National Clinical Guideline Centre

Excluded clinical studies

Pneumonia

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

Clinical guideline 191

Appendix J

3 December 2014

Final version

Commissioned by the National Institute for Health and Care Excellence

Funding
National Institute for Health and Care Excellence

Contents

1 Pneumonia (CAP and HAP) 5
1.1 Diagnostic tests 5
1.2 Severity assessment 8
1.3 Microbiological tests 12
1.4 Empiric antibiotic therapy: CAP 14
1.5 Empirical antibiotic therapy for HAP 17
1.5.1 Duration of antibiotic therapy 19
1.5.2 Timing of antibiotic therapy 20
1.6 Glucocorticosteroid treatment 23
1.7 Gas exchange 24
1.8 Monitoring 25
1.9 Safe discharge 27
1.10 Patient information 28
2 References 30

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

1 AHRQ tool designed to improve CAP clinical care. Healthcare Benchmarks and Quality Improvement. 2004; 11(5):57-58

2 Scoring system for CAP predicts severe disease. Journal of Family Practice. 2007; 56(2):92

3 Pneumonia can be treated with 3-5 days of ABX. Journal of the National Medical Association. 2008; 100(1):151

4 Community-acquired pneumonia: Routine blood cultures and rapid antibiotics not necessary (ACEP). Journal of the National Medical Association. 2010; 102(4):358-359

5 Dexamethasone reduces length of stay in patients with community-acquired pneumonia. Journal of the National Medical Association. 2012; 104(1-2):119

6 Abe T, Tokuda Y, Ishimatsu S, Birrer RB. Usefulness of initial blood cultures in patients admitted with pneumonia from an emergency department in Japan. Journal of Infection and Chemotherapy. 2009; 15(3):180-186

7 Abednazari H, Xu J, Millinger E, Brudin L, Forsberg P, Nayeri F. Hepatocyte growth factor is a better indicator of therapeutic response than C-reactive protein within the first day of treatment in pneumonia. Chemotherapy. 2006; 52(5):260-263

8 Abu Elkhashab AE, Swelem RS, Abd Alla AEDA, Hattata EA, Atta MS. Etiological and prognostic values of procalcitonin in hospital-acquired pneumonia. Egyptian Journal of Chest Diseases and Tuberculosis. 2014; 63(1):201-206

9 Adamuz J, Viasus D, Camprecios-Rodriguez P, Canavate-Jurado O, Jimenez-Martinez E, Isla P et al. A prospective cohort study of healthcare visits and rehospitalizations after discharge of patients with community-acquired pneumonia. Respirology. 2011; 16(7):1119-1126

10 Adrie C, Schwebel C, Garrouste-Org, Vignoud L, Planquette B, Azoulay E et al. Initial use of one or two antibiotics for critically ill patients with community-acquired pneumonia: Impact on survival and bacterial resistance. Critical Care. 2013; 17(6)

11 Afshar N, Tabas J, Afshar K, Silbergleit R. Blood cultures for community-acquired pneumonia: Are they worthy of two quality measures? A systematic review. Journal of Hospital Medicine. 2009; 4(2):112-123

12 Agapakis DI, Tsantilas D, Psarris P, Massa EV, Kotsaftis P, Tziomalos K et al. Coagulation and inflammation biomarkers may help predict the severity of community-acquired pneumonia. Respirology. 2010; 15(5):796-803

13 Agarwal S, Mishra A. Role of serum procalcitonin as a prognostic biomarker in community acquired pneumonia. Chest. 2013; 144(4 MEETING ABSTRACT)

14 Akram AR, Chalmers JD, Hill AT. Predicting mortality with severity assessment tools in out-patients with community-acquired pneumonia. QJM. 2011; 104(10):871-879

15 Al Kassar Y., Raja J, El Sameed YA, Djazmati W. The effect of early use of antibiotics in community acquired pneumonia on the hospital length of stay. Respirology. 2009; 14:A236

16 Al-khayat H, Al-Khayat H, Beshay J, Manner D, White J. Vertebral artery-posteroinferior cerebellar artery aneurysms: clinical and lower cranial nerve outcomes in 52 patients. Neurosurgery. 2005; 56(1):2-11

17 Albrich WC, Dusemund F, Bucher B, Meyer S, Thomann R, Kuhn F et al. Effectiveness and safety of procalcitonin-guided antibiotic therapy in lower respiratory tract infections in "real life": an international, multicenter poststudy survey (ProREAL). Archives of Internal Medicine. 2012; 172(9):715-722

18 Albrich WC, Dusemund F, Ruegger K, Christ-Crain M, Zimmerli W, Bregenzer T et al. Enhancement of CURB65 score with proadrenomedullin (CURB65-A) for outcome prediction in lower respiratory tract infections: derivation of a clinical algorithm. BMC Infectious Diseases. 2011; 11:112

19 Aliberti S, Peyrani P, Filardo G, Mirsaeidi M, Amir A, Blasi F et al. Association between time to clinical stability and outcomes after discharge in hospitalized patients with community-acquired pneumonia. Chest. 2011; 140(2):482-488

20 Aliberti S, Ramirez J, Cosentini R, Brambilla AM, Zanaboni AM, Rossetti V et al. Low CURB-65 is of limited value in deciding discharge of patients with community-acquired pneumonia. Respiratory Medicine. 2011; 105(11):1732-1738

21 Allewelt M, Schuler P, Bolcskei PL, Mauch H, Lode H, Study Group on Aspiration Pneumonia. Ampicillin + sulbactam vs clindamycin +/- cephalosporin for the treatment of aspiration pneumonia and primary lung abscess. Clinical Microbiology and Infection. 2004; 10(2):163-170

22 Almirall J, Bolibar I, Vidal J, Sauca G, Coll P, Niklasson B et al. Epidemiology of community-acquired pneumonia in adults: a population-based study. European Respiratory Journal. 2000; 15(4):757-763

23 Almirall J, Bolibar I, Toran P, Pera G, Boquet X, Balanzo X et al. Contribution of C-reactive protein to the diagnosis and assessment of severity of community-acquired pneumonia. Chest. 2004; 125(4):1335-1342

24 Alvarez-Lerma F, Insausti-Ordenana J, Jorda-Marcos R, Maravi-Poma E, Torres-Marti A, Nava J et al. Efficacy and tolerability of piperacillin/tazobactam versus ceftazidime in association with amikacin for treating nosocomial pneumonia in intensive care patients: a prospective randomized multicenter trial. Intensive Care Medicine. 2001; 27(3):493-502

25 Alvarez-Lerma F, Alvarez B, Luque P, Ruiz F, Dominguez-Roldan JM, Quintana E et al. Empiric broad-spectrum antibiotic therapy of nosocomial pneumonia in the intensive care unit: a prospective observational study. Critical Care. 2006; 10(3):R78

26 Andaya MRP, Raab TA. Is one day of in-hospital observation after switching from intravenous to oral antibiotic therapy in the treatment of community acquired pneumonia necessary? Infectious Diseases in Clinical Practice. 2000; 9(9):372-375

27 Andre M, Schwan A, Odenholt I. The use of CRP tests in patients with respiratory tract infections in primary care in Sweden can be questioned. Scandinavian Journal of Infectious Diseases. 2004; 36(3):192-197

28 Anevlavis S, Petroglou N, Tzavaras A, Maltezos E, Pneumatikos I, Froudarakis M et al. A prospective study of the diagnostic utility of sputum Gram stain in pneumonia. Journal of Infection. 2009; 59(2):83-89

29 Anstett D, Smallfield A, Vlahaki D, Ken MW. Door-to-antibiotic time for pneumonia in a rural emergency department. Canadian Journal of Emergency Medicine. 2010; 12(3):207-211

30 Antonelli M, Conti G, Moro ML, Esquinas A, Gonzalez-Diaz G, Confalonieri M et al. Predictors of failure of noninvasive positive pressure ventilation in patients with acute hypoxemic respiratory failure: a multi-center study. Intensive Care Medicine. 2001; 27(11):1718-1728

31 Antonelli M, Conti G, Rocco M, Bufi M, De Blasi RA, Vivino G et al. A comparison of noninvasive positive-pressure ventilation and conventional mechanical ventilation in patients with acute respiratory failure. New England Journal of Medicine. 1998; 339(7):429-435

32 Antonelli M, Conti G, Esquinas A, Montini L, Maggiore SM, Bello G et al. A multiple-center survey on the use in clinical practice of noninvasive ventilation as a first-line intervention for acute respiratory distress syndrome. Critical Care Medicine. 2007; 35(1):18-25

33 Aoshima M, Chonabayashi N. Sputum gram stain is economically useful for hospitalised non severe community acquired pneumonia. European Respiratory Journal. 2003; 22(Suppl 45)

34 Arinzon Z, Peisakh A, Schrire S, Berner Y. C-reactive protein (CRP): an important diagnostic and prognostic tool in nursing-home-associated pneumonia. Archives of Gerontology and Geriatrics. 2011; 53(3):364-369

35 Arminanzas C, Velasco L, Calvo N, Portilla R, Riancho JA, Valero C. CURB-65 as an initial prognostic score in Internal Medicine patients. European Journal of Internal Medicine. 2013; 24(5):416-419

36 Armour BS, Pitts SR, Pitts MM, Wike J, Alley L, Etchason J. Validation of the pneumonia severity index among patients treated at home or in the hospital. Disease Management and Health Outcomes. 2003; 11(9):595-601

37 Arnold FW, Brock GN, Peyrani P, Rodriguez EL, Diaz AA, Rossi P et al. Predictive accuracy of the pneumonia severity index vs CRB-65 for time to clinical stability: results from the Community-Acquired Pneumonia Organization (CAPO) International Cohort Study. Respiratory Medicine. 2010; 104(11):1736-1743

38 Arnold FW, Ramirez JA, McDonald LC, Xia EL. Hospitalization for community-acquired pneumonia: the pneumonia severity index vs clinical judgment. Chest. 2003; 124(1):121-124

39 Arora AS, Fernandes L, Mesquita AM. Procalcitonin (PCT) predicts severity and outcome of community acquired bacterial pneumonia (CABP). Indian Journal of Critical Care Medicine. 2013; 17:40

40 Arram EO, Saleh M, Hammad E. Evaluation of B-type natriuretic peptide in patients with community acquired pneumonia. Egyptian Journal of Chest Diseases and Tuberculosis. 2013; 62(2):293-300

41 Asadi L, Eurich DT, Gamble JM, Minhas-Sandhu JK, Marrie TJ, Majumdar SR. Impact of guideline-concordant antibiotics and macrolide/beta-lactam combinations in 3203 patients hospitalized with pneumonia: prospective cohort study. Clinical Microbiology and Infection. 2013; 19(3):257-264

42 Asadi L, Eurich DT, Gamble JM, Minhas-Sandhu JK, Marrie TJ, Majumdar SR. Guideline adherence and macrolides reduced mortality in outpatients with pneumonia. Respiratory Medicine. 2012; 106(3):451-458

43 Ashford JJ, Downey LJ. A multi-centre study comparing trimethoprim with co-trimoxazole in the treatment of respiratory tract infection in general practice. British Journal of Clinical Practice. 1982; 36(4):152-156

44 Atlas SJ, Benzer TI, Borowsky LH, Chang Y, Burnham DC, Metlay JP et al. Safely increasing the proportion of patients with community-acquired pneumonia treated as outpatients: an interventional trial. Archives of Internal Medicine. 1998; 158(12):1350-1356

45 Attridge RT, Frei CR, Restrepo MI, Lawson KA, Ryan L, Pugh MJV et al. Guideline-concordant therapy and outcomes in healthcare-associated pneumonia. European Respiratory Journal. 2011; 38(4):878-887

