National Clinical Guideline Centre

Pneumonia

Diagnosis and management of community- and hospital-acquired pneumonia in adults

Clinical guideline <...>

Appendix J

June 2014

Draft for consultation

Commissioned by the National Institute for Health and Care Excellence

Disclaimer
Healthcare professionals are expected to take NICE clinical guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and/or their guardian or carer.

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1 Pneumonia (CAP and HAP)

1.1 Diagnostic tests

Reference	Reason
Agapakis 2010[12]	Incorrect population and setting. Incorrect study type.
Agarwal2013[13]	Conference abstract.
Albrich 2012[17]	Incorrect setting. Incorrect study type.
Andre 2004[27]	Incorrect population. Incorrect study type.
Bafadhel 2011[49]	Incorrect study type – diagnostic accuracy.
Berg 2012[61]	Systematic review: insufficient QA.
Blaeuer 2013[67]	Incorrect outcome (usual care vs CXR diagnostic accuracy).
Black 1991[66]	Incorrect population and setting. Incorrect study type.
Bouadma 2010[70]	Incorrect setting and population.
Boussekey 2006[71]	Incorrect study type.
Briel 2005[75] and Briel 2008[76]	Contained within included meta-analysis.
Brunkhorst 2002[80]	Incorrect population and setting. Incorrect study type.
Burkhardt 2010[84]	Incorrect population.
Cals 2013[94]	Incorrect study type.
Christ-Crain 2006[125]	Abstract – published in full elsewhere.
Christ-Crain 2006a[126]	Incorrect population.
Claessens 2010[128]	Incorrect population and setting. Incorrect study type.
Coskun 2013[137]	Conference abstract
De Jager 2012[145]	Incorrect population and setting and study type.
Diederichsen 2000[152]	Incorrect population.
Engel 2012[168]	Systematic review: insufficient QA.
Espana 2012[169]	Incorrect population and setting Incorrect study type.
Falk 2009[187]	Incorrect study type – diagnostic accuracy.
Fazili 2012[190]	Narrative review and incorrect population.
Flanders 2004A[207]	Incorrect study type – diagnostic accuracy.
Garcia 2001[221]	Incorrect population, setting and study type.
Graffelman 2004[234]	Incorrect study type – diagnostic accuracy.
Graffelman 2008[235]	Incorrect study type – diagnostic accuracy.
Guertler 2011[240]	Incorrect population and setting.
Haeuptle 2009[244]	Incorrect population and setting.
Hagaman 2009[245]	Incorrect study type – diagnostic accuracy.
Hasley 1996[249]	Incorrect study type.
Hedlund 2000[253]	Incorrect population and setting. Incorrect study type.
Hochreiter 2009[257]	Contained within included meta-analysis.
Hoffmann 2013[259]	Incorrect population.
Hopstaken 2003[266]	Incorrect study type – diagnostic accuracy.
Hopstaken 2005[267]	Incorrect study type – diagnostic accuracy.

Reference	Reason
Hopstaken 2006[265]	Incorrect study type.
Hopstaken 2009[268]	Incorrect study type – diagnostic accuracy.
Horie 2012[270]	Incorrect population and setting. Incorrect study type.
Huang 2008[277]	Incorrect population and setting. Incorrect study type.
Jakobsen 2010[284]	Incorrect study type.
Joshi 2013[293]	Incorrect population - systematic review including non-pneumonia/LRTI studies.
Kasamatsu 2012[302]	Incorrect population and setting.
Kavanagh 2011[304]	Incorrect population. Incorrect study type.
Kolditz 2010[317]	Incorrect population and setting.
Kristoffersen 2009[322]	Contained within included meta-analysis.
Kruger 2008[323]	Incorrect population and setting. Incorrect study type.
Kruger 2010a[325]	Incorrect population and setting.
Lacoma 2012[331]	Incorrect population and setting. Incorrect study type.
Lagerstrom 2006[333]	Incorrect study type – diagnostic accuracy.
Lieberman 2003[349]	Incorrect study type – diagnostic accuracy.
Lim 2001a[352]	Incorrect study type.
Lisboa 2009[357]	Incorrect population and setting. Incorrect study type.
Llor 2012[359]	Incorrect study type.
Long 2009[367]	Contained within included meta-analysis.
Long 2011[366]	Contained within included meta-analysis.
Moncada 2011[426]	Incorrect study type.
Masia 2005[399]	Incorrect population and setting. Incorrect study type.
Melander 1999[407]	Incorrect intervention.
Melbye 1988[409]	Incorrect study type – diagnostic accuracy.
Melbye 1992[408]	Incorrect setting, comparison and outcomes.
Menendez 2008[410]	Incorrect population and setting. Incorrect study type.
Menendez 2009A[412]	Incorrect population and setting. Incorrect study type.
Muller 2007[433]	Incorrect setting. Incorrect study type.
Niu2013[451]	Incorrect population.
Nobre 2008[452]	Contained within included meta-analysis.
Oppong 2013[459]	Incorrect study design.
Polzin 2003[485]	Incorrect study type – diagnostic accuracy.
Rausch 2009[501]	Narrative review.
Salluh 2011[531]	Incorrect population and setting. Incorrect study type.
Schroeder 2009[539]	Contained within included meta-analysis.
Schuetz 2007[545]	Incorrect setting and study protocol only.
Schuetz 2009a[543]	Contained within included meta-analysis.
Schuetz 2009b[544]	Abstract – published in full elsewhere.

Reference	Reason
Schuetz 2010[541]	Incorrect setting. Incorrect study type.
Schuetz 2010[551]	Incorrect population and setting. Incorrect study type.
Schuetz 2010c[540]	Narrative review.
Schuetz 2011[549]	Systematic review: incorrect population and setting.
Schuetz 2011a[548]	Incorrect population and setting. Incorrect study type.
Schuetz 2013[550]	Narrative review.
Seppa 2001[553]	Incorrect study type.
Speets 2006[591]	Incorrect study type.
Speets 2006a[592]	Incorrect population. Incorrect study type.
Steurer 2011[596]	Incorrect study type – diagnostic accuracy.
Stolz 2006[599]	Incorrect study type – diagnostic accuracy.
Stolz 2007[598]	Contained within included meta-analysis.
Stolz 2009[600]	Contained within included meta-analysis.
Trakada 2003[613]	Incorrect setting. Incorrect study type.
Vanvugt 2013[620]	Incorrect outcomes (usual care vs CXR diagnostic accuracy)

