Uganda	2012-2012	UN	Culture	250	11	Medium	Medium
<i>Salmonella</i> (non-Typhi)	Kiemde et al. (2018) ²¹⁵	Burkina Faso	2015-2015	UN	Culture	684	31	Low	Low
<i>Salmonella</i> (non-Typhi)	Ley et al. (2009) ²¹⁶	United Republic of Tanzania	2008-2009	UN	Culture	1680	49	Low	Low
<i>Salmonella</i> (non-Typhi)	Mahende et al. (2014) ²¹⁷	United Republic of Tanzania	2013-2013	UN	Culture	808	2	Low	Low

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Salmonella</i> (non-Typhi)	Marks et al. (2017) ²¹⁸	No Specific Country	2010-2014	UN	Culture	13431	94	Low	Low
<i>Salmonella</i> (non-Typhi)	Meremo et al. (2012) ²¹⁹	United Republic of Tanzania	NA-NA	UN	Culture	346	12	Low	Medium
<i>Salmonella</i> (non-Typhi)	Moon et al. (2013) ²²⁰	Mozambique	2012-2012	D COMORBID	Culture	258	28	High	Medium
<i>Salmonella</i> (non-Typhi)	Mourembou et al. (2016) ²²¹	Gabon	NA-NA	UN	PCR	410	3	Low	Low
<i>Salmonella</i> (non-Typhi)	Mtove et al. (2010) ²²²	United Republic of Tanzania	2008-2009	UN	Culture	1502	45	Low	Low
<i>Salmonella</i> (non-Typhi)	Mtove et al. (2011) ²²³	United Republic of Tanzania	2006-2010	UN	Culture	6836	232	Low	Low
<i>Salmonella</i> (non-Typhi)	Mtove et al. (2011) ²²⁴	United Republic of Tanzania	2009-2010	UN	Culture	965	1	Medium	Low
<i>Salmonella</i> (non-Typhi)	Nadjm et al. (2010) ²²⁵	United Republic of Tanzania	NA-NA	UN	Culture	3639	160	Low	Low
<i>Salmonella</i> (non-Typhi)	Nadjm et al. (2012) ²²⁶	United Republic of Tanzania	2007-2007	UN	Culture	198	5	Low	Medium
<i>Salmonella</i> (non-Typhi)	Ochaya et al. (2018) ²²⁷	Uganda	2013-2013	D COMORBID	Culture	256	3	High	Medium
<i>Salmonella</i> (non-Typhi)	Onchiri et al. (2016) ²²⁸	Kenya	2012-2014	UN	Culture	1496	19	Low	Low
<i>Salmonella</i> (non-Typhi)	Onyango et al. (2008) ²²⁹	Kenya	2004-2005	D GI	Culture	20	18	High	High
<i>Salmonella</i> (non-Typhi)	Onyango et al. (2009) ²³⁰	Kenya	2004-2005	D GI	Culture	40	20	High	High
<i>Salmonella</i> (non-Typhi)	Park et al. (2016) ²³¹	No Specific Country	2010-2014	UN	Culture	13431	73	Low	Low
<i>Salmonella</i> (non-Typhi)	Peters et al. (2004) ²³²	Malawi	2000-2000	UN	Culture	352	44	Low	Medium
<i>Salmonella</i> (non-Typhi)	Pradhan et al. (2012) ¹⁹¹	Nepal	2006-2007	UN	Culture	1039	2	Low	Low
<i>Salmonella</i> (non-Typhi)	Preziosi et al. (2015) ²³³	Mozambique	2011-2014	UN	Culture	841	10	Low	Low
<i>Salmonella</i> (non-Typhi)	Sothmann et al. (2015) ²³⁴	Ghana	2012-2012	UN	Culture	2306	24	Low	Low
<i>Salmonella</i> (non-Typhi)	Tezcan et al. (2006) ²³⁵	Turkey	1996-2004	D COMORBID	Culture	621	1	High	Low
<i>Salmonella</i> (non-Typhi)	Wiersinga et al. (2015) ²³⁶	Gabon	2012-2013	UN	Culture	941	5	Low	Low
<i>Schistosoma mansoni</i>	Degarege et al. (2012) ²³⁷	Ethiopia	2010-2011	UN	Microscopy	702	82	Low	Low
<i>Streptococcus</i> spp.	Hinjoy et al. (2017) ²³⁸	Thailand	2015-2015	UN	Culture	70	1	Medium	High