46 Aubier M, Verster R, Regamey C, Geslin P, Vercken JB. Once-daily sparfloxacin versus high-dosage amoxicillin in the treatment of community-acquired, suspected pneumococcal pneumonia in adults. Sparfloxacin European Study Group. Clinical Infectious Diseases. 1998; 26(6):1312-1320

47 Aydogdu M, Ozyilmaz E, Aksoy H, Gursel G, Ekim N. Mortality prediction in community-acquired pneumonia requiring mechanical ventilation; values of pneumonia and intensive care unit severity scores. Tuberkuloz Ve Toraks. 2010; 58(1):25-34

48 Badaro R, Molinar F, Seas C, Stamboulian D, Mendonca J, Massud J et al. A multicenter comparative study of cefepime versus broad-spectrum antibacterial therapy in moderate and severe bacterial infections. Brazilian Journal of Infectious Diseases. 2002; 6(5):206-218

49 Bafadhel M, Clark TW, Reid C, Medina Mj, Batham S, Barer MR et al. Procalcitonin and C-reactive protein in hospitalized adult patients with community-acquired pneumonia or exacerbation of asthma or COPD. Chest. 2011; 139(6):1410-1418

50 Baldwin MR, Parekh MJ, Wang Y, Schluger NW. The effect of the streptococcus pneumoniae urinary antigen assay on the diagnosis and antibiotic treatment of pneumonia in the intensive care unit. American Journal of Respiratory and Critical Care Medicine. 2010; 181(1 MeetingAbstracts)

51 Bassetti D, Cruciani M, Solbiati M, Rubini F, Gandola L, Valenti G et al. Comparative efficacy of ceftriaxone versus ceftazidime in the treatment of nosocomial lower respiratory tract infections. Chemotherapy. 1991; 37(5):371-375

52 Bassetti M, Kett D, Puttagunta S, Scerpella E, Biswas P, Huang D. Linezolid versus vancomycin in the treatment of healthcare-associated pneumonia caused by culture-proven methicillin-resistant Staphylococcus aureus. Clinical Microbiology and Infection. 2011; 17:S439

53 Bastide C, Borlot F, Le Falher G, Reny J, Dao A, Mennesson E et al. Practical use of urine antigens and implementation of national recommendations for the management of communityacquired pneumonia (CAP): Results from a retrospective study on 214 CAP hospitalised by the emergency department. Clinical Microbiology and Infection. 2011; 17:S454

54 Bates DW, Goldman L, Lee TH. Contaminant blood cultures and resource utilization. The true consequences of false-positive results. Journal of the American Medical Association. 1991; 265(3):365-369

55 Battleman DS, Callahan M, Thaler HT. Rapid antibiotic delivery and appropriate antibiotic selection reduce length of hospital stay of patients with community-acquired pneumonia: link between quality of care and resource utilization. Archives of Internal Medicine. 2002; 162(6):682-688

56 Baumgartner JD, Glauser MP. Comparative study of imipenem in severe infections. Journal of Antimicrobial Chemotherapy. 1983; 12 Suppl D:141-148

57 Baumgartner JD, Glauser MP. Tolerance study of ceftriaxone compared with amoxicillin in patients with pneumonia. American Journal of Medicine. 1984; 77(4C):54-58

58 Beaucaire G. Evaluation of the efficacy and safety of isepamicin compared with amikacin in the treatment of nosocomial pneumonia and septicaemia. Journal of Chemotherapy. 1995; 7 Suppl 2:165-173

59 Beibei L, Yun C, Mengli C, Nan B, Xuhong Y, Rui W. Linezolid versus vancomycin for the treatment of gram-positive bacterial infections: meta-analysis of randomised controlled trials. International Journal of Antimicrobial Agents. 2010; 35(1):3-12

60 Beovic B, Bonac B, Kese D, Avsic-Zupanc T, Kreft S, Lesnicar G et al. Aetiology and clinical presentation of mild community-acquired bacterial pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 2003; 22(10):584-591

61 Berg P, Lindhardt BO. The role of procalcitonin in adult patients with community-acquired pneumonia - a systemativ review. Danish Medical Journal. 2012; 59(3):A4357

62 Berjohn CM, Fishman NO, Joffe MM, Edelstein PH, Metlay JP. Treatment and outcomes for patients with bacteremic pneumococcal pneumonia. Medicine. 2008; 87(3):160-166

63 Berk SL, Musgrave T, Kalbfleisch J, Hatcher E. A comparison of ampicillin-sulbactam with cefamandole in the treatment of bacterial pneumonia in the elderly. Infections in Medicine. 1993; 10(8):29-39

64 Berman SJ, Sieger B, Geckler RW, Farkas SA. A comparative study of meropenem and ceftazidime in the treatment of patients hospitalized with community-acquired pneumonia. Current Therapeutic Research - Clinical and Experimental. 1997; 58(12):903-916

65 Bernstein SL, Aronsky D, Duseja R, Epstein S, Handel D, Hwang U et al. The effect of emergency department crowding on clinically oriented outcomes. Academic Emergency Medicine. 2009; 16(1):1-10

66 Black ER, Mushlin AI, Griner PF, Suchman AL, James RLJ, Schoch DR. Predicting the need for hospitalization of ambulatory patients with pneumonia. Journal of General Internal Medicine. 1991; 6(5):394-400

67 Blaeuer SR, Bally K, Tschudi P, Martina B, Zeller A. Acute cough illness in general practice - predictive value of clinical judgement and accuracy of requesting chest x-rays. Praxis. 2013; 102(21):1287-1292

68 Bloos F, Marshall JC, Dellinger RP, Vincent JL, Gutierrez G, Rivers E et al. Multinational, observational study of procalcitonin in ICU patients with pneumonia requiring mechanical ventilation: a multicenter observational study. Critical Care. 2011; 15(2):R88

69 Boots RJ, Lipman J, Bellomo R, Stephens D, Heller RF. Disease risk and mortality prediction in intensive care patients with pneumonia. Australian and New Zealand practice in intensive care (ANZPIC II). Anaesthesia and Intensive Care. 2005; 33(1):101-111

70 Bouadma L, Luyt CE, Tubach F, Cracco C, Alvarez A, Schwebel C et al. Use of procalcitonin to reduce patients' exposure to antibiotics in intensive care units (PRORATA trial): a multicentre randomised controlled trial. Lancet. 2010; 375(9713):463-474

71 Boussekey N, Leroy O, Alfandari S, Devos P, Georges H, Guery B. Procalcitonin kinetics in the prognosis of severe community-acquired pneumonia. Intensive Care Medicine. 2006; 32(3):469-472

72 Boyce JM, Pop OF, Abreu-Lanfranco O, Hung WY, Fisher A, Karjoo A et al. A Trial of Discontinuation of Empiric Vancomycin Therapy in Patients with Suspected Methicillin-Resistant Staphylococcus aureus Health Care-Associated Pneumonia. Antimicrobial Agents and Chemotherapy. 2013; 57(3):1163-1168

73 Brancati FL, Chow JW, Wagener MM, Vacarello SJ, Yu VL. Is pneumonia really the old man's friend? Two-year prognosis after community-acquired pneumonia. Lancet. 1993; 342(8862):30-33

74 Brewin A, Arango L, Hadley WK, Murray JF. High-dose penicillin therapy and pneumococcal pneumonia. Journal of the American Medical Association. 1974; 230(3):409-413

75 Briel M, Christ-Crain M, Young J, Schuetz P, Huber P, Periat P et al. Procalcitonin-guided antibiotic use versus a standard approach for acute respiratory tract infections in primary care: study protocol for a randomised controlled trial and baseline characteristics of participating general practitioners [ISRCTN73182671]. BMC Family Practice. 2005; 6:34

76 Briel M, Schuetz P, Mueller B, Young J, Schild U, Nusbaumer C et al. Procalcitonin-guided antibiotic use vs a standard approach for acute respiratory tract infections in primary care. Archives of Internal Medicine. 2008; 168(18):2000-2007

77 Brown JS. Biomarkers and community-acquired pneumonia. Thorax. 2009; 64(7):556-558

78 Brown SM, Dean NC. Defining and predicting severe community-acquired pneumonia. Current Opinion in Infectious Diseases. 2010; 23(2):158-164

79 Brugiere B, Frat JP, Petitpas F, Goudet V, Robert R, Debaene B. High flow oxygen therapy associated with noninvasive ventilation in hypoxemic acute respiratory failure: A prospective cohort study. European Journal of Anaesthesiology. 2012; 29:6

80 Brunkhorst FM, Al-Nawas B, Krummenauer F, Forycki ZF, Shah PM. Procalcitonin, C-reactive protein and APACHE II score for risk evaluation in patients with severe pneumonia. Clinical Microbiology and Infection. 2002; 8(2):93-100

81 Bruns A, Osterheert JJ, Cucciolillo M, Hoepelman A. High long-term mortality rate after initial recovery from severe community-acquired pneumonia. Clinical Microbiology and Infection. 2009; 15:S28

82 Bruns AHW, Oosterheert JJ, Prokop M, Lammers JW, Hak E, Hoepelman AIM. Patterns of resolution of chest radiograph abnormalities in adults hospitalized with severe community-acquired pneumonia. Clinical Infectious Diseases. 2007; 45(8):983-991

83 Buising KL, Thursky KA, Black JF, MacGregor L, Street AC, Kennedy MP et al. Identifying severe community-acquired pneumonia in the emergency department: a simple clinical prediction tool. Emergency Medicine Australasia. 2007; 19(5):418-426

84 Burkhardt O, Ewig S, Haagen U, Giersdorf S, Hartmann O, Wegscheider K et al. Procalcitonin guidance and reduction of antibiotic use in acute respiratory tract infection. European Respiratory Journal. 2010; 36(3):601-607

85 Burns KEA, Adhikari NKJ, Keenan SP, Meade M. Use of non-invasive ventilation to wean critically ill adults off invasive ventilation: meta-analysis and systematic review. BMJ. 2009; 338:b1574

86 Burns KEA, Adhikari NKJ, Meade MO. A meta-analysis of noninvasive weaning to facilitate liberation from mechanical ventilation. Canadian Journal of Anaesthesia. 2006; 53(3):305-315

87 Burns KE, Adhikari NKJ, Keenan SP, Meade MO. Noninvasive positive pressure ventilation as a weaning strategy for intubated adults with respiratory failure. Cochrane Database of Systematic Reviews. 2010; Issue 8:CD004127. DOI:10.1002/14651858.CD004127.pub2.