1.2 Severity assessment

Reference	Reason
LRTI	
Ortqvist 1995[462]	Not matching our protocol.
Christcrain 2010[127]	Incorrect study design- narrative review.
Mira 2008[423]	Incorrect study design- narrative review.
Upadhyay 2013[617]	Incorrect study design- narrative review.
Wood 2011[643]	Incorrect study design- qualitative.
Albrich 2011[18]	Incorrect tool (LRTI) - CURB65.
CAP	
Agapakis 2010[12]	Incorrect study design - case-control study.
Akram 2011[14]	Incorrect population - outpatient setting.
Aliberti 2011[20]	Incorrect study design- non comparative.
Alkhayat 2005[16]	Incorrect population- patients with aneurysms.
Anon 2004[1]	Incorrect study design- commentary.
Anon 2007[2]	Incorrect study design- commentary.
Arinzon 2011[34]	Incorrect study design, non-comparative study.
Arminanzas 2013[35]	Incorrect population- not CAP hospitalised patients.
Armour 2003[36]	Incorrect study design- non comparative.
Arnold 2003[38]	Incorrect study design- non comparative.
Arnold 2010[37]	Scores not applied at admission.
Arram 2013[40]	Incorrect prognostic factor – BNP.
Atlas 1998[44]	Incorrect study design- case-control.
Aydogdu 2010[47]	Incorrect population- ITU CAP intubated patients.
Brown 2009a[77]	Incorrect study design- narrative review.
Brown 2010[78]	Incorrect study design- narrative review.
Brunkhorst 2002[80]	Incorrect study design- non comparative study.
Buising 2007[83]	Incorrect study design - internal validation.
Cabre 2004[91]	Incorrect study design- non comparative.
Carrabba 2012[100]	Incorrect population- HCAP.
Challen 2007[107]	Incorrect tool.
Chalmers 2010[111]	Incorrect study design - systematic review with different inclusion criteria.
Chalmers 2011b[108]	Incorrect study design - systematic review with different inclusion criteria.
Chalmers 2011d[110]	Incorrect outcome- antibiotic prescription.
Chalmers 2012[109]	Incorrect study design- narrative review.
Chen 2009[115]	Incorrect study design- non comparative.
Choudhury 2011a[123]	Incorrect prognostic factors.
Christcrain 2008[124]	Incorrect prognostic factor- BNP.
Courtais 2013[138]	Incorrect study design- non comparative.
Davis 2010[143]	Incorrect study design- non comparative.
Davydov 2006[144]	Incorrect study design- non comparative.
Dedier 2001[147]	Not matching our protocol (non-comparative study).

Reference	Reason
Elsolh 2010[164]	Incorrect population - NHAP.
Espana 2003[170]	Incorrect study design- non comparative.
Espana 2010[171]	Incorrect study type – external validation
Espana 2012[169]	Not matching our outcomes.
Etzion 2007[174]	Incorrect study design- non comparative.
Ewig 1998[179]	Incorrect study design - internal validation.
Ewig 1999[178]	Incorrect study design - internal validation.
Ewig 2000[180]	Incorrect study design- non comparative.
Ewig 2009[177]	Incorrect study design - non comparative.
Ewig 2011[183]	Incorrect study design - narrative review.
Ewig 2013[181]	Incorrect study design - non comparative.
Falcone 2011[185]	Incorrect population - HCAP.
Fang 2010[188]	Incorrect population - HCAP.
Fang 2011[189]	Incorrect population - HCAP.
Feagan 2000[191]	Incorrect study design - non comparative.
Fine 1997[203]	Incorrect study design - internal validation.
Flanders 1999[208]	Incorrect study design - non comparative.
Foss 2013[211]	Conference abstract.
Garau 2008[219]	Incorrect study design - non comparative.
Garcia 2008[222]	Incorrect prognostic factor - PORT.
Goss 2003[232]	Incorrect study design - non comparative.
Guo 2012a [241]	Incorrect study design - non comparative.
Haeuptle 2009[244]	Not matching our protocol (not compared the tools in the protocol).
Hansson 1997[247]	Not matching our protocol.
Hedlund 1995[254]	Incorrect study design - non comparative.
Hedlund 2000 [253]	Incorrect study design - non comparative.
Hohenthal 2009[260]	Incorrect prognostic factor - CRP.
Huaman 2011[276]	Incorrect study design - case control.
Huang 2008[277]	Incorrect tool- CRB-65 scoring not following standard approach.
Ioachimescu 2004[279]	Incorrect prognostic factor- PORT.
Iwata 2012[282]	Incorrect population - VAP.
Jeong 2013[288]	Incorrect population - HCAP.
Johnstone 2008[291]	Incorrect study design - non comparative.
Jones 2011a[292]	Incorrect study design - non comparative.
Karmakar 2010[300]	Incorrect study design - not comparative.
Kohno 2011[314]	Not matching our protocol.
Kolditz 2012[316]	Incorrect outcomes.
Kolditz 2012a[318]	Incorrect study design - non comparative.
Kruger 2008[323]	Incorrect study design - not comparative.
Kruger 2010a[325]	Incorrect study design - not comparative.
Kwok 2013[329]	Incorrect scores (meta-analysis included scores not matching our protocol).
Labarere 2012[330]	Not matching our protocol.

Reference	Reason
Lamy 2004[335]	Incorrect study design - not comparative.
Lee 2007[341]	Incorrect study design - not comparative.
Lee 2013a[343]	Incorrect population- NHAP.
Lim 2003[353]	Incorrect study design- Internal validation.
Lin 2005[354]	Incorrect study design - not comparative.
Liu 2013a[358]	Incorrect prognostic factor.
Loke 2010[365]	Incorrect study design - systematic review with different inclusion criteria.
Majumdar 2011[374]	Incorrect study design - not comparative.
Man 2011[376]	Incorrect population- NHAP.
Mandell 2007[381]	Incorrect study design-clinical practice guidelines.
Marrie 2007[396]	Scores not applied at admission.
Marti 2012[397]	Study design - systematic review with different inclusion criteria.
Mbata 2013[403]	Incorrect study design- non comparative.
Mcnally 2010[404]	Study design - systematic review with different inclusion criteria.
Menendez 2004[415]	Incorrect study design - not comparative.
Migliorati 2006[422]	Incorrect study design- non comparative.
Muller 2007[433]	Not matching our protocol- not reported any outcomes.
Musonda 2011[435]	Incorrect prognostic factor- CARSI.
Myint 2006[437]	Incorrect study type - external validation
Myint 2009[436]	Audit.
Myint 2012[438]	Not matching our protocol.
Nadarajan 2008[439]	Audit.
Naito 2006[441]	Incorrect study design- non comparative.
Nullmann 2014[455]	External validation study (excluded after GDG review).
Olaechea 1996[458]	Incorrect study design- non comparative.
Ortega 2005[460]	Incorrect study design- non comparative.
Park 2012b[470]	Outcome not in protocol: clinical treatment failure.
Pauls 2008[472]	Not matching our protocol.
Phua 2010[477]	Incorrect study design - non comparative.
Pilotto 2009[478]	Incorrect prognostic factor - MPI.
Raboud 2010[492]	Incorrect population - SARS.
Rello 2009[508]	Incorrect prognostic factor - PIRO score.
Remmelts 2012a[510]	Incorrect prognostic factor- Vit D.
Renaud 2007a[512]	Incorrect study design – non-comparative.
Renaud 2009[511]	Incorrect study design – non-comparative.
Renaud 2012[513]	Incorrect prognostic factor- proadrenomedullin.
Restrepo 2008[514]	Incorrect study design – non-comparative.
Reyes 2007[515]	Incorrect study design – non-comparative.
Richards 2011[518]	Incorrect population - patients with severe sepsis.
Roson 2001[523]	Incorrect study design – non-comparative.
Scalera 2013[534]	Incorrect study design - narrative review
Schuetz 2008[547]	Incorrect study design - calibration.