Pathogen	First author, year of publication and reference	Country	Study Period	Study Population Classification	Diagnostics Used	Number Tested	Number Positive	Representativeness Bias Coding	Precision Bias Coding
<i>Toxoplasma gondii</i>	Adurthi et al. (2008) ²³⁹	India	NA-NA	D COMORBID	PCR	162	21	High	Medium
Venezuelan Equine Encephalitis virus	Forshey et al. (2010) ²⁴⁰	No Specific Country	2000-2007	UN	Culture, PCR, ELISA	13259	250	Low	Low
Venezuelan Equine Encephalitis virus	Kocher et al. (2016) ²⁴¹	Peru	2013-2014	UN	PCR	2054	22	Low	Low
Venezuelan Equine Encephalitis virus	Manock et al. (2009) ³⁸	Ecuador	2001-2004	UN	Culture, IgM, IFA, PCR	229	2	Medium	Medium
Venezuelan Equine Encephalitis virus	Morrison et al. (2008) ²⁴²	Peru	2005-2006	UN	IFA, PCR	1136	34	High	Low
West Nile virus	Boisen et al. (2015) ¹⁰¹	Sierra Leone	2012-2012	D SP	PCR	23	4	High	High
West Nile virus	Chinikar et al. (2012) ²⁴³	Iran (Islamic Republic of)	2008-2009	D NEU	PCR	249	3	High	Medium
West Nile virus	Elyan et al. (2014) ²⁴⁴	Afghanistan	2008-2010	UN	PRNT	277	24	Medium	Medium
West Nile virus	Hercik et al. (2017) ¹³	United Republic of Tanzania	2014-2015	UN	PCR	842	1	Low	Low
West Nile virus	Kumar et al. (2014) ²⁴⁵	India	2009-2010	UN	PCR	105	27	High	High
West Nile virus	Rutvisuttinunt et al. (2014) ²⁴⁶	Nepal	2009-2010	D SP	PCR	14	2	High	High
West Nile virus	Tigoi et al. (2015) ²⁴⁷	Kenya	2009-2012	UN	PRNT	379	47	Low	Medium
West Nile virus	Williams et al. (2018) ²⁴⁸	United Republic of Tanzania	2013-2014	UN	Sequencing	12	2	Medium	High
<i>Yersinia pestis</i>	Sinyange et al. (2016) ²⁴⁹	Zambia	2015-2015	D SP	PCR	12	6	High	High

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Table S7: Summary of number of studies from each global region represented in the study dataset.