88 Burns KE, Lellouche F, Nisenbaum R, Lessard M, Friedrich JO. SmartCareT versus non-automated weaning strategies for weaning time in invasively ventilated critically ill adults. Cochrane Database of Systematic Reviews. 2010; Issue 8:CD008638. DOI:10.1002/14651858.CD008638

89 Butler JC, Bosshardt SC, Phelan M, Moroney SM, Tondella ML, Farley MM et al. Classical and latent class analysis evaluation of sputum polymerase chain reaction and urine antigen testing for diagnosis of pneumococcal pneumonia in adults. Journal of Infectious Diseases. 2003; 187(9):1416-1423

90 Caballero J, Rello J. Combination antibiotic therapy for community-acquired pneumonia. Annals of Intensive Care. 2011; 1:48

91 Cabre M, Bolivar I, Pera G, Pallares R, Pneumonia Study Collaborative Group. Factors influencing length of hospital stay in community-acquired pneumonia: a study in 27 community hospitals. Epidemiology and Infection. 2004; 132(5):821-829

92 Cai Y, Wang R, Liang B, Bai N, Liu Y. Systematic review and meta-analysis of the effectiveness and safety of tigecycline for treatment of infectious disease. Antimicrobial Agents and Chemotherapy. 2011; 55(3):1162-1172

93 Cals JWL, Butler CC, Hopstaken RM, Hood K, Dinant GJ. Effect of point of care testing for C reactive protein and training in communication skills on antibiotic use in lower respiratory tract infections: cluster randomised trial. BMJ. 2009; 338:b1374

94 Cals JWL, de Bock L, Beckers PJ, Francis NA, Hopstaken RM, Hood K et al. Enhanced communication skills and C-reactive protein point-of-care testing for respiratory tract infection: 3.5-year follow-up of a cluster randomized trial. Annals of Family Medicine. 2013; 11(2):157-164

95 Cals JWL, Hood K, Aaftink N, Hopstaken RM, Francis NA, Dinant GJ et al. Predictors of patient-initiated reconsultation for lower respiratory tract infections in general practice. British Journal of General Practice. 2009; 59(567):761-764

96 Calver AD, Walsh NS, Quinn PF, Baran C, Lonergan V, Singh KP et al. Dosing of amoxicillin/clavulanate given every 12 hours is as effective as dosing every 8 hours for treatment of lower respiratory tract infection. Lower Respiratory Tract Infection Collaborative Study Group. Clinical Infectious Diseases. 1997; 24(4):570-574

97 Campbell SG, Marrie TJ, Anstey R, Ackroyd-Stolarz S, Dickinson G. Utility of blood cultures in the management of adults with community acquired pneumonia discharged from the emergency department. Emergency Medicine Journal. 2003; 20(6):521-523

98 Campbell SG, Patrick W, Urquhart DG, Maxwell DM, Ackroyd-Stolarz SA, Murray DD et al. Patients with community acquired pneumonia discharged from the emergency department according to a clinical practice guideline. Emergency Medicine Journal. 2004; 21(6):667-669

99 Campbell SG, Marrie TJ, Anstey R, Dickinson G, Ackroyd-Stolarz S. The contribution of blood cultures to the clinical management of adult patients admitted to the hospital with community-acquired pneumonia: a prospective observational study. Chest. 2003; 123(4):1142-1150

100 Carrabba M, Zarantonello M, Bonara P, Hu C, Minonzio F, Cortinovis I et al. Severity assessment of healthcare-associated pneumonia and pneumonia in immunosuppression. European Respiratory Journal. 2012; 40(5):1201-1210

101 Carratalà J, Garcia-Vidal C, Ortega L, Fernández-Sabé N, Clemente M, Albero G et al. Effect of a 3-step critical pathway to reduce duration of intravenous antibiotic therapy and length of stay in community-acquired pneumonia: a randomized controlled trial. Archives of Internal Medicine. 2012; 172(12):922-928

102 Carratalà J, Garcia-Vidal C. An update on Legionella. Current Opinion in Infectious Diseases. 2010; 23(2):152-157

103 Castaneros L, Blatt S, Steinbrunner J. Blood cultures in community acquired pneumonia: Influence on antibiotic therapy and patient outcomes. Journal of Hospital Medicine. 2012; 7:S58

104 Caterino JM, Hiestand BC, Martin DR. Quality of care in elder emergency department patients with pneumonia: a prospective cohort study. BMC Emergency Medicine. 2008; 8:6

105 Cepeda JA, Whitehouse T, Cooper B, Hails J, Jones K, Kwaku F et al. Linezolid versus teicoplanin in the treatment of Gram-positive infections in the critically ill: a randomized, double-blind, multicentre study. Journal of Antimicrobial Chemotherapy. 2004; 53(2):345-355

106 Chalasani NP, Valdecanas MA, Gopal AK, McGowan JEJ, Jurado RL. Clinical utility of blood cultures in adult patients with community-acquired pneumonia without defined underlying risks. Chest. 1995; 108(4):932-936

107 Challen K, Bright J, Bentley A, Walter D. Physiological-social score (PMEWS) vs. CURB-65 to triage pandemic influenza: a comparative validation study using community-acquired pneumonia as a proxy. BMC Health Services Research. 2007; 7:33

108 Chalmers JD, Mandal P, Singanayagam A, Akram AR, Choudhury G, Short PM et al. Severity assessment tools to guide ICU admission in community-acquired pneumonia: systematic review and meta-analysis. Intensive Care Medicine. 2011; 37(9):1409-1420

109 Chalmers JD, Rutherford J. Can we use severity assessment tools to increase outpatient management of community-acquired pneumonia? European Journal of Internal Medicine. 2012; 23(5):398-406

110 Chalmers JD, Singanayagam A, Akram AR, Choudhury G, Mandal P, Hill AT. Safety and efficacy of CURB65-guided antibiotic therapy in community-acquired pneumonia. Journal of Antimicrobial Chemotherapy. 2011; 66(2):416-423

111 Chalmers JD, Singanayagam A, Akram AR, Mandal P, Short PM, Choudhury G et al. Severity assessment tools for predicting mortality in hospitalised patients with community-acquired pneumonia. Systematic review and meta-analysis. Thorax. 2010; 65(10):878-883

112 Charra B, Hachimi A, Benslama A, Motaouakkil S. Contribution of noninvasive ventilation in the precocious extubation in the medical ICU. Critical Care. 2009; 13:S5-S6

113 Chaudhary M, Shrivastava SM, Sehgal R. Evaluation of efficacy and safety of fixed dose combination of ceftazidime-tobramycin in comparison with ceftazidime in lower respiratory tract infections. Current Clinical Pharmacology. 2009; 4(1):62-66

114 Chaudhary M, Shrivastava SM, Varughese L, Sehgal R. Efficacy and safety evaluation of fixed dose combination of cefepime and amikacin in comparison with cefepime alone in treatment of nosocomial pneumonia patients. Current Clinical Pharmacology. 2008; 3(2):118-122

115 Chen CZ, Fan PS, Lin CC, Lee CH, Hsiue TR. Repeated pneumonia severity index measurement after admission increases its predictive value for mortality in severe community-acquired pneumonia. Journal of the Formosan Medical Association. 2009; 108(3):219-223

116 Chen Y, Li K, Pu H, Wu T. Corticosteroids for pneumonia. Cochrane Database of Systematic Reviews. 2011; Issue 3:CD007720. DOI:10.1002/14651858.CD007720.pub2

117 Chendrasekhar A. Are routine blood cultures effective in the evaluation of patients clinically diagnosed to have nosocomial pneumonia? American Surgeon. 1996; 62(5):373-376

118 Cheng AC, Buising KL. Delayed administration of antibiotics and mortality in patients with community-acquired pneumonia. Annals of Emergency Medicine. 2009; 53(5):618-624

119 Cheng M, Pan ZY, Yang J, Gao YD. Corticosteroid therapy for severe community-acquired pneumonia: a meta-analysis. Respiratory Care. 2013;(1):epub

120 Cherubin CE, Magazine D, Hargrove C, Klopman A, Stern L, Purpura D et al. A comparative study of the treatment of presumed pneumococcal pneumonia: parenteral penicillin and clindamycin with continuation on oral therapy. Current Therapeutic Research - Clinical and Experimental. 1975; 17(1):88-94

121 Chidiac C, Che D, Pires-Cronenberger S, Jarraud S, Campese C, Bissery A et al. Factors associated with hospital mortality in community-acquired legionellosis in France. European Respiratory Journal. 2012; 39(4):963-970

122 Chinthakindi RK, Divi RR, Carrey Z, Petrillo R, Ramirez M. Limited usefulness of initial blood cultures in all patients admitted with pneumonia in a community hospital. Chest. 2009; 136(4)

123 Choudhury G, Chalmers JD, Mandal P, Akram AR, Murray MP, Short P et al. Physician judgement is a crucial adjunct to pneumonia severity scores in low-risk patients. European Respiratory Journal. 2011; 38(3):643-648

124 Christ-Crain M, Breidthardt T, Stolz D, Zobrist K, Bingisser R, Miedinger D et al. Use of B-type natriuretic peptide in the risk stratification of community-acquired pneumonia. Journal of Internal Medicine. 2008; 264(2):166-176

125 Christ-Crain M, Morgenthaler NG, Stolz D, Müller C, Bingisser R, Harbarth S et al. Pro-adrenomedullin to predict severity and outcome in community-acquired pneumonia [ISRCTN04176397]. Critical Care. 2006; 10(3):R96

126 Christ-Crain M, Stolz D, Bingisser R, Müller C, Miedinger D, Huber PR et al. Procalcitonin guidance of antibiotic therapy in community-acquired pneumonia: a randomized trial. American Journal of Respiratory and Critical Care Medicine. 2006; 174(1):84-93

127 Christ-Crain M, Opal SM. Clinical review: the role of biomarkers in the diagnosis and management of community-acquired pneumonia. Critical Care. 2010; 14(1):203

128 Claessens YE, Mathevon T, Kierzek G, Grabar S, Jegou D, Batard E et al. Accuracy of C-reactive protein, procalcitonin, and mid-regional pro-atrial natriuretic peptide to guide site of care of community-acquired pneumonia. Intensive Care Medicine. 2010; 36(5):799-809

129 Colardyn F. The efficacy and safety of isepamicin and ceftazidime compared with amikacin and ceftazidime in acute lower respiratory tract infection. Journal of Chemotherapy. 1995; 7 Suppl 2:129-135

130 Collins A, Wilks S, Wootton D, Wright A, Davies L, Hadcroft J et al. Early supported discharge scheme (ESDS) for pneumonia & lower respiratory tract infection (LRTI): Are there enough suitable patients? Thorax. 2011; 66:A32

131 Cometta A, Baumgartner JD, Lew D, Zimmerli W, Pittet D, Chopart P et al. Prospective randomized comparison of imipenem monotherapy with imipenem plus netilmicin for treatment of severe infections in nonneutropenic patients. Antimicrobial Agents and Chemotherapy. 1994; 38(6):1309-1313

132 Cone LA, Woodard DR, Stoltzman DS, Byrd RG. Ceftazidime versus tobramycin-ticarcillin in the treatment of pneumonia and bacteremia. Antimicrobial Agents and Chemotherapy. 1985; 28(1):33-36

133 Confalonieri M, Potena A, Carbone G, Bellone A, Bottrighi P, Della PR et al. Randomised trial of non invasive positive pressure ventilation in severe community acquired pneumonia. European Respiratory Journal Supplement. 1998; 12 Suppl 28:128S

134 Confalonieri M, Potena A, Gandola L, Della PR, Orlando G, Carbone G. Randomised controlled study of noninvasive positive pressure ventilation in severe community acquired pneumonia. Preliminary results. American Journal of Respiratory and Critical Care Medicine. 1998; 157(3 Suppl):A224

135 Corbo J, Friedman B, Bijur P, Gallagher EJ. Limited usefulness of initial blood cultures in community acquired pneumonia. Emergency Medicine Journal. 2004; 21(4):446-448

136 Corrales-Medina VF, Musher DM. Immunomodulatory agents in the treatment of community-acquired pneumonia: a systematic review. Journal of Infection. 2011; 63(3):187-199

137 Coskun AS, Havlucu Y, Cetinkaya C, Cilli A, Karaboga B, Kilinc O et al. Comparison of PSI, A-DROP, CURB-65, and SOAR indices in adult patients with community acquired pneumonia and relation with mortality. Chest. 2013; 144(4 MEETING ABSTRACT)

138 Courtais C, Kuster N, Dupuy AM, Folschveiller M, Jreige R, Bargnoux AS et al. Proadrenomedullin, a useful tool for risk stratification in high Pneumonia Severity Index score community acquired pneumonia. American Journal of Emergency Medicine. 2013; 31(1):215-221

139 Covi M, Velluti G. Comparison of the efficacy and safety of isepamicin and amikacin in the treatment of acute lower respiratory tract infections caused by gram-negative organisms. Journal of Chemotherapy. 1995; 7 Suppl 2:137-142