Reference	Reason
Schuetz 2013[550]	Incorrect study design - narrative review.
Seymann 2008[554]	Incorrect study design – non-comparative.
Shakeel 2013[558]	Conference abstract.
Shi 2013[561]	Not in English – Chinese.
Sibila 2012[568]	Incorrect study design – non-comparative.
Sibila 2013[567]	Incorrect study design – non-comparative.
Sikka 2000[576]	Incorrect study design – non-comparative.
Sligl 2011[582]	Incorrect outcome - functional status.
Smith 1995[585]	Incorrect study design – non-comparative.
Smith 1995b[584]	Incorrect prognostic factor - CRP.
Smith 2013[583]	Health economic - excluded because patients were hospitalised, not in the community.
Smyrnios 2005[586]	Pilot study for BTS criteria.
Stauble 2001[595]	Incorrect study design – non-comparative.
Subramanian 2013[601]	Incorrect prognostic factor - SOAR.
Sun 2006[602]	Supplementary information to Kontou 2009.
Tanimowo 2009[604]	Incorrect study design – non-comparative.
Tseng 2008[616]	Incorrect population - patients with ARDS.
Yoshimoto 2005[657]	Incorrect study design – case-control
Vandereerden 2004[618]	Incorrect study design – non-comparative.
Zobel 2012[668]	Incorrect study design – case-control.
HAP	
Alkhayat 2005[16]	Incorrect population – non-pneumonia.
Kasaju 2012[301]	Incorrect tool - SOAR score.

1.3 Microbiological tests

Reference	Reason
CAP	
Abe 2009[6]	Incorrect study design (non-comparative).
Afshar 2009[11]	Systematic review – insufficient.
Anevlavis 2009[28]	Incorrect outcomes: sensitivity and specificity.
Aoshima 2003[33]	Conference abstract – could not be obtained.
Baldwin 2010[50]	Conference abstract – incorrect comparison.
Bastide 2011[53]	Conference abstract – non-comparative.
Bates 1991[54]	Incorrect population and comparison.
Beovic 2003[60]	Incorrect outcomes/comparisons.
Boyce 2013[72]	Incorrect tests and population.
Butler 2003[89]	Incorrect outcomes: sensitivity and specificity.
Chalasani 1995[106]	Incorrect study design (non-comparative).
Campbell 2003[97]	Incorrect study design (non-comparative).
Campbell 2003a[99]	Incorrect comparison.
Carratala 2010[102]	Narrative review.
Castaneros 2012[103]	Conference abstract – non-comparative.
Chintha 2009[122]	Conference abstract – non-comparative.
Corbo 2004[135]	Incorrect study design (non-comparative).
El-Solh 2001[164]	Incorrect outcomes/comparisons.
Engel 2013[166]	incorrect study design - non-comparative.
Engel 2013A[167]	incorrect study design - non-comparative.
Ewig 1996[175]	Incorrect outcomes: sensitivity and specificity.
Ewig 2002[182]	Incorrect study design (non-comparative).
Ferreira 2011[195]	Incorrect study design - non-comparative.
Fine 1999[204]	Incorrect outcomes/comparisons.
Garau 2008[219]	Incorrect comparison.
Garbino 2004[220]	Incorrect study design (non-comparative).
Garrett 2011[223]	Incorrect population.
Glerant 1999[229]	Incorrect study design (non-comparative).
Guchev 2005[238]	Incorrect comparison.
Gutierrez 2003[242]	Incorrect outcomes: sensitivity and specificity.
Horita 2013A[271]	Incorrect outcomes.
Huijskens 2014[278]	Incorrect outcomes - not comparing the effect of testing on outcomes.
Jeremiah 2013[289]	Incorrect outcomes.
Kelly 1998[307]	Incorrect study design (non-comparative).
Kennedy 2005[308]	Incorrect study design (non-comparative).
Kobashi 2007[311]	Incorrect outcomes: sensitivity and specificity.
Lasocki 2006[336]	Incorrect outcomes: sensitivity and specificity.
Liew 2013[350]	Conference abstract.
Loens 2011[364]	Incorrect outcomes: sensitivity and specificity.
Lujan 2004[369]	Incorrect comparison.
Manali 2008[377]	Incorrect tests.

Reference	Reason
Mandell 2010[378]	Incorrect study type – Editorial.
Matta 2010[402]	Incorrect study design (non-comparative)
Metersky 2004[418]	Incorrect comparison.
Mountain 2006[432]	Incorrect population.
Musher 2004[434]	Incorrect outcomes: sensitivity and specificity.
Paganin 2004[464]	Incorrect tests.
Papaventsis 2009[466]	Incorrect outcomes: sensitivity and specificity.
Ramanujam 2006[495]	Incorrect study design (non-comparative).
Rarus 2012[500]	Conference abstract.
Reechaipi 2005[503]	Non-comparative; incorrect outcomes.
Reed 1996[505]	Incorrect outcomes: sensitivity and specificity.
Rehman 2013[506]	Incorrect intervention.
Rodriguez 2001[519]	Incorrect test.
Roson 2003[524]	Narrative review.
Ruf 1990[528]	Incorrect outcomes: sensitivity and specificity.
Sanyal 1999[533]	Incorrect study design (non-comparative).
Schlueter 2010[536]	Incorrect comparison.
Shariat 2009[559]	Incorrect comparison.
Shimada 2009[562]	Incorrect outcomes: sensitivity and specificity.
Sinclair 2012[578]	Incorrect outcomes: sensitivity and specificity.
Sinclair 2013[579]	Incorrect outcomes.
Smith 2003[160]	Incorrect outcomes: sensitivity and specificity.
Socan 1999[587]	Incorrect outcomes/comparisons.
Sorde 2011[589]	Incorrect study design (non-comparative).
Theerthakarai 2001[607]	Incorrect study design (non-comparative).
Troy 2011[615]	Conference abstract – incorrect comparison.
Waterer 1999[625]	Incorrect study design (non-comparative).
Waterer 2001[626]	Incorrect study design (non-comparative).
Weatherall 2008[630]	Incorrect comparison.
Woodhead 1991[644]	Incorrect study design (non-comparative).
Zilberberg 2008[666]	Incorrect population.
HAP	
Alvarez 2006[25]	Incorrect population (VAP).
Chendra 1996[117]	Incorrect population (VAP).
Kim 2012[310]	Incorrect comparison.