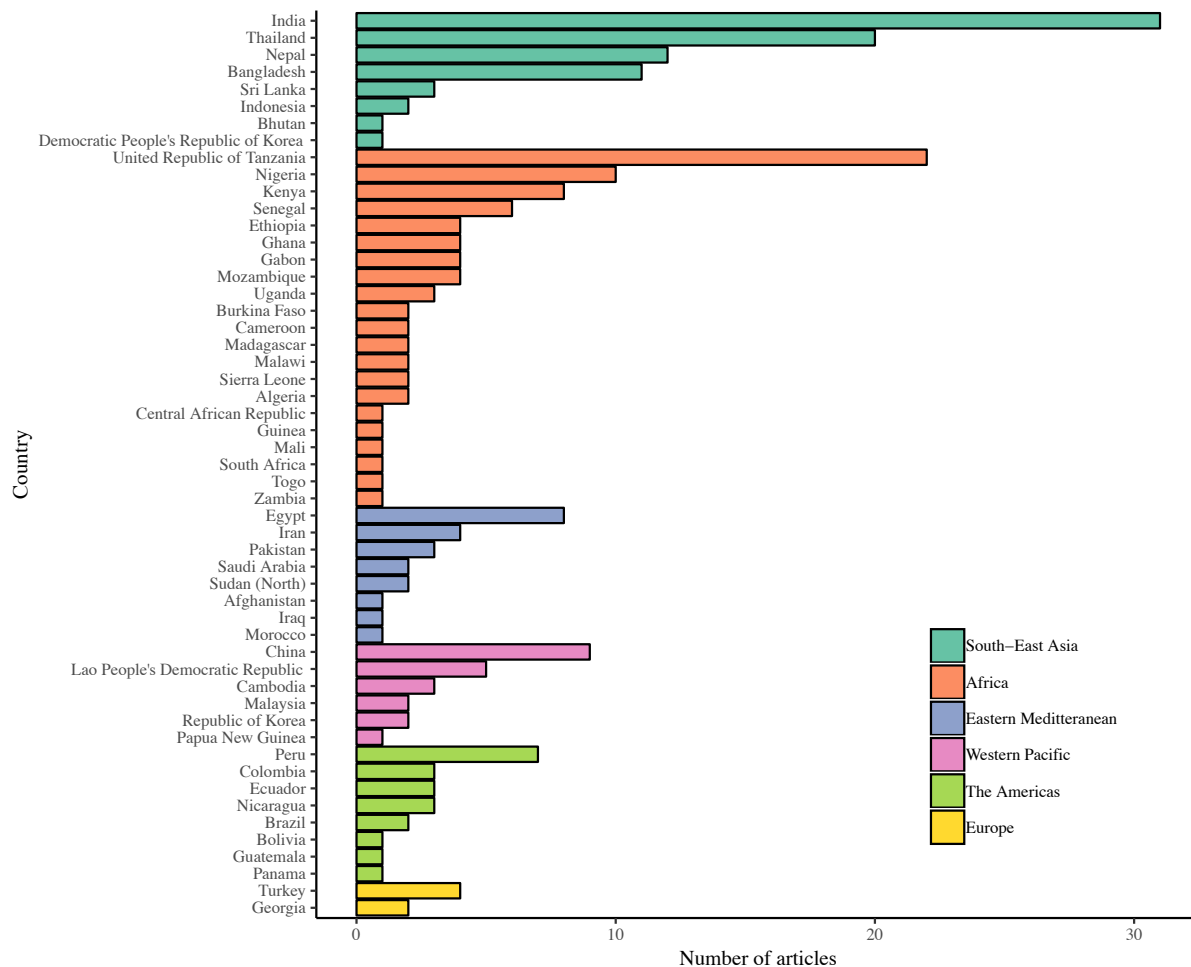
WHO Region	Number (%) of malaria endemic countries contributing data	Number (%) of studies contributing data (n=235 ¹)
Africa	21 of 44 (47.7%)	83 (35.3%)
Americas	8 of 23 (34.8%)	21 (8.9%)
Eastern Mediterranean	8 of 14 (57.1%)	22 (9.4%)
Europe	2 of 9 (22.2%)	6 (2.6%)
South-East Asia	8 of 10 (80.0%)	81 (34.5%)
Western Pacific	6 of 10 (60.0%)	22 (9.4%)

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¹Table includes data from 235 of 244 articles included in the review, excluding 9 articles reporting data from multiple countries excluded for this analysis.

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Figure S1: Barchart showing the number of articles contributing data for each country included in the study, displayed by country and WHO region.