140 Cronberg S, Banke S, Bruno AM, Carlsson M, Elmrud H, Elowsson S et al. Ampicillin plus mecillinam vs. cefotaxime/cefadroxil treatment of patients with severe pneumonia or

pyelonephritis: a double-blind multicentre study evaluated by intention-to-treat analysis. Scandinavian Journal of Infectious Diseases. 1995; 27(5):463-468

141 D'Ignazio J, Camere MA, Lewis DE, Jorgensen D, Breen JD. Novel, single-dose microsphere formulation of azithromycin versus 7-day levofloxacin therapy for treatment of mild to moderate community-acquired Pneumonia in adults. Antimicrobial Agents and Chemotherapy. 2005; 49(10):4035-4041

142 Daifuku R, Movahhed H, Fotheringham N, Bear MB, Nelson S. Time to resolution of morbidity: an endpoint for assessing the clinical cure of community-acquired pneumonia. Respiratory Medicine. 1996; 90(10):587-592

143 Davis JS, Cross GB, Charles PGP, Currie BJ, Anstey NM, Cheng AC. Pneumonia risk stratification in tropical Australia: does the SMART-COP score apply? Medical Journal of Australia. 2010; 192(3):133-136

144 Davydov L, Ebert SC, Restino M, Gardner M, Bedenkop G, Uchida KM et al. Prospective evaluation of the treatment and outcome of community-acquired pneumonia according to the Pneumonia Severity Index in VHA hospitals. Diagnostic Microbiology and Infectious Disease. 2006; 54(4):267-275

145 de Jager CPC, Wever PC, Gemen EFA, Kusters R, van Gageldonk-Lafeber AB, van der Poll T et al. The neutrophil-lymphocyte count ratio in patients with community-acquired pneumonia. PloS One. 2012; 7(10):e46561

146 De Pascale G, Bello G, Antonelli M. Steroids in severe pneumonia: a literature review. Minerva Anestesiologica. 2011; 77(9):902-910

147 Dedier J, Singer DE, Chang Y, Moore M, Atlas SJ. Processes of care, illness severity, and outcomes in the management of community-acquired pneumonia at academic hospitals. Archives of Internal Medicine. 2001; 161(17):2099-2104

148 Delclaux C, L'Her E, Alberti C, Mancebo J, Abroug F, Conti G et al. Treatment of acute hypoxemic nonhypercapnic respiratory insufficiency with continuous positive airway pressure delivered by a face mask: A randomized controlled trial. Journal of the American Medical Association. 2000; 284(18):2352-2360

149 Delerme S, Ray P. Acute respiratory failure in the elderly: diagnosis and prognosis. Age and Ageing. 2008; 37(3):251-257

150 DeMaria AJ, Treadwell TL, Saunders CA, Porat R, McCabe WR. Randomized clinical trial of aztreonam and aminoglycoside antibiotics in the treatment of serious infections caused by gram-negative bacilli. Antimicrobial Agents and Chemotherapy. 1989; 33(8):1137-1143

151 Dey AB, Nagarkar KM, Kumar V. Clinical presentation and predictors of outcome in adult patients with community-acquired pneumonia. National Medical Journal of India. 1997; 10(4):169-172

152 Diederichsen HZ, Skamling M, Diederichsen A, Grinsted P, Antonsen S, Petersen PH et al. Randomised controlled trial of CRP rapid test as a guide to treatment of respiratory infections in general practice. Scandinavian Journal of Primary Health Care. 2000; 18(1):39-43

153 Dimopoulos G, Matthaiou DK, Karageorgopoulos DE, Grammatikos AP, Athanassa Z, Falagas ME. Short- versus long-course antibacterial therapy for community-acquired pneumonia: a meta-analysis. Drugs. 2008; 68(13):1841-1854

154 Ding YY, Abisheganaden J, Chong WF, Heng BH, Lim TK. Short-term mortality among older persons hospitalized for pneumonia: influence of baseline patient characteristics beyond severity of illness. Journal of Hospital Medicine. 2012; 7(3):211-217

155 Dobbin CJ, Duggan CJ, Barnes DJ. The efficacy of an antibiotic protocol for community-acquired pneumonia. Medical Journal of Australia. 2001; 174(7):333-337

156 Domingo GRR, Reyes FC, Thompson FV, Johnson PM, Shortridge-Baggett LM. Effectiveness of structured discharge process in reducing hospital readmission of adult patients with community acquired pneumonia: A systematic review. JBI Database of Systematic Reviews and Implementation Reports. 2012; 10(18):1086-1121

157 Dresser LD, Niederman MS, Paladino JA. Cost-effectiveness of gatifloxacin vs ceftriaxone with a macrolide for the treatment of community-acquired pneumonia. Chest. 2001; 119(5):1439-1448

158 Drummond MF, Becker DL, Hux M, Chancellor J, V, Duprat-Lomon I, Kubin R et al. An economic evaluation of sequential IV/po moxifloxacin therapy compared to IV/po co-amoxiclav with or without clarithromycin in the treatment of community-acquired pneumonia. Chest. 2003; 124(2):526-535

159 Duke GJ, Bersten AD. Non-Invasive Ventilation for Adult Acute Respiratory Failure. Part II. Critical Care and Resuscitation. 1999; 1(2):210

160 Dunbar LM, Wunderink RG, Habib MP, Smith LG, Tennenberg AM, Khashab MM et al. High-dose, short-course levofloxacin for community-acquired pneumonia: a new treatment paradigm. Clinical Infectious Diseases. 2003; 37(6):752-760

161 El Solh A, Pineda L, Bouquin P, Mankowski C. Determinants of short and long term functional recovery after hospitalization for community-acquired pneumonia in the elderly: role of inflammatory markers. BMC Geriatrics. 2006; 6:12

162 El Solh AA, Akinnusi ME, Alfarah Z, Patel A. Effect of antibiotic guidelines on outcomes of hospitalized patients with nursing home-acquired pneumonia. Journal of the American Geriatrics Society. 2009; 57(6):1030-1035

163 El-Azeem AA, Hamdy G, Saraya M, Fawzy E, Anwar E, Abdulattif S. The role of procalcitonin as a guide for the diagnosis, prognosis, and decision of antibiotic therapy for lower respiratory tract infections. Egyptian Journal of Chest Diseases and Tuberculosis. 2013; 62(4):687-695

164 El-Solh AA, Sikka P, Ramadan F, Davies J. Etiology of severe pneumonia in the very elderly. American Journal of Respiratory and Critical Care Medicine. 2001; 163(3 Pt 1):645-651

165 Eliakim-Raz N, Robenshtok E, Shefet D, Gafter-Gvili A, Vidal L, Paul M et al. Empiric antibiotic coverage of atypical pathogens for community-acquired pneumonia in hospitalized adults. Cochrane Database of Systematic Reviews. 2012; Issue 9:CD004418. DOI:10.1002/14651858.CD004418.pub4

166 Engel MF, van Manen L, Hoepelman AIM, Thijsen S, Oosterheert JJ. Diagnostic, therapeutic and economic consequences of a positive urinary antigen test for Legionella spp. in patients admitted with community-acquired pneumonia: a 7-year retrospective evaluation. Journal of Clinical Pathology. 2013; 66(9):797-802

167 Engel MF, van Velzen M, Hoepelman AIM, Thijsen S, Oosterheert JJ. Positive urinary antigen tests for Streptococcus pneumoniae in community-acquired pneumonia: a 7-year retrospective

evaluation of health care cost and treatment consequences. European Journal of Clinical Microbiology and Infectious Diseases. 2013; 32(4):485-492

168 Engel MF, Paling FP, Hoepelman AIM, van der Meer V, Oosterheert JJ. Evaluating the evidence for the implementation of C-reactive protein measurement in adult patients with suspected lower respiratory tract infection in primary care: a systematic review. Family Practice. 2012; 29(4):383-393

169 Espana PP, Capelastegui A, Bilbao A, Diez R, Izquierdo F, Lopez de Goicoetxea MJ et al. Utility of two biomarkers for directing care among patients with non-severe community-acquired pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 2012; 31(12):3397-3405

170 Espana PP, Capelastegui A, Quintana JM, Soto A, Gorordo I, Garcia-Urbaneja M et al. A prediction rule to identify allocation of inpatient care in community-acquired pneumonia. European Respiratory Journal. 2003; 21(4):695-701

171 Espana PP, Capelastegui A, Quintana JM, Bilbao A, Diez R, Pascual S et al. Validation and comparison of SCAP as a predictive score for identifying low-risk patients in community-acquired pneumonia. Journal of Infection. 2010; 60(2):106-113

172 Esquinas Rodriguez AM, Papadakos PJ, Carron M, Cosentini R, Chiumello D. Clinical review: Helmet and non-invasive mechanical ventilation in critically ill patients. Critical Care. 2013; 17(2)

173 Estes L, Orenstein R. Cost-effectiveness analysis of linezolid compared with vancomycin for the treatment of nosocomial pneumonia caused by methicillin-resistant Staphylococcus aureus. Clinical Therapeutics. 2007; 29(2):381-384

174 Etzion O, Novack V, Avnon L, Porath A, Dagan E, Riesenberg K et al. Characteristics of low-risk patients hospitalized with community-acquired pneumonia. European Journal of Internal Medicine. 2007; 18(3):209-214

175 Ewig S, Bauer T, Hasper E, Marklein G, Kubini R, Luderitz B. Value of routine microbial investigation in community-acquired pneumonia treated in a tertiary care center. Respiration; International Review of Thoracic Diseases. 1996; 63(3):164-169

176 Ewig S, Bauer T, Hasper E, Pizzulli L, Kubini R, Luderitz B. Prognostic analysis and predictive rule for outcome of hospital-treated community-acquired pneumonia. European Respiratory Journal. 1995; 8(3):392-397

177 Ewig S, Birkner N, Strauss R, Schaefer E, Pauletzki J, Bischoff H et al. New perspectives on community-acquired pneumonia in 388 406 patients. Results from a nationwide mandatory performance measurement programme in healthcare quality. Thorax. 2009; 64(12):1062-1069

178 Ewig S, Kleinfeld T, Bauer T, Seifert K, Schafer H, Goke N. Comparative validation of prognostic rules for community-acquired pneumonia in an elderly population. European Respiratory Journal. 1999; 14(2):370-375

179 Ewig S, Ruiz M, Mensa J, Marcos MA, Martinez JA, Arancibia F et al. Severe community-acquired pneumonia. Assessment of severity criteria. American Journal of Respiratory and Critical Care Medicine. 1998; 158(4):1102-1108

180 Ewig S, Seifert K, Kleinfeld T, Goke N, Schafer H. Management of patients with community-acquired pneumonia in a primary care hospital: a critical evaluation. Respiratory Medicine. 2000; 94(6):556-563

181 Ewig S, Bauer T, Richter K, Szenscenyi J, Heller G, Strauss R et al. Prediction of in-hospital death from community-acquired pneumonia by varying CRB-age groups. European Respiratory Journal. 2013; 41(4):917-922

182 Ewig S, Schlochtermeier M, Goke N, Niederman MS. Applying sputum as a diagnostic tool in pneumonia: limited yield, minimal impact on treatment decisions. Chest. 2002; 121(5):1486-1492

183 Ewig S, Woodhead M, Torres A. Towards a sensible comprehension of severe community-acquired pneumonia. Intensive Care Medicine. 2011; 37(2):214-223

184 Fagon J, Patrick H, Haas DW, Torres A, Gibert C, Cheadle WG et al. Treatment of gram-positive nosocomial pneumonia. Prospective randomized comparison of quinupristin/dalfopristin versus vancomycin. Nosocomial Pneumonia Group. American Journal of Respiratory and Critical Care Medicine. 2000; 161(3 Pt 1):753-762