1.4 Empiric antibiotic therapy: CAP

Study	Reason
Aubier 1998[46]	Intervention not licenced in UK.
Adrie 2013[10]	Incorrect population (bacteremia, MRSA) and three treatment arms
Asadi 2013[41]	Incorrect intervention- not specific beta-lactam vs.beta-lactam + macrolide.
Badaro 2002[48]	Inappropriate comparison.
Baumgartner 1984[57]	Not empirical choice of antibiotic (selected population), Excluded suspected *S. aureus* or Gram-negative bacteria - proportion remaining unclear.
Berk 1993[63]	Intervention not licenced in UK.
Berman 1997[64]	Incorrect interventions.
Boyce 2013[72]	Inappropriate population
Brewin 1974[74]	Inappropriate comparison.
Caballero 2011[90]	Incorrect study type: narrative review.
Cai 2011[92]	Systematic review: quality assessment is inadequate.
Chaudhary 2009[113]	Mixed CAP and HAP.
Cherubin 1975[120]	Quasi-randomised.
Colardyn 1995[129]	Intervention not licenced in UK, Mixed CAP and HAP.
Cone 1985[132]	Mixed CAP and HAP, Intervention not licenced in UK.
Cronberg 1995[140]	Less than 50% with CAP.
Dresser 2001[157]	Intervention not licenced in UK.
Drummond 2003[158]	Inappropriate comparison.
Eliakimraz 2012[165]	Reviewed non-UK license drugs.
Falguera 2010[186]	Inappropriate comparison.
File 2008[199]	Incorrect study design.
Finch 1998[201]	Incorrect interventions.
Finch 2002[200]	Inappropriate comparison.
Fleming 2008[209]	Incorrect study design.
Gesser 2003[226]	Not empirical choice of antibiotic (selected population), Not guideline condition.
Gotfried 1997[233]	Inappropriate comparison.
Granizo 2009[237]	Incorrect study design, Inappropriate comparison.
Hirata-Dulas 1991[256]	Inappropriate dosing.
Hoeffken 2004[258]	Inappropriate comparison.
Hopkins 1999[263]	Intervention not licenced in UK.
Jaspers 1998[285]	Not review population.
Jenkinson 1979[287]	Not empirical choice of antibiotic (selected population), Unclear if CAP or HAP.
Karhu 2013[299]	Not matching protocol (multivariate analysis not used).
Katz 2004[303]	In control group 28% received cephalosporin alone, 66% cephalosporin + macrolide; 4% cephalosporin + macrolide + metronidazole; 2% cephalosporin + metronidazole.
Khajotia 1991[309]	Not At least 75% CAP.
Kohno 2012[313]	Conference abstract.

Study	Reason
Kozlov 2013[321]	Conference abstract.
Krumpe 1999[326]	Inappropriate comparison, Mixed CAP and HAP.
Kulpati 1984[327]	Incorrect interventions.
Kuzman 2005[328]	Inappropriate comparison, 31% in comparison group received additional antibiotics because atypical pathogens suspected.
Lee 2012[339]	Unlicensed dose of levofloxacin.
Li 2013A[348]	Inappropriate population (general respiratory tract infections).
Levine 1989[346]	Low-dose ciprofloxacin.
Lode 1995[361]	Inappropriate comparison.
Lode 2003[362]	Inappropriate comparison.
Lui 2013[368]	Not matching protocol.
Martin 2009[398]	Inappropriate comparison, Abstract only.
Medic 2012[405]	Conference abstract.
Mokabberi 2010[425]	Intervention not licenced in UK, IV doxycycline.
Montassier 2013[427]	Not in English.
Ni 2011[448]	Incorrect interventions.
Ni 2012[447]	Not in English.
Norrby 1998[454]	Not empirical choice of antibiotic (selected population), Excluded atypicals and proportion remaining unclear.
Paladino 2002[465]	Inappropriate comparison.
Parry 1978[471]	Intervention not licenced in UK, Not guideline condition.
Perlino 1981[475]	Intervention not licenced in UK, Not empirical choice of antibiotic (selected population).
Petermann 2001[476]	Intervention not licenced in UK, Inappropriate comparison.
Plaut 1978[481]	Not empirical choice of antibiotic (selected population), Suspected pneumococcal - proportion of total unclear.
Polyzos 2012[484]	Inappropriate population (mixed population with infections due to Gram +).
Portier 1996[487]	Not empirical choice of antibiotic (selected population).
Portier 2005[486]	Intervention not licenced in UK.
Rahav 2004[493]	Inappropriate comparison.
Romanelli 2002[522]	Incorrect interventions.
San Pedro 2002[532]	Incorrect interventions.
Scalera 2013[534]	Narrative review
Schuetz 2013B[542]	Summary of Schuetz 2012 Cochrane review.
See 2000[552]	Insufficient reporting: abstract only.
Skalsky 2013[580]	Systematic review includes unlicensed intervention (gatifloxacin).
Sligl 2014[581]	Incorrect study design (systematic review included observational studies).
Speich 1998[593]	Mixed CAP and HAP, Incorrect interventions.
Torres 2003[611]	Inappropriate comparison.
Van der Eerden 2005[619]	Inappropriate comparison.
Vardakas 2008[621]	Systematic review: literature search not sufficiently rigorous, Systematic review is not relevant to review question or unclear PICO.
Vetter 2002[623]	Incorrect interventions.
Weber 1987[631]	Not empirical choice of antibiotic (selected population), Intervention not licenced in UK.