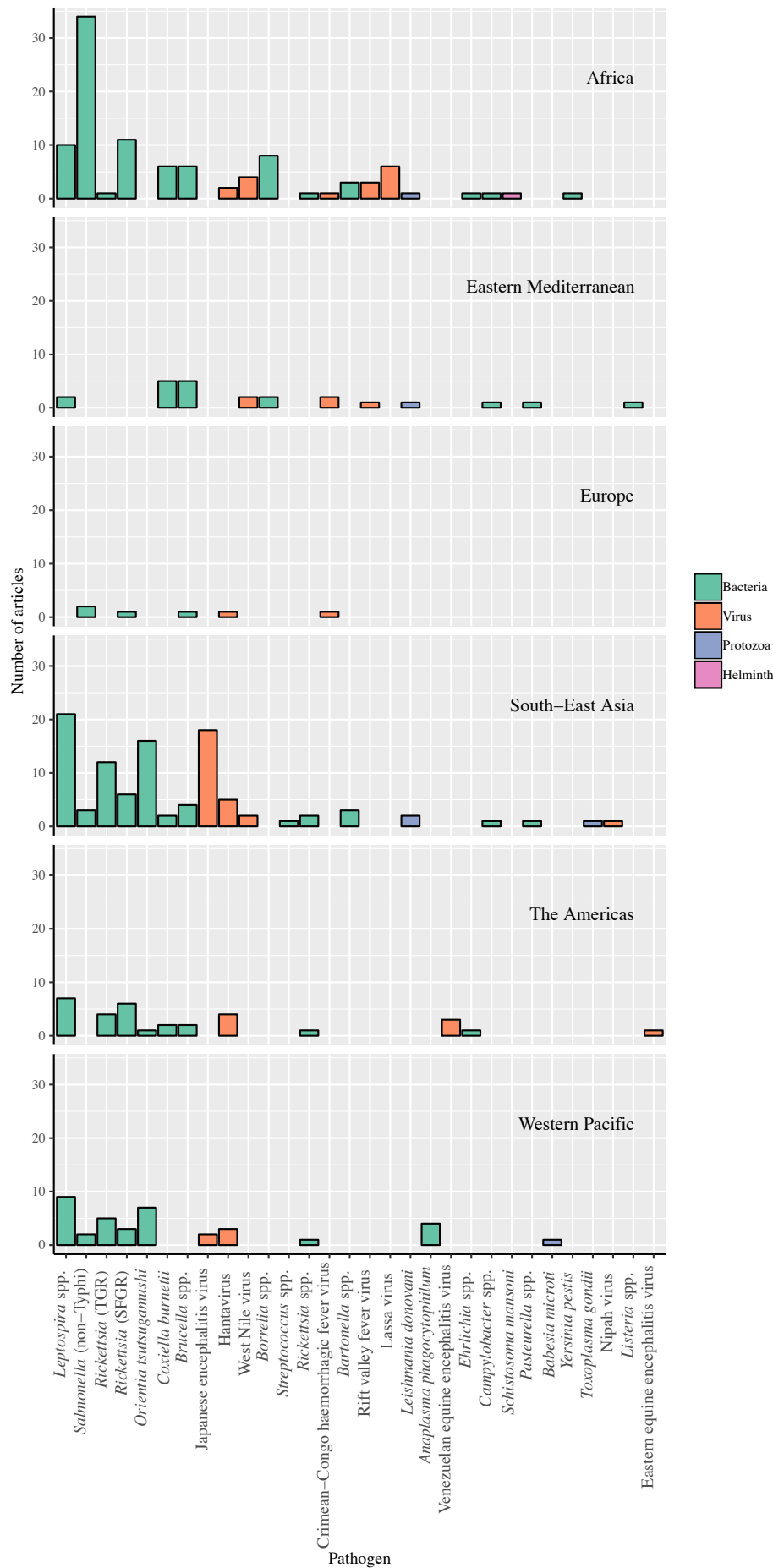


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Figure S2: Barcharts showing number of articles from each global region contributing data for each of 30 zoonoses.

Plot panels indicate the WHO defined global region and bar colour indicates type of pathogen.



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