185 Falcone M, Corrao S, Venditti M, Serra P, Licata G. Performance of PSI, CURB-65, and SCAP scores in predicting the outcome of patients with community-acquired and healthcare-associated pneumonia. Internal and Emergency Medicine. 2011; 6(5):431-436

186 Falguera M, Ruiz-Gonzalez A, Schoenenberger JA, Touzon C, Gazquez I, Galindo C et al. Prospective, randomised study to compare empirical treatment versus targeted treatment on the basis of the urine antigen results in hospitalised patients with community-acquired pneumonia. Thorax. 2010; 65(2):101-106

187 Falk G, Fahey T. C-reactive protein and community-acquired pneumonia in ambulatory care: systematic review of diagnostic accuracy studies. Family Practice. 2009; 26(1):10-21

188 Fang W, Wu C, Yu C, Yang K, Chen C, Tu C et al. Application and comparison of scoring indices to predict outcomes in patients with healthcare associated pneumonia. American Journal of Respiratory and Critical Care Medicine. 2010; 181(1 MeetingAbstracts)

189 Fang WF, Yang KY, Wu CL, Yu CJ, Chen CW, Tu CY et al. Application and comparison of scoring indices to predict outcomes in patients with healthcare-associated pneumonia. Critical Care. 2011; 15(1):R32

190 Fazili T, Endy T, Javaid W, Maskey M. Role of procalcitonin in guiding antibiotic therapy. American Journal of Health-System Pharmacy. 2012; 69(23):2057-2061

191 Feagan BG, Marrie TJ, Lau CY, Wheeler SL, Wong CJ, Vandervoort MK. Treatment and outcomes of community-acquired pneumonia at Canadian hospitals. Canadian Medical Association Journal. 2000; 162(10):1415-1420

192 Fekete T, Castellano M, Ramirez J, Siefkin A, Martin M, Redington JJ et al. A randomised comparative trial of aztreonam plus cefazolin versus ceftazidime for the treatment of nosocomial pneumonia. Drug Investigation. 1994; 7(3):117-126

193 Feldman C, White H, O'Grady J, Flitcroft A, Briggs A, Richards G. An open, randomised, multi-centre study comparing the safety and efficacy of sitafloxacin and imipenem/cilastatin in the intravenous treatment of hospitalised patients with pneumonia. International Journal of Antimicrobial Agents. 2001; 17(3):177-188

194 Fendeleur J, Barbe AL, Attard O, Sourroque J, Gaudard P, Eliet J et al. Early decrease in procalcitonin is a good marker of successful initial treatment in severe postoperative pneumonia. Journal of Cardiothoracic and Vascular Anesthesia. 2009; 23(3 SUPPL. 1):S18

195 Ferreira JP, Abreu MA, Rodrigues P, Maia JM, Leuschner P, Correia JA. Clinical usefulness of streptococcus pneumoniae urinary antigen in patients hospitalized with non-nosocomial pneumonia. Internet Journal of Internal Medicine. 2011; 9(2)

196 Ferrer M, Esquinas A, Leon M, Gonzalez G, Alarcon A, Torres A. Noninvasive ventilation in severe hypoxemic respiratory failure: a randomized clinical trial. American Journal of Respiratory and Critical Care Medicine. 2003; 168(12):1438-1444

197 Ferrer M, Esquinas A, Arancibia F, Bauer TT, Gonzalez G, Carrillo A et al. Noninvasive ventilation during persistent weaning failure: a randomized controlled trial. American Journal of Respiratory and Critical Care Medicine. 2003; 168(1):70-76

198 File TMJ, Mandell LA, Tillotson G, Kostov K, Georgiev O. Gemifloxacin once daily for 5 days versus 7 days for the treatment of community-acquired pneumonia: a randomized, multicentre, double-blind study. Journal of Antimicrobial Chemotherapy. 2007; 60(1):112-120

199 File TMJ, Schentag JJ. What can we learn from the time course of untreated and partially treated community-onset Streptococcus pneumoniae pneumonia? A clinical perspective on superiority and noninferiority trial designs for mild community-acquired pneumonia. Clinical Infectious Diseases. 2008; 47 Suppl 3:S157-S165

200 Finch R, Schurmann D, Collins O, Kubin R, McGivern J, Bobbaers H et al. Randomized controlled trial of sequential intravenous (i.v.) and oral moxifloxacin compared with sequential i.v. and oral co-amoxiclav with or without clarithromycin in patients with community-acquired pneumonia requiring initial parenteral treatment. Antimicrobial Agents and Chemotherapy. 2002; 46(6):1746-1754

201 Finch RG, Pemberton K, Gildon KM. Pneumonia: the impact of risk factors on the outcome of treatment with meropenem and ceftazidime. Journal of Chemotherapy. 1998; 10(1):35-46

202 Fine JM, Fine MJ, Galusha D, Petrillo M, Meehan TP. Patient and hospital characteristics associated with recommended processes of care for elderly patients hospitalized with pneumonia: results from the medicare quality indicator system pneumonia module. Archives of Internal Medicine. 2002; 162(7):827-833

203 Fine MJ, Auble TE, Yealy DM, Hanusa BH, Weissfeld LA, Singer DE et al. A prediction rule to identify low-risk patients with community-acquired pneumonia. New England Journal of Medicine. 1997; 336(4):243-250

204 Fine MJ, Stone RA, Singer DE, Coley CM, Marrie TJ, Lave JR et al. Processes and outcomes of care for patients with community-acquired pneumonia: results from the Pneumonia Patient Outcomes Research Team (PORT) cohort study. Archives of Internal Medicine. 1999; 159(9):970-980

205 Fine MJ, Stone RA, Lave JR, Hough LJ, Obrosky DS, Mor MK et al. Implementation of an evidence-based guideline to reduce duration of intravenous antibiotic therapy and length of stay for patients hospitalized with community-acquired pneumonia: a randomized controlled trial. American Journal of Medicine. 2003; 115(5):343-351

206 Fink MP, Snydman DR, Niederman MS, Leeper KVJ, Johnson RH, Heard SO et al. Treatment of severe pneumonia in hospitalized patients: results of a multicenter, randomized, double-blind trial comparing intravenous ciprofloxacin with imipenem-cilastatin. The Severe Pneumonia Study Group. Antimicrobial Agents and Chemotherapy. 1994; 38(3):547-557

207 Flanders SA, Stein J, Shochat G, Sellers K, Holland M, Maselli J et al. Performance of a bedside C-reactive protein test in the diagnosis of community-acquired pneumonia in adults with acute cough. American Journal of Medicine. 2004; 116(8):529-535

208 Flanders WD, Tucker G, Krishnadasan A, Martin D, Honig E, McClellan WM. Validation of the pneumonia severity index. Importance of study-specific recalibration. Journal of General Internal Medicine. 1999; 14(6):333-340

209 Fleming TR, Powers JH. Issues in noninferiority trials: the evidence in community-acquired pneumonia. Clinical Infectious Diseases. 2008; 47 Suppl 3:S108-S120

210 Foley SC, Kelly E, O'Neill SJ. Audit of the management of patients admitted with community acquired pneumonia. Irish Medical Journal. 2006; 99(5)

211 Foss CH. Are the Pneumonia Severity Index (PSI) and CURB-65 suitable in very old patients hospitalized with pneumonia? European Geriatric Medicine. 2013; 4:S115

212 Frei CR, Attridge RT, Mortensen EM, Restrepo MI, Yu Y, Oramasionwu CU et al. Guideline-concordant antibiotic use and survival among patients with community-acquired pneumonia admitted to the intensive care unit. Clinical Therapeutics. 2010; 32(2):293-299

213 Frei CR, Bell AM, Traugott KA, Jaso TC, Daniels KR, Mortensen EM et al. A clinical pathway for community-acquired pneumonia: an observational cohort study. BMC Infectious Diseases. 2011; 11:188

214 Frei CR, Koeller JM, Burgess DS, Talbert RL, Johnsrud MT. Impact of atypical coverage for patients with community-acquired pneumonia managed on the medical ward: results from the United States Community-Acquired Pneumonia Project. Pharmacotherapy. 2003; 23(9):1167-1174

215 Frei CR, Restrepo MI, Mortensen EM, Burgess DS. Impact of guideline-concordant empiric antibiotic therapy in community-acquired pneumonia. American Journal of Medicine. 2006; 119(10):865-871

216 Freire AT, Melnyk V, Kim MJ, Datsenko O, Dzyublik O, Glumcher F et al. Comparison of tigecycline with imipenem/cilastatin for the treatment of hospital-acquired pneumonia. Diagnostic Microbiology and Infectious Disease. 2010; 68(2):140-151

217 Gacouin A, Le Tulzo Y, Lavoue S, Camus C, Hoff J, Bassen R et al. Severe pneumonia due to Legionella pneumophila: prognostic factors, impact of delayed appropriate antimicrobial therapy. Intensive Care Medicine. 2002; 28(6):686-691

218 Gandjini H, McGovern PC, Yan JL, Dartois N. Clinical efficacy of two high tigecycline dosage regimens vs. imipenem/cilastatin in hospital-acquired pneumonia: Results of a randomised phase II clinical trial. Clinical Microbiology and Infection. 2012; 18:64

219 Garau J, Baquero F, Perez-Trallero E, Perez JL, Martin-Sanchez AM, Garcia-Rey C et al. Factors impacting on length of stay and mortality of community-acquired pneumonia. Clinical Microbiology and Infection. 2008; 14(4):322-329

220 Garbino J, Bornand JE, Uckay I, Fonseca S, Sax H. Impact of positive legionella urinary antigen test on patient management and improvement of antibiotic use. Journal of Clinical Pathology. 2004; 57(12):1302-1305

221 Garcia-Ordonez MA, Garcia-Jimenez JM, Paez F, Alvarez F, Poyato B, Franquelo M et al. Clinical aspects and prognostic factors in elderly patients hospitalised for community-acquired pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 2001; 20(1):14-19

222 Garcia-Vazquez E, Soto S, Gomez J, Herrero JA. Simple criteria to assess mortality in patients with community-acquired pneumonia. Medicina Clinica. 2008; 131(6):201-204

223 Garrett LE, Hess ML, Richardson J, Le Tourneau JL. Antibiotic use in the intensive care unit. American Journal of Respiratory and Critical Care Medicine. 2011; 183(1 MeetingAbstracts)

224 Gay PC. Complications of noninvasive ventilation in acute care. Respiratory Care. 2009; 54(2):246-248

225 Geckler RW. A comparison of ampicillin/sulbactam and cefuroxime in the treatment of patients with bacterial infections of the lower respiratory tract. Clinical Therapeutics. 1994; 16(4):662-672

226 Gesser RM, McCarroll K, Teppler H, Woods GL. Efficacy of ertapenem in the treatment of serious infections caused by Enterobacteriaceae: analysis of pooled clinical trial data. Journal of Antimicrobial Chemotherapy. 2003; 51(5):1253-1260

227 Girou E. Noninvasive mechanical ventilation and prevention of nosocomial infection. Clinical Pulmonary Medicine. 2001; 8(6):340-345

228 Gleadhill IC, Ferguson WP, Lowry RC. Efficacy and safety of ciprofloxacin in patients with respiratory infections in comparison with amoxycillin. Journal of Antimicrobial Chemotherapy. 1986; 18 Suppl D:133-138

229 Glerant JC, Hellmuth D, Schmit JL, Ducroix JP, Jounieaux V. Utility of blood cultures in community-acquired pneumonia requiring hospitalization: influence of antibiotic treatment before admission. Respiratory Medicine. 1999; 93(3):208-212