Study	Reason
Welte 2005[636]	Incorrect comparison: 38% in combination group did not receive dual therapy.
Whittaker 1989[638]	Mixed CAP and HAP, Not At least 75% CAP.
Williams 1994[639]	Not empirical choice of antibiotic (selected population).
Woods 2003[645]	Post-hoc subgroup analysis of data from 2 other studies.
Xu 2006[650]	Intervention not licenced in UK, incorrect stratum.
Yanagihara 2006[653]	Incorrect interventions.
Yuan 2012[660]	Systematic review includes unlicensed intervention (roxithromycin).
Zaitsev 2011[663]	Insufficient reporting: abstract only.
Zaitsev 2011[662]	Insufficient reporting: abstract only.
Zaitsev 2012[661]	Insufficient reporting: abstract only.

1.5 Empirical antibiotic therapy for HAP

Reference	Reason
Alvarez-lerma 2001[24]	Inappropriate comparison.
Allewelt 2004[21]	Not guideline condition, Inappropriate comparison.
Ashford 1982[43]	Not guideline condition.
Bassetti 1991[51]	Inadequate definition of HAP.
Bassetti 2011[52]	Not empirical choice - selected population.
Baumgartner 1983[56]	Not guideline condition, Mixed infection population.
Beaucaire 1995[58]	Intervention not licenced in UK.
Beibei 2010[59]	Systematic review: quality assessment is inadequate
Chaudhary 2008[114]	Intervention not licenced in UK.
Chaudhary 2009[113]	Inadequate/unclear definition of HAP.
Cepeda 2004[105]	Pneumonia acquired in ITU.
Cometta 1994[131]	Intervention not licenced in UK.
Covi 1995[139]	Intervention not licenced in UK.
Demaria 1989[150]	Not guideline condition, not empirical treatment - selected population.
Estes 2007[173]	Not empirical treatment - selected population.
Fagon 2000[184]	Intervention not licenced in UK.
Fekete 1994[192]	Intervention not licenced in UK.
Feldman 2001[193]	Intervention not licenced in UK.
Fink 1994[206]	Ventilator-associated pneumonia, majority mechanically ventilated at baseline.
Freire 2010[216]	Intervention not licenced in UK.
Gandjini 2012[218]	Intervention not licenced in UK.
Geckler 1994[225]	Unclear if CAP or HAP.
Gleadhill 1986[228]	Inadequate definition of HAP.
Haataja 1985[243]	Inadequate/unclear definition of HAP.
Hopkins 1999[264]	Intervention not licenced in UK.
Ito 2010[281]	Not guideline condition, aspiration pneumonia.
Jaccard 1998[283]	Ventilator-associated pneumonia, approximately 50% mechanically ventilated at baseline.
Joshi 2006[294]	> 50% ventilator-associated pneumonia.
Jung 2010[295]	Pneumonia acquired in ITU.
Kalil 2010[297]	Systematic review: quality assessment is inadequate.
Kalil 2013[296]	Incorrect comparison.
Koehler 1990[312]	Intervention not licenced in UK.
Kohno 2007[315]	Inadequate definition of HAP.
Krumpe 1999[326]	Inappropriate comparison.
Kulpati 1984[327]	Unclear if CAP or HAP.
Lagace 2013[332]	Non-systematic review.
Lin 2008[355]	Inappropriate comparison, Inadequate definition of HAP.
Mandell 1983[379]	Intervention not licenced in UK.
Mandell 1987[380]	Intervention not licenced in UK.
Mangi 1988[382]	Ventilator-associated pneumonia, Incorrect interventions, Intervention not licenced in UK.

Reference	Reason
Mangi 1988a[384]	Intervention not licenced in UK.
Mangi 1992[383]	Intervention not licenced in UK.
Manhold 1998[385]	Pneumonia acquired in ITU, ventilator-associated pneumonia.
Marra 1998[389]	Not guideline condition, mixed infection population.
Nasraway 2003[442]	Incorrect study design.
Nissen 1986[450]	Ventilator-associated pneumonia.
Norrby 1993[453]	Pneumonia acquired in ITU, 73% on ITU and 50% mechanically ventilated at baseline.
O'donovan 1987[456]	Mixed CAP and HAP.
Ott 2008[463]	Not guideline condition, aspiration pneumonia.
Peacock 1989[473]	Mixed CAP and HAP.
Perlino 1981[475]	Intervention not licenced in UK, Not empirical treatment - selected population.
Puzniak 2011[489]	Not empirical treatment - selected population.
Quintero-perez 1989[491]	Mixed infection population - not stratified.
Ramirez 2013[498]	Intervention not licenced in the UK
Rapp 1991[499]	Ventilator-associated pneumonia, 66% mechanically ventilated at baseline.
Rea-neto 2008[502]	Incorrect interventions, permitted adjunctive amikacin and vancomycin, which were administered in 81% and 15%, respectively.
Rubinstein 2001[526]	Inappropriate comparison.
Rubinstein 2011[527]	Inappropriate comparison, Intervention not licenced in UK.
Schentag 1985[535]	Inadequate definition of HAP.
Schonwald 1990[537]	Unclear if CAP or HAP, Not empirical treatment - selected population.
Shah 1995[557]	Inadequate definition of HAP.
Shorr 2005[564]	Ventilator-associated pneumonia, Systematic review: quality assessment is inadequate.
Siami 1995[566]	Mixed CAP and HAP.
Sieger 1997[571]	Pneumonia acquired in ITU, ventilator-associated pneumonia.
Siempos 2007[574]	Systematic review: quality assessment is inadequate.
Sifuentes-osornio 1989[575]	Unclear if CAP or HAP.
Stevens 2002[597]	Inadequate definition of HAP.
Torres 2000[610]	Ventilator-associated pneumonia.
Trenholme 1989[614]	Mixed LRTI population (not stratified), mixed CAP and HAP; 86% pneumonia and in full population 39% of infections acquired in nursing homes rather than in hospital.
West 2003[637]	Inappropriate comparison.
Willis 1998[640]	Mixed CAP and HAP, inappropriate comparison.
Wunderink 2003[647]	Inappropriate comparison.
Wunderink 2012[648]	Ventilator-associated pneumonia.
Yakovlev 2006[652]	Intervention not licenced in UK, ertapenem not licenced for HAP and metronidazole permitted in the cefepime arm.
Yangco 1986[654]	Intervention not licenced in UK, inadequate definition of HAP.
Zanetti 2003[664]	Pneumonia acquired in ITU, ventilator-associated pneumonia.

1.5.1 Duration of antibiotic therapy

Reference	Reason
Calver 1997[96]	Intervention - compared different dosing regimens.
Dignazio2005[141]	Intervention – compared different drug classes.
Dimopoulos 2008[153]	Systematic review: methods are not adequate/unclear, Systematic review is not relevant to review question or unclear PICO.
File 2007[198]	Intervention not licenced in UK.
Havey 2011[251]	Systematic review is not relevant to review question or unclear PICO, Duration of therapy for patients with bacteraemia.
Li 2007[347]	Systematic review is not relevant to review question or unclear PICO.
Anon 2008[3]	Systematic review: methods are not adequate/unclear.
Pothirat 2006[488]	Duration determined by discontinuation criteria.
Rahav 2004[493]	Comparison arm consist of different classes of antibiotics.
Schonwald1991[538]	Population – atypical pneumonia only.
Tellier 2004[606]	Inappropriate comparison, telithromycin - no longer used in UK due to safety concerns.
Tellier 2004[605]	Inappropriate comparison, telithromycin - no longer used in UK due to safety concerns.

1.5.2 Timing of antibiotic therapy

Reference	Reason
Al 2009[15]	Abstract only - no multivariable analysis of timing.
Lim2001[351]	Design - retrospective case control, only reported proportion of patients receiving antibiotics within 8 hours for long stay and short stay.
Anstett 2010[29]	No analysis on timing to first antibiotic data.
Asadi 2012[42]	Timing of antibiotics administration data not collected.
Attridge 2011[45]	Incorrect comparison.
Battleman 2002[55]	Summary of Battleman 2002.
Berjohn 2008[62]	Incorrect population: selected for pneumococcal bacteraemic patients.
Bernstein 2009[65]	Review article.
Boots 2005[69]	No data of timing of antibiotic administration. Unclear if "antibiotics used 2 days prior to ITU" refers to pneumonia treatment or other indications.
Caterino 2008[104]	Not linking timing of antibiotic with patient outcomes (looking patient characteristics associated with processes of care).
Cheng 2009[118]	No multivariable analysis.
Anon 2010[4]	Secondary report only not original study.
Dobbin 2001[155]	No analysis on timing to first antibiotic administration
El Solh[162]	Timing of antibiotic administration only described in terms of proportion of guideline adherence. Unclear whether it was included in the multivariable analysis.
Ewig 1995[176]	Timing data not available.
Fine 2002[202]	Not linking timing of antibiotics to patient outcome (only described percentage receiving antibiotic within 8 hours and hospital and hospital factors associated with this).
Fine 2003[205]	Incorrect comparison.
Foley 2006[210]	Not linking timing of antibiotics to patient outcome (only described percentage received antibiotic within 8 hours).
Frei 2010[212]	No multivariable analysis of timing data (timing included in 'guideline concordance' measure but not individually).
Frei 2011[213]	Incorrect comparison.
Frei 2003[214]	No multivariable analysis of timing data (comparing different antibiotics).
Frei 2006[215]	No multivariable analysis of timing data and patient outcomes (comparing aspects of guideline-concordance).
Gacouin 2002[217]	No multivariable analysis (univariate analysis of different types of antibiotic administration within 8 hours of admission).
Garau 2008[219]	Looked at type of antibiotics provided rather than timing.
Harrison 1987[248]	Only considered presence or absence of preadmission antibiotics in relation to mortality in univariate analysis.
Hausmann 2009[250]	Not linking timing of antibiotics to patient outcome (only described percentage received antibiotic within 8 hours for different ethnic groups).
Hopstaken 2006[265]	No analysis on timing to first antibiotic administration.
Houck 2002[274]	Review/Report.
Hsu 2010[275]	No multivariable analysis of timing data (timing to antibiotic administration was study outcome).
Iregui 2002[280]	Incorrect population: ventilator-associated pneumonia.
Jespersen 2010[290]	Population – legionellosis patients.
Kanwar 2007[298]	No multivariable analysis of timing data, not linking to patient outcomes.

Reference	Reason
Kollef 1999[319]	Timing of antibiotics administration data not collected.
Laing 2004[334]	Timing of antibiotics administration data not collected.
Laurichesse 2001[337]	Only considered presence or absence of preadmission antibiotics in relation to mortality in univariate analysis.
Lee 2011[342]	Conference abstract.
Lindenauer 2006[356]	Not linking timing of antibiotics to patient outcome (compared the performance of physicians and hospitals against quality of care).
Luque 2010[370]	Abstract only - no multivariable analysis.
Madaras-Kelly 2012[373]	Incorrect comparison.
Marfin 1995[387]	Timing of antibiotics administration data not collected.
Mariya 2012[388]	Incorrect population: ventilator-associated pneumonia.
Marras 2004[390]	Not linking timing of antibiotics to patient outcome (Compared the care performance before and after Canadian guideline publication).
Marrie 2011[395]	Timing of antibiotics administration data not collected.
Mathevon 2002[400]	Incorrect population: ITU-acquired nosocomial pneumonia.
Meehan 2000[406]	Not linking timing of antibiotics to patient outcome (Compared the care performance between NHAP and CAP).
Menendez 2003[411]	No analysis on timing to first antibiotic administration.
Menendez 2012a[417]	Only linking patient factors to process of care, did not link to patient outcomes.
Menendez 2012[414]	Population is pneumonia and sepsis.
Menendez 2004[415]	No analysis on timing to first antibiotic administration.
Menendez 2004[416]	No analysis on timing to first antibiotic administration.
Metersky 2006[419]	No multivariable analysis of timing data (timing to antibiotic administration was study outcome).
Mortensen 2004[430]	Univariate analysis only.
Mortensen 2004[429]	Not linking timing of antibiotics to patient outcome (linked the odds of receiving antibiotics within 8 hours to racial group).
Mortensen 2006[431]	Timing of antibiotics administration data not collected
Nazarian 2009[445]	Review - references checked, already included.
Ni 2011[448]	Abstract only - seems to be no analysis (or collection of) TFAD information.
Nielsen 2013[449]	Conference abstract.
Park 2012[467]	Abstract only - Patients with carbapenem-resistant *Acinetobacter baumannii* (CRAB). Timing in univariate analysis but not clear from abstract whether included in multivariable analysis.
Pines 2009[479]	Review article -unclear inclusion criteria.
Pines 2007[480]	Not linking timing of antibiotics to patient outcomes (looking at ED overcrowding and TFAD).
Quattromani 2011[490]	No multivariable analysis and inappropriate grouping of timing by hospital performance measure.
Rello 1997[507]	No analysis of timing to first antibiotic.
Roson 2004[525]	No analysis of timing to first antibiotic.
Seymann 2006[555]	General review of quality of care in pneumonia.
Shorr 2006[563]	Incorrect comparison: timing comparison made between Infectious Disease Society of America (IDSA) compliant v. non-compliant.
Siegel 1996[570]	No analysis of timing to first antibiotic.
Silber 2003[577]	No multivariable analysis.