230 Glossop AJ, Shephard N, Bryden DC, Mills GH. The use of noninvasive ventilation post extubation: A meta analysis. Intensive Care Medicine. 2011; 37:S189

231 Glossop AJ, Shepherd N, Bryden DC, Mills GH. Non-invasive ventilation for weaning, avoiding reintubation after extubation and in the postoperative period: a meta-analysis. British Journal of Anaesthesia. 2012; 109(3):305-314

232 Goss CH, Rubenfeld GD, Park DR, Sherbin VL, Goodman MS, Root RK. Cost and incidence of social comorbidities in low-risk patients with community-acquired pneumonia admitted to a public hospital. Chest. 2003; 124(6):2148-2155

233 Gotfried MH, Killian AD, Servi RJ, Danziger LH, Rodvold KA. IV cefuroxime plus oral clarithromycin or IV erythromycin for the treatment of community-acquired pneumonia in hospitalised patients. A pilot study. Clinical Drug Investigation. 1997; 14(1):23-34

234 Graffelman AW, Knuistingh Neven A, le Cessie S, Kroes ACM, Springer MP, van den Broek PJ. A diagnostic rule for the aetiology of lower respiratory tract infections as guidance for antimicrobial treatment. British Journal of General Practice. 2004; 54(498):20-24

235 Graffelman AW, Willemssen FEJA, Zonderland HM, Neven AK, Kroes ACM, van den Broek PJ. Limited value of chest radiography in predicting aetiology of lower respiratory tract infection in general practice. British Journal of General Practice. 2008; 58(547):93-97

236 Graham WG, Bradley DA. Efficacy of chest physiotherapy and intermittent positive-pressure breathing in the resolution of pneumonia. New England Journal of Medicine. 1978; 299(12):624-627

237 Granizo JJ, Aguilar L, Gimenez MJ, Coronel P, Gimeno M, Prieto J. Safety profile of cefditoren. A pooled analysis of data from clinical trials in community-acquired respiratory tract infections. Revista Espanola De Quimioterapia. 2009; 22(2):57-61

238 Guchev IA, Yu VL, Sinopalnikov A, Klochkov OI, Kozlov RS, Stratchounski LS. Management of nonsevere pneumonia in military trainees with the urinary antigen test for Streptococcus pneumoniae: an innovative approach to targeted therapy. Clinical Infectious Diseases. 2005; 40(11):1608-1616

239 Guerin C. The preventive role of higher PEEP in treating severely hypoxemic ARDS. Minerva Anestesiologica. 2011; 77(8):835-845

240 Guertler C, Wirz B, Christ-Crain M, Zimmerli W, Mueller B, Schuetz P. Inflammatory responses predict long-term mortality risk in community-acquired pneumonia. European Respiratory Journal. 2011; 37(6):1439-1446

241 Guo Q, Li Hy, Zhou Yp, Li M, Chen Xk, Liu H et al. Weight of the CURB-65 criteria for community-acquired pneumonia in a very low-mortality-rate setting. Internal Medicine. 2012; 51(18):2521-2527

242 Gutierrez F, Masia M, Rodriguez JC, Ayelo A, Soldan B, Cebrian L et al. Evaluation of the immunochromatographic Binax NOW assay for detection of Streptococcus pneumoniae urinary antigen in a prospective study of community-acquired pneumonia in Spain. Clinical Infectious Diseases. 2003; 36(3):286-292

243 Haataja M, Hanninen P, Platin LH. Trimethoprim or cotrimoxazole in pneumonia. Current Therapeutic Research - Clinical and Experimental. 1985; 37(2):191-196

244 Haeuptle J, Zaborsky R, Fiumefreddo R, Trampuz A, Steffen I, Frei R et al. Prognostic value of procalcitonin in Legionella pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 2009; 28(1):55-60

245 Hagaman JT, Rouan GW, Shipley RT, Panos RJ. Admission chest radiograph lacks sensitivity in the diagnosis of community-acquired pneumonia. American Journal of the Medical Sciences. 2009; 337(4):236-240

246 Halm EA, Fine MJ, Marrie TJ, Coley CM, Kapoor WN, Obrosky DS et al. Time to clinical stability in patients hospitalized with community-acquired pneumonia: implications for practice guidelines. Journal of the American Medical Association. 1998; 279(18):1452-1457

247 Hansson LO, Hedlund JU, Ortqvist AB. Sequential changes of inflammatory and nutritional markers in patients with community-acquired pneumonia. Scandinavian Journal of Clinical and Laboratory Investigation. 1997; 57(2):111-118

248 Harrison BDW, Farr BM, Pugh S. Community-acquired pneumonia in adults in British Hospitals in 1982-1983: A survey of aetiology, mortality, prognostic factors and outcome. Quarterly Journal of Medicine. 1987; 62(239):195-220

249 Hasley PB, Albaum MN, Li Y-H, Fuhrman CR, Britton CA, Marrie TJ et al. Do pulmonary radiographic findings at presentation predict mortality in patients with community-acquired pneumonia? Archives of Internal Medicine. 1996; 156(19):2206-2212

250 Hausmann LRM, Ibrahim SA, Mehrotra A, Nsa W, Bratzler DW, Mor MK et al. Racial and ethnic disparities in pneumonia treatment and mortality. Medical Care. 2009; 47(9):1009-1017

251 Havey TC, Fowler RA, Daneman N. Duration of antibiotic therapy for bacteremia: a systematic review and meta-analysis. Critical Care. 2011; 15(6):R267

252 Hedlund J. Community-acquired pneumonia requiring hospitalisation. Factors of importance for the short- and long term prognosis. Scandinavian Journal of Infectious Diseases, Supplement. 1995;(97):1-60

253 Hedlund J, Hansson LO. Procalcitonin and C-reactive protein levels in community-acquired pneumonia: correlation with etiology and prognosis. Infection. 2000; 28(2):68-73

254 Hedlund J, Hansson LO, Ortqvist A. Short- and long-term prognosis for middle-aged and elderly patients hospitalized with community-acquired pneumonia: impact of nutritional and inflammatory factors. Scandinavian Journal of Infectious Diseases. 1995; 27(1):32-37

255 Hess DR. The evidence for noninvasive positive-pressure ventilation in the care of patients in acute respiratory failure: a systematic review of the literature. Respiratory Care. 2004; 49(7):810-829

256 Hirata-Dulas CA, Stein DJ, Guay DR, Gruninger RP, Peterson PK. A randomized study of ciprofloxacin versus ceftriaxone in the treatment of nursing home-acquired lower respiratory tract infections. Journal of the American Geriatrics Society. 1991; 39(10):979-985

257 Hochreiter M, Kohler T, Schweiger AM, Keck FS, Bein B, von ST et al. Procalcitonin to guide duration of antibiotic therapy in intensive care patients: a randomized prospective controlled trial. Critical Care. 2009; 13(3):R83

258 Hoeffken G, Talan D, Larsen LS, Peloquin S, Choudhri SH, Haverstock D et al. Efficacy and safety of sequential moxifloxacin for treatment of community-acquired pneumonia associated with atypical pathogens. European Journal of Clinical Microbiology and Infectious Diseases. 2004; 23(10):772-775

259 Hoffmann K, Leifheit AK, Reichardt B, Maier M. The antibiotic prescription and redemption gap and opportunistic CRP point-of-care testing. A cross-sectional study in primary health care from Eastern Austria. Wiener Klinische Wochenschrift. 2013; 125(3-4):105-110

260 Hohenthal U, Hurme S, Helenius H, Heiro M, Meurman O, Nikoskelainen J et al. Utility of C-reactive protein in assessing the disease severity and complications of community-acquired pneumonia. Clinical Microbiology and Infection. 2009; 15(11):1026-1032

261 Holmes WF, Macfarlane JT, Macfarlane RM, Hubbard R. Symptoms, signs, and prescribing for acute lower respiratory tract illness. British Journal of General Practice. 2001; 51(464):177-181

262 Holmes WF, Macfarlane JT, Macfarlane RM, Lewis S. The influence of antibiotics and other factors on reconsultation for acute lower respiratory tract illness in primary care. British Journal of General Practice. 1997; 47(425):815-818

263 Hopkins DW, Daniel R. Trovafloxacin vs ceftriaxone/cefpodoxime +/- erythromycin in hospitalised community-acquired pneumonia. Drugs. 1999; 58(SUPPL. 2):318-319

264 Hopkins DW, Daniel R. Trovafloxacin vs ciprofloxacin +/- clindamycin/metronidazole in patients with nosocomial pneumonia. Drugs. 1999; 58(SUPPL. 2):323-325

265 Hopstaken RM, Coenen S, Butler CC, Nelemans P, Muris JWM, Rinkens PELM et al. Prognostic factors and clinical outcome in acute lower respiratory tract infections: a prospective study in general practice. Family Practice. 2006; 23(5):512-519

266 Hopstaken RM, Muris JW, Knottnerus JA, Kester AD, Rinkens PE, Dinant GJ. Contributions of symptoms, signs, erythrocyte sedimentation rate, and C-reactive protein to a diagnosis of pneumonia in acute lower respiratory tract infection. British Journal of General Practice. 2003; 53(490):358-364

267 Hopstaken RM, Stobberingh EE, Knottnerus JA, Muris JWM, Nelemans P, Rinkens PELM et al. Clinical items not helpful in differentiating viral from bacterial lower respiratory tract infections in general practice. Journal of Clinical Epidemiology. 2005; 58(2):175-183

268 Hopstaken RM, Cals JWL, Dinant GJ. Accuracy of lipopolysaccharide-binding protein (LBP) and fibrinogen compared to C-reactive protein (CRP) in differentiating pneumonia from acute bronchitis in primary care. Primary Care Respiratory Journal. 2009; 18(3):227-230

269 Hore CT. Non-invasive positive pressure ventilation in patients with acute respiratory failure. Emergency Medicine. 2002; 14(3):281-295

270 Horie M, Ugajin M, Suzuki M, Noguchi S, Tanaka W, Yoshihara H et al. Diagnostic and prognostic value of procalcitonin in community-acquired pneumonia. American Journal of the Medical Sciences. 2012; 343(1):30-35

271 Horita N, Miyazawa N, Kojima R, Kimura N, Inoue M, Ishigatsubo Y et al. Sensitivity and specificity of the Streptococcus pneumoniae urinary antigen test for unconcentrated urine from adult patients with pneumonia: a meta-analysis. Respirology. 2013;(1):epub

272 Horowitz CR, Chassin MR. Improving the quality of pneumonia care that patients experience. American Journal of Medicine. 2002; 113(5):379-383

273 Hotchkiss JR, Marini JJ. Noninvasive ventilation: An emerging supportive technique for the emergency department. Annals of Emergency Medicine. 1998; 32(4):470-479

274 Houck PM, Bratzler DW, Niederman M, Bartlett JG. Pneumonia treatment process and quality. Archives of Internal Medicine. 2002; 162(7):843-844

275 Hsu DJ, Stone RA, Obrosky DS, Yealy DM, Meehan TP, Fine JM et al. Predictors of timely antibiotic administration for patients hospitalized with community-acquired pneumonia from the cluster-randomized EDCAP trial. American Journal of the Medical Sciences. 2010; 339(4):307-313

276 Huaman MA, Diaz-Kuan A, Hegab S, Brar I, Kaatz S. CURB-65 and SMRT-CO in the prediction of early transfers to the intensive care unit among patients with community-acquired pneumonia initially admitted to a general ward. Journal of Hospital Medicine. 2011; 6(9):513-518

277 Huang DT, Weissfeld LA, Kellum JA, Yealy DM, Kong L, Martino M et al. Risk prediction with procalcitonin and clinical rules in community-acquired pneumonia. Annals of Emergency Medicine. 2008; 52(1):48

278 Huijskens EGW, Koopmans M, Palmen FMH, van Erkel AJM, Mulder PGH, Rossen JWA. The value of signs and symptoms in differentiating between bacterial, viral and mixed aetiology in patients with community-acquired pneumonia. Journal of Medical Microbiology. 2014; 63(Pt 3):441-452

279 Ioachimescu OC, Ioachimescu AG, Iannini PB. Severity scoring in community-acquired pneumonia caused by Streptococcus pneumoniae: a 5-year experience. International Journal of Antimicrobial Agents. 2004; 24(5):485-490

280 Iregui M, Ward S, Sherman G, Fraser VJ, Kollef MH. Clinical importance of delays in the initiation of appropriate antibiotic treatment for ventilator-associated pneumonia. Chest. 2002; 122(1):262-268

281 Ito I, Kadowaki S, Tanabe N, Haruna A, Kase M, Yasutomo Y et al. Tazobactam/piperacillin for moderate-to-severe pneumonia in patients with risk for aspiration: comparison with imipenem/cilastatin. Pulmonary Pharmacology and Therapeutics. 2010; 23(5):403-410

282 Iwata K, Igarashi W, Honjo M, Oka H, Oba Y, Yoshida H et al. Hospital-acquired pneumonia in Japan may have a better mortality profile than HAP in the United States: a retrospective study. Journal of Infection and Chemotherapy. 2012; 18(5):734-740

283 Jaccard C, Troillet N, Harbarth S, Zanetti G, Aymon D, Schneider R et al. Prospective randomized comparison of imipenem-cilastatin and piperacillin-tazobactam in nosocomial pneumonia or peritonitis. Antimicrobial Agents and Chemotherapy. 1998; 42(11):2966-2972

284 Jakobsen KA, Melbye H, Kelly MJ, Ceynowa C, Molstad S, Hood K et al. Influence of CRP testing and clinical findings on antibiotic prescribing in adults presenting with acute cough in primary care. Scandinavian Journal of Primary Health Care. 2010; 28(4):229-236

285 Jaspers CA, Kieft H, Speelberg B, Buiting A, van Marwijk Kooij M, Ruys GJ et al. Meropenem versus cefuroxime plus gentamicin for treatment of serious infections in elderly patients. Antimicrobial Agents and Chemotherapy. 1998; 42(5):1233-1238

286 Jasti H, Mortensen EM, Obrosky DS, Kapoor WN, Fine MJ. Causes and risk factors for rehospitalization of patients hospitalized with community-acquired pneumonia. Clinical Infectious Diseases. 2008; 46(4):550-556

287 Jenkinson SG, George RB, Light RW, Girard WM. Cefazolin vs penicillin. Treatment of uncomplicated pneumococcal pneumonia. Journal of the American Medical Association. 1979; 241(26):2815-2817

288 Jeong BH, Koh WJ, Yoo H, Um SW, Suh GY, Chung MP et al. Performances of prognostic scoring systems in patients with healthcare-associated pneumonia. Clinical Infectious Diseases. 2013; 56(5):625-632

289 Jeremiah CJ, Hannan LM, Baird R, Phelps G, Knight B. Low utilisation of diagnostic microbiology for community acquired pneumonia in regional Victoria. Pathology. 2013; 45(2):162-166

290 Jespersen S, Sogaard OS, Schonheyder HC, Fine MJ, Ostergaard L. Clinical features and predictors of mortality in admitted patients with community- and hospital-acquired legionellosis: A Danish historical cohort study. BMC Infectious Diseases. 2010; 10

291 Johnstone J, Eurich DT, Majumdar SR, Jin Y, Marrie TJ. Long-term morbidity and mortality after hospitalization with community-acquired pneumonia: a population-based cohort study. Medicine. 2008; 87(6):329-334

292 Jones BE, Jones J, Bewick T, Lim WS, Aronsky D, Brown SM et al. CURB-65 pneumonia severity assessment adapted for electronic decision support. Chest. 2011; 140(1):156-163

293 Joshi A, Perin DP, Gehle A, Nsiah-Kumi PA. Feasibility of using C-reactive protein for point-of-care testing. Technology and Health Care. 2013; 21(3):233-240

294 Joshi M, Metzler M, McCarthy M, Olvey S, Kassira W, Cooper A. Comparison of piperacillin/tazobactam and imipenem/cilastatin, both in combination with tobramycin, administered every 6 h for treatment of nosocomial pneumonia. Respiratory Medicine. 2006; 100(9):1554-1565

295 Jung YJ, Koh Y, Hong SB, Chung JW, Ho Choi S, Kim NJ et al. Effect of vancomycin plus rifampicin in the treatment of nosocomial methicillin-resistant Staphylococcus aureus pneumonia. Critical Care Medicine. 2010; 38(1):175-180

296 Kalil AC, Klompas M, Haynatzki G, Rupp ME. Treatment of hospital-acquired pneumonia with linezolid or vancomycin: a systematic review and meta-analysis. BMJ Open. 2013; 3(10):e003912

297 Kalil AC, Murthy MH, Hermsen ED, Neto FK, Sun J, Rupp ME. Linezolid versus vancomycin or teicoplanin for nosocomial pneumonia: a systematic review and meta-analysis. Critical Care Medicine. 2010; 38(9):1802-1808

298 Kanwar M, Brar N, Khatib R, Fakih MG. Misdiagnosis of community-acquired pneumonia and inappropriate utilization of antibiotics: side effects of the 4-h antibiotic administration rule. Chest. 2007; 131(6):1865-1869

299 Karhu J, Ala-Kokko TI, Ohtonen P, Syrjala H. Severe community-acquired pneumonia treated with -lactam-respiratory quinolone vs. -lactam-macrolide combination. Acta Anaesthesiologica Scandinavica. 2013; 57(5):587-593

300 Karmakar G, Wilsher M. Use of the 'CURB 65' score in hospital practice. Internal Medicine Journal. 2010; 40(12):828-832

301 Kasaju S, Acuzar R, Ramirez M, Koh A, Panganiban S. Can the SOAR scoring system predict mortality and hospital readmission in moderate and high risk community acquired pneumonia? a prospective validation study. Chest. 2012; 142(4 SUPPL. 1)

302 Kasamatsu Y, Yamaguchi T, Kawaguchi T, Tanaka N, Oka H, Nakamura T et al. Usefulness of a semi-quantitative procalcitonin test and the A-DROP Japanese prognostic scale for predicting mortality among adults hospitalized with community-acquired pneumonia. Respirology. 2012; 17(2):330-336

303 Katz E, Larsen LS, Fogarty CM, Hamed K, Song J, Choudhri S. Safety and efficacy of sequential i.v. to p.o. moxifloxacin versus conventional combination therapies for the treatment of community-acquired pneumonia in patients requiring initial i.v. therapy. Journal of Emergency Medicine. 2004; 27(4):395-405

304 Kavanagh KE, O'Shea E, Halloran R, Cantillon P, Murphy AW. A pilot study of the use of near-patient C-Reactive Protein testing in the treatment of adult respiratory tract infections in one Irish general practice. BMC Family Practice. 2011; 12:93

305 Keenan SP, Brake D. An evidence-based approach to noninvasive ventilation in acute respiratory failure. Critical Care Clinics. 1998; 14(3):359-372

306 Keenan SP, Mehta S. Noninvasive ventilation for patients presenting with acute respiratory failure: the randomized controlled trials. Respiratory Care. 2009; 54(1):116-126

307 Kelly AM. Clinical impact of blood cultures taken in the emergency department. Journal of Accident and Emergency Medicine. 1998; 15(4):254-256

308 Kennedy M, Bates DW, Wright SB, Ruiz R, Wolfe RE, Shapiro NI. Do emergency department blood cultures change practice in patients with pneumonia? Annals of Emergency Medicine. 2005; 46(5):393-400

309 Khajotia RR, Vetter N, Harazin H. Ofloxacin in the treatment of lower respiratory tract infections: report of a prospective, comparative trial. Clinical Therapeutics. 1991; 13(4):460-466

310 Kim JW, Chung J, Choi SH, Jang HJ, Hong SB, Lim CM et al. Early use of imipenem/cilastatin and vancomycin followed by de-escalation versus conventional antimicrobials without de-escalation for patients with hospital-acquired pneumonia in a medical ICU: a randomized clinical trial. Critical Care. 2012; 16(1):R28

311 Kobashi Y, Yoshida K, Miyashita N, Niki Y, Matsushima T. Evaluating the use of a Streptococcus pneumoniae urinary antigen detection kit for the management of community-acquired pneumonia in Japan. Respiration; International Review of Thoracic Diseases. 2007; 74(4):387-393

312 Koehler CO, Arnold H. Controlled clinical study of ceftazidime (3 x 1 g daily) versus piperacillin + tobramycin in patients with nosocomial pneumonia. International Journal of Experimental and Clinical Chemotherapy. 1990; 3(4):211-218

313 Kohno S, Tateda K, Mikamo H, Kadota J, Niki Y, Itamura R. Sulbactam sodium/ampicillin sodium (SBT/ABPC) 3 g, QID for the treatment of moderate to severe community-acquired pneumonia (CAP): The first evidence from Japan. International Journal of Infectious Diseases. 2012; 16:e227

314 Kohno S, Watanabe A, Aoki N, Niki Y. Clinical phase III comparative study of intravenous levofloxacin and ceftriaxone in community-acquired pneumonia treatment. Japanese Journal of Chemotherapy. 2011; 59:32-45

315 Kohno S, Yamaguchi K, Aikawa N, Sumiyama Y, Odagiri S, Aoki N et al. Linezolid versus vancomycin for the treatment of infections caused by methicillin-resistant Staphylococcus aureus in Japan. Journal of Antimicrobial Chemotherapy. 2007; 60(6):1361-1369

316 Kolditz M, Halank M, Schulte-Hubbert B, Bergmann S, Albrecht S, Hoffken G. Copeptin predicts clinical deterioration and persistent instability in community-acquired pneumonia. Respiratory Medicine. 2012; 106(9):1320-1328

317 Kolditz M, Halank M, Schulte-Hubbert B, Hoffken G. Adrenal function is related to prognosis in moderate community-acquired pneumonia. European Respiratory Journal. 2010; 36(3):615-621

318 Kolditz M, Hoffken G, Martus P, Rohde G, Schutte H, Bals R et al. Serum cortisol predicts death and critical disease independently of CRB-65 score in community-acquired pneumonia: a prospective observational cohort study. BMC Infectious Diseases. 2012; 12:90

319 Kollef MH, Sherman G, Ward S, Fraser VJ. Inadequate antimicrobial treatment of infections: A risk factor for hospital mortality among critically III patients. Chest. 1999; 115(2):462-474

320 Kosmas EN, Baxevanis CN, Papamichail M, Kordossis T. Daily variation in circulating cytokines and acute-phase proteins correlates with clinical and laboratory indices in community-acquired pneumonia. European Journal of Clinical Investigation. 1997; 27(4):308-315

321 Kozlov RS, Dekhnich AV, RatChina SA, Belkova YA. Economic evaluation of fluoroquinolone-based regimens for the treatment of community-acquired pneumonia in a multi-field hospital in Russia. Value in Health. 2013; 16(7):A358

322 Kristoffersen KB, Sogaard OS, Wejse C, Black FT, Greve T, Tarp B et al. Antibiotic treatment interruption of suspected lower respiratory tract infections based on a single procalcitonin measurement at hospital admission--a randomized trial. Clinical Microbiology and Infection. 2009; 15(5):481-487

323 Kruger S, Ewig S, Marre R, Papassotiriou J, Richter K, von Baum H et al. Procalcitonin predicts patients at low risk of death from community-acquired pneumonia across all CRB-65 classes. European Respiratory Journal. 2008; 31(2):349-355

324 Kruger S, Ewig S, Giersdorf S, Hartmann O, Suttorp N, Welte T et al. Cardiovascular and inflammatory biomarkers to predict short- and long-term survival in community-acquired pneumonia: Results from the German Competence Network, CAPNETZ. American Journal of Respiratory and Critical Care Medicine. 2010; 182(11):1426-1434

325 Kruger S, Ewig S, Kunde J, Hartmann O, Suttorp N, Welte T et al. Pro-atrial natriuretic peptide and pro-vasopressin for predicting short-term and long-term survival in community-acquired pneumonia: results from the German Competence Network CAPNETZ. Thorax. 2010; 65(3):208-214

326 Krumpe PE, Cohn S, Garreltes J, Ramirez J, Coulter H, Haverstock D et al. Intravenous and oral mono- or combination-therapy in the treatment of severe infections: ciprofloxacin versus standard antibiotic therapy. Ciprofloxacin Study Group. Journal of Antimicrobial Chemotherapy. 1999; 43 Suppl A:117-128

327 Kulpati DD, Mayall IS, Heera HS. A double-blind comparative study of trimethoprim versus trimethoprim-sulphamethaxazole combination in pneumonia. Indian Journal of Chest Diseases and Allied Sciences. 1984; 26(4):225-229

328 Kuzman I, Dakovic-Rode O, Oremus M, Banaszak AM. Clinical efficacy and safety of a short regimen of azithromycin sequential therapy vs standard cefuroxime sequential therapy in the treatment of community-acquired pneumonia: an international, randomized, open-label study. Journal of Chemotherapy. 2005; 17(6):636-642

329 Kwok CS, Loke YK, Woo K, Myint PK. Risk prediction models for mortality in community-acquired pneumonia: A systematic review. BioMed Research International. 2013; 2013

330 Labarere J, Schuetz P, Renaud B, Claessens YE, Albrich W, Mueller B. Validation of a clinical prediction model for early admission to the intensive care unit of patients with pneumonia. Academic Emergency Medicine. 2012; 19(9):993-1003

331 Lacoma A, Rodriguez N, Prat C, Ruiz-Manzano J, Andreo F, Ramirez A et al. Usefulness of consecutive biomarkers measurement in the management of community-acquired pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 2012; 31(5):825-833

332 Lagace-Wiens PRS, Rubinstein E. Pharmacokinetic and pharmacodynamics evaluation of ceftobiprole medocaril for the treatment of hospital-acquired pneumonia. Expert Opinion on Drug Metabolism and Toxicology. 2013; 9(6):789-799

333 Lagerstrom F, Engfeldt P, Holmberg H. C-reactive protein in diagnosis of community-acquired pneumonia in adult patients in primary care. Scandinavian Journal of Infectious Diseases. 2006; 38(11-12):964-969

334 Laing R, Coles C, Chambers S, Frampton C, Jennings L, Karalus N et al. Community-acquired pneumonia: influence of management practices on length of hospital stay. Internal Medicine Journal. 2004; 34(3):91-97

335 Lamy O, Van Melle G, Cornuz J, Burnand B. Clinical management of immunocompetent hospitalized patients with community-acquired pneumonia. European Journal of Internal Medicine. 2004; 15(1):28-34

336 Lasocki S, Scanvic A, Le Turdu F, Restoux A, Mentec H, Bleichner G et al. Evaluation of the Binax NOW Streptococcus pneumoniae urinary antigen assay in intensive care patients hospitalized for pneumonia. Intensive Care Medicine. 2006; 32(11):1766-1772

337 Laurichesse H, Sotto A, Bonnet E, Abraham B, Neau D, Badiaga S et al. Pre- and in-hospital management of community-acquired pneumonia in southern France, 1998-99. European Journal of Clinical Microbiology and Infectious Diseases. 2001; 20(11):770-778

338 Lave JR, Fine MJ, Sankey SS, Hanusa BH, Weissfeld LA, Kapoor WN. Hospitalized pneumonia. Outcomes, treatment patterns, and costs in urban and rural areas. Journal of General Internal Medicine. 1996; 11(7):415-421

339 Lee JH, Kim SW, Kim JH, Ryu YJ, Chang JH. High-dose levofloxacin in community-acquired pneumonia: A randomized, open-label study. Clinical Drug Investigation. 2012; 32(9):569-576

340 Lee JH, Kim J, Kim K, Jo YH, Rhee J, Kim TY et al. Albumin and C-reactive protein have prognostic significance in patients with community-acquired pneumonia. Journal of Critical Care. 2011; 26(3):287-294

341 Lee JH, Ryu YJ, Chun EM, Chang JH. Outcomes and prognostic factors for severe community-acquired pneumonia that requires mechanical ventilation. Korean Journal of Internal Medicine. 2007; 22(3):157-163

342 Lee JS, Primack BA, Mor MK, Stone RA, Obrosky DS, Yealy DM et al. Processes of care and outcomes for community-acquired pneumonia. American Journal of Medicine. 2011; 124(12):1175-17

343 Lee JC, Hwang HJ, Park YH, Joe JH, Chung JH, Kim SH. Comparison of severity predictive rules for hospitalised nursing home-acquired pneumonia in Korea: a retrospective observational study. Primary Care Respiratory Journal. 2013; 22(2):149-154

344 Lee RWW, Lindstrom ST. Early switch to oral antibiotics and early discharge guidelines in the management of community-acquired pneumonia. Respirology. 2007; 12(1):111-116

345 Lee YL, Chen W, Chen LY, Chen CH, Lin YC, Liang SJ et al. Systemic and bronchoalveolar cytokines as predictors of in-hospital mortality in severe community-acquired pneumonia. Journal of Critical Care. 2010; 25(1):176-13

346 Levine DP, McNeil P, Lerner SA. Randomized, double-blind comparative study of intravenous ciprofloxacin versus ceftazidime in the treatment of serious infections. American Journal of Medicine. 1989; 87(5A):160S-163S

347 Li JZ, Winston LG, Moore DH, Bent S. Efficacy of short-course antibiotic regimens for community-acquired pneumonia: a meta-analysis. American Journal of Medicine. 2007; 120(9):783-790

348 Li X-M, Wang F-C, Yang F, Jin Y-H. Telithromycin versus clarithromycin for the treatment of community-acquired respiratory tract infections: A meta-analysis of randomized controlled trials. Chinese Medical Journal. 2013; 126(11):2179-2185

349 Lieberman D, Shvartzman P, Korsonsky I, Lieberman D. Diagnosis of ambulatory community-acquired pneumonia. Comparison of clinical assessment versus chest X-ray. Scandinavian Journal of Primary Health Care. 2003; 21(1):57-60

350 Liew Y, Piotr C, Lee W, Tay D, Lee LW, Kwa ALH. Impact of antimicrobial stewardship program (ASP) on patients with pneumonia. Chest. 2013; 144(4 MEETING ABSTRACT)

351 Lim AF, Tan JS, Murphy DP. Factors Influencing Length of Stay, Time to Resolution of Morbidity, and Cost of Patient Care: A Comparative Retrospective Study of Short-Stay and Long-Stay Patients Hospitalized for Simple Pneumonia (DRG 89 and 90). Infectious Diseases in Clinical Practice. 2001; 10(7)

352 Lim WS, Macfarlane JT. Defining prognostic factors in the elderly with community acquired pneumonia: a case controlled study of patients aged > or = 75 yrs. European Respiratory Journal. 2001; 17(2):200-205

353 Lim WS, van der Eerden MM, Laing R, Boersma WG, Karalus N, Town GI et al. Defining community acquired pneumonia severity on presentation to hospital: an international derivation and validation study. Thorax. 2003; 58(5):377-382

354 Lin CC, Lee CH, Chen CZ, Chu YC, Hung TJ, Chang HY et al. Value of the pneumonia severity index in assessment of community-acquired pneumonia. Journal of the Formosan Medical Association. 2005; 104(3):164-167

355 Lin DF, Zhang YY, Wu JF, Wang F, Zheng JC, Miao JZ et al. Linezolid for the treatment of infections caused by Gram-positive pathogens in China. International Journal of Antimicrobial Agents. 2008; 32(3):241-249

356 Lindenauer PK, Behal R, Murray CK, Nsa W, Houck PM, Bratzler DW. Volume, quality of care, and outcome in pneumonia. Annals of Internal Medicine. 2006; 144(4):262-269

357 Lisboa T, Blot S, Waterer GW, Canalis E, De Mendoza D, Rodriguez A et al. Radiologic progression of pulmonary infiltrates predicts a worse prognosis in severe community-acquired pneumonia than bacteremia. Chest. 2009; 135(1):165-172

358 Liu S, He LR, Wang W, Wang GH, He ZY. Prognostic value of plasma human beta-defensin 2 level on short-term clinical outcomes in patients with community-acquired pneumonia: A preliminary study. Respiratory Care. 2013; 58(4):655-661

359 Llor C, Cots JM, Lopez-Valcarcel BG, Arranz J, Garcia G, Ortega J et al. Interventions to reduce antibiotic prescription for lower respiratory tract infections: Happy Audit study. European Respiratory Journal. 2012; 40(2):436-441

360 Llor C, Moragas A, Bayona C, Morros R, Pera H, Plana-Ripoll O et al. Efficacy of anti-inflammatory or antibiotic treatment in patients with non-complicated acute bronchitis and discoloured sputum: randomised placebo controlled trial. BMJ. 2013; 347:f5762

361 Lode H, Garau J, Grassi C, Hosie J, Huchon G, Legakis N et al. Treatment of community-acquired pneumonia: a randomized comparison of sparfloxacin, amoxycillin-clavulanic acid and erythromycin. European Respiratory Journal. 1995; 8(12):1999-2007

362 Lode H, Grossman C, Choudhri S, Haverstock D, McGivern J, Herman-Gnjidic Z et al. Sequential IV/PO moxifloxacin treatment of patients with severe community-acquired pneumonia. Respiratory Medicine. 2003; 97(10):1134-1142

363 Loeb M. Pneumonia in the elderly. Current Opinion in Infectious Diseases. 2004; 17(2):127-130

364 Loens K, Vanderstraeten A, Bergs K, Goossens H, Ieven M. Evaluation of different techniques to detect S. Pneumoniae in hospitalised adults with community-acquired pneumonia across Europe. Clinical Microbiology and Infection. 2011; 17:S246

365 Loke YK, Kwok CS, Niruban A, Myint PK. Value of severity scales in predicting mortality from community-acquired pneumonia: systematic review and meta-analysis. Thorax. 2010; 65(10):884-890

366 Long W, Deng X, Zhang Y, Lu G, Xie J, Tang J. Procalcitonin guidance for reduction of antibiotic use in low-risk outpatients with community-acquired pneumonia. Respirology. 2011; 16(5):819-824

367 Long W, Deng XQ, Tang JG, Xie J, Zhang YC, Zhang Y et al. [The value of serum procalcitonin in treatment of community acquired pneumonia in outpatient]. Chinese Journal of Internal Medicine. 2009; 48(3):216-219

368 Lui K-J, Chang K-C. Notes on testing noninferiority in ordinal data under the parallel groups design. Journal of Biopharmaceutical Statistics. 2013; 23(6):1294-1307

369 Lujan M, Gallego M, Fontanals D, Mariscal D, Rello J. Prospective observational study of bacteremic pneumococcal pneumonia: Effect of discordant therapy on mortality. Critical Care Medicine. 2004; 32(3):625-631

370 Luque S, Grau S, Marin-Casino M, Berenguer N, Ferrandez M, Espona O et al. Influence of antibiotic first-dose timing on clinical outcomes in