Reference	Reason
Spurling 2013[594]	Inappropriate population (ARTI)- no pneumonia subgroup.
Torres 1991[612]	Timing of antibiotics not presented as a separate factor (analysed as part of consideration of antibiotics treatment).
Watts 2011[628]	Looking at patients characteristics as prognostic factors for TFAD.
Watts 2012[629]	Incorrect study design: Comparison of patient characteristics for those who received antibiotics < 6 h and 6 h.
Weerasuriya 2011[632]	Abstract only - no mention of multivariable analysis of timing data.
Welker 2008[635]	Incorrect study design: linking timing and correct diagnosis).
Wilson 2011[641]	Systematic review - checked for studies included.
Wilton 2009[642]	Abstract only - no analysis of timing to first antibiotic.
Wu 2006[646]	Timing of antibiotics administration data not collected.
Yahav 2013[651]	Incorrect study design - review not systematic
Yu 2008[659]	Review -unclear inclusion criteria, included studies without multivariable analysis.
Ziss 2003[667]	Method of analysis - only univariate analysis.

1.6 Glucocorticosteroid treatment

Reference	Reason
Anon 2012[5]	Abstract - published in full in Meijvis2011.
Chen 2011[116]	Not Managed in hospital.
Cheng 2013A[119]	Original papers already included, no GRADE assessment
Corrales-Medina 2011[136]	Systematic review: outcome reporting inadequate.
De Pascale 2011[146]	Systematic review: methods are not adequate/unclear, Systematic review: quality assessment is inadequate.
Nafae 2013[440]	Inappropriate study design (not a RCT).
Polverino 2013[483]	Incorrect study design (observational study).
Remmelts 2012[509]	Post-hoc analysis of RCT data - prognostic investigation for predictors of response to steroids.
Salluh 2008[530]	Systematic review: quality assessment is inadequate.
Shafiq 2012[556]	Systematic review: quality assessment is inadequate.
Shafiq 2013[556]	Systematic review: quality assessment is inadequate.
Siempos 2008[573]	Systematic review: quality assessment is inadequate.
Siempos 2009[572]	Systematic review: quality assessment is inadequate.
Wagner 1956[624]	Quasi randomised and limited to pneumococcal pneumonia.

1.7 Gas exchange

Reference	Reason
Antonelli 1998[31]	Conference abstract.
Antonelli 2001[30]	Incorrect population - ARF, not stratified by cause (CAP or HAP).
Antonelli 2007[32]	Incorrect population - ARDS, not stratified by cause (CAP or HAP).
Brugiere 2012[79]	Incorrect study design - not a RCT.
Burns 2006[86]	Incorrect outcome, weaning.
Burns 2009[85]	Incorrect control group - continued invasive weaning.
Burns 2010[87]	Not matching our protocol.
Burns 2010a[88]	Not matching our protocol.
Charra 2009[112]	Incorrect control group - classic weaning.
Confalonieri 1998a[134]	Conference abstract.
Confalonieri 1998[133]	Conference abstract.
Delclaux 2000[148]	Incorrect population - ARF, not stratified by cause (CAP or HAP).
Delerme 2008[149]	Incorrect study design - literature review.
Duke 1999[159]	Incorrect study design - not a systematic review.
Esquinas 2013[172]	Incorrect study design, narrative review: papers included are being assessed individually (Ferrer2003, Confalonieri1999).
Ferrer 2003[197]	Incorrect population - patients with persistent weaning failure.
Ferrer2003A[196]	Incorrect population - type of pneumonia not specified.
Gay 2009[224]	Incorrect study design - retrospective cohort study.
Girou 2001[227]	Incorrect population - ARF, not stratified by cause (CAP or HAP).
Glossop 2011[230]	Incorrect population - weaning, reduction of re-intubation rates post extubation on ITU.
Glossop 2012[231]	Incorrect population-post-extubation, weaning or postoperative patients.
Graham 1978[236]	Incorrect intervention - chest physiotherapy.
Guerin 2011[239]	Incorrect study design - not a systematic review.
Hess 2004[255]	Incorrect population - ARF, not stratified by cause (CAP or HAP).
Hore 2002[269]	Incorrect study design, narrative review: papers included are being assessed individually (Keenan1998, Wysocki2001).
Hotchkiss 1998[273]	Incorrect study design, narrative review.
Keenan 1998[305]	Incorrect study design, review of case series.
Keenan 2009[306]	Incorrect study design, narrative review: papers included are being assessed individually (Ferrer2003, Confalonieri1999).
Mal 2013[375]	Incorrect study population- patients with severe respiratory distress.
Maraffi 2009[386]	Conference abstract.
Meyer 1994[421]	Incorrect study design -literature review.
Navalesi 2000[443]	Incorrect study design - letter to the editor.
Ortega 2010[461]	Conference abstract.
Sheikh 2010[560]	Incorrect study design - retrospective cohort study.
Tomii 2009[609]	Incorrect study design - retrospective cohort study.
Wysocki 2001[649]	Incorrect study design - not a systematic review.
Zhang 2012a[665]	Included a study with a population not matching our protocol.

1.8 Monitoring

Reference	Reason
Abednazari 2006[7]	Incorrect population – undefined pneumonia.
Abuelkhashab 2014[8]	Incorrect study design.
Agapakis 2010[12]	Incorrect prognostic factor – single initial value.
Almirall 2004[23]	Incorrect population and study type.
Arinzon 2011[34]	Incorrect prognostic factor – single initial value.
Arora 2013[39]	Conference abstract.
Arram 2013[40]	Incorrect prognostic factor – BNP.
Bloos 2011[68]	Incorrect population – mixed CAP and HAP.
Brunkhorst 2002[80]	Incorrect population – mixed CAP, HAP and VAP.
Chidiac 2012[121]	Incorrect prognostic factor – single initial value.
Claessens 2010[128]	Incorrect outcomes.
Christ-Crain 2006[125]	Abstract only – published in full elsewhere.
De Jager 2012[145]	Incorrect prognostic factor – single initial value.
Ding 2012[154]	Incorrect prognostic factors.
El Azeem 2013[163]	Incorrect outcomes.
Elsolh 2006[161]	Incorrect analysis.
Espana 2012[169]	Incorrect setting.
Fendeleur 2009[194]	Abstract only.
Guertler 2011[240]	Incorrect study design – long-term outcomes (not immediate clinical management).
Haeuptle 2009[244]	Incorrect population. Incorrect prognostic factor – single initial value.
Hansson 1997[247]	Incorrect study type.
Horie 2012[270]	Incorrect prognostic factor – single initial value.
Huang 2008[277]	Incorrect population and setting. Incorrect prognostic factor – single initial value.
Kasamatsu 2012[302]	Incorrect prognostic factor – single initial value.
Kolditz 2010[317]	Incorrect prognostic factor – single initial value.
Kolditz 2012[316]	Incorrect prognostic factor – single initial value.
Kolditz 2012A[318]	Incorrect prognostic factor – single initial value.
Kosmas 1997[320]	Incorrect analysis.
Kruger 2008[323]	Incorrect prognostic factor – single initial value.
Kruger 2010[324]	Incorrect prognostic factor – single initial value.
Kruger 2010a[325]	Incorrect prognostic factor – single initial value.
Lacoma 2012[331]	Incorrect prognostic factor – single initial value.
Lee 2010[345]	Incorrect analysis.
Lee 2011A[340]	Incorrect prognostic factor – single initial value.
Long 2011[366]	Incorrect setting.
Masia 2005[399]	Incorrect study type.
Matsuse 2007[401]	Incorrect outcomes and study design.
Menendez 2009[412]	Incorrect prognostic factor – single initial value.
Nayeri 2002[444]	Unacceptable methodological issues.

Reference	Reason
Okimoto 2009[457]	Incorrect study type.
Ortqvist 1995[462]	Incorrect prognostic factor – single initial value.
Park 2012A[469]	Incorrect prognostic factor – single initial value.
Park 2013[468]	Letter to the editor.
Pereira 2012C[474]	Abstract only.
Roh 2010[521]	Abstract only – no full paper followed.
Roh 2013[520]	Conference abstract.
Ruiz 2010[529]	Incorrect study type.
Scalera 2013[534]	Incorrect study design - narrative review.
Schuetz 2010A[551]	Incorrect prognostic factor – single initial value.
Schuetz 2011a[548]	Incorrect study type.
Schuetz 2013[550]	Incorrect study design - narrative review.
Schuetz 2013A[546]	Incorrect population. Abstract only.
Shi 2013[561]	Not in English – Chinese.
Smith 1995[585]	Incorrect analysis.
Smith 2013[583]	Health economic - excluded because patients were hospitalised, not in the community.
Thiem 2009[608]	Incorrect prognostic factor – single initial value.
Tamura 2014[603]	Incorrect study design.
Weiss 2006[634]	Incorrect population and study design.

1.9 Safe discharge

Reference	Reason
Adamuz 2011[9]	Inappropriate prognostic factors (upon admission).
Aliberti 2011a[19]	Not matching our protocol (testing the impact of timing of clinical stability to complications).
Andaya 2000[26]	Inappropriate timing of outcomes (24 hours after discharge).
Brancati 1993[73]	Inappropriate prognostic factors (upon admission).
Bruns 2009a[81]	Inappropriate study design (conference abstract/prognostic factors upon admission).
Carratalà 2012[101]	Inappropriate intervention (management pathway).
Campbell 2004a[98]	Inappropriate study design (retrospective audit).
Collins 2011[130]	Inappropriate study design (conference abstract/retrospective audit).
Domingo 2012[156]	Inappropriate study design (literature review).
Guertler 2011[240]	Inappropriate prognostic factors (upon admission).
Halm 1998[246]	Inappropriate outcomes.
Hedlund 1995a[252]	Inappropriate prognostic factors (upon admission).
Jasti 2008[286]	Inappropriate prognostic factors (upon admission).
Kolditz 2010[317]	Inappropriate prognostic factors (upon admission).
Lee 2007a[344]	Inappropriate study design (case-control study).
Marrie 1997[391]	Inappropriate study design (literature review).
Marrie 1999[392]	Inappropriate study design (literature review).
Marrie 2000[394]	Inappropriate prognostic factors (intervention not matching our protocol).
Marrie 2000a[393]	Inappropriate study design (literature review).
Menendez 2009b[413]	Inappropriate timing of outcomes (72 hours after treatment).
Metersky 2012[420]	Inappropriate prognostic factors (upon admission).
Moeller 2006[424]	Not matching our protocol.
Neupane 2010[446]	Inappropriate prognostic factors (upon admission).
Rahbar 2012[494]	Inappropriate study design (conference abstract/case control study).
Ramirez 1995[496]	Inappropriate study design (pooling of data across studies/literature review).
Ramirez 1999a[497]	Inappropriate outcomes.
Rhew 2001[517]	Inappropriate study design (literature review).
Rhew 2001a[516]	Selection criteria of included studies do not match our protocol.
Siegel 1999a[569]	Inappropriate study design (literature review).
Vecchiarino 2004[622]	Inappropriate prognostic factors (upon admission).
Waterer 2004[627]	Inappropriate prognostic factors.
Weingarten 1996[633]	Inappropriate outcomes (not reported by intervention group).
Yende 2008[656]	Inappropriate outcomes - only 1-year outcomes.
Yende 2011[655]	Inappropriate outcomes - only 1-year outcomes.

1.10 Patient information

Reference	Reason
Almirall 2000[22]	Inappropriate population (mixed from different pathogens).
Bruns 2007[82]	Inappropriate outcomes (resolution of x-ray signs).
Cals 2009[93]	Inappropriate population (LRTI).
Cals 2009A[95]	Inappropriate population (LRTI).
Daifuku 1996[142]	Inappropriate outcomes (time to resolution of morbidity).
Dey 1997[151]	Inappropriate outcomes (only clinical).
Halm 1998[246]	Inappropriate outcomes (resolution of vital signs).
Holmes 1997[262]	Inappropriate population (LRTI).
Holmes 2001[261]	Inappropriate population (LRTI).
Horowitz 2002[272]	Inappropriate study design (intervention to improve knowledge about antibiotics/length of hospital stay).
Lave 1996[338]	Inappropriate outcomes (only clinical).
Llor 2013[360]	Inappropriate study design (resolution of cough as an outcome of a 3-arm RCT).
Loeb 2004[363]	Inappropriate study design (review).
Macfarlane 1993[371]	Inappropriate population (LRTI).
Macfarlane 1997[372]	Inappropriate population (LRTI).
Moore 2008[428]	Inappropriate population (50% were children, LRTI).
Pletz 2012[482]	Inappropriate outcomes (clinical only).
Reechai 2004[504]	Inappropriate outcomes (hospitalization, complications).
Remmelts 2012[509]	Inappropriate outcome (cortisol responses).
Shorr 2013B[565]	Inappropriate population (30% immunocompromised).
Sopena 2004[588]	Inappropriate population (> 30% immunocompromised).
Sousa 2010[590]	Abstract/not our outcomes.
Spurling 2013[594]	Inappropriate study design (SR of studies comparing delayed antibiotics versus early).
Yende 2008[656]	Inappropriate outcomes (ILs).
Yu 2012[658]	Inappropriate outcomes (economic model).

2 References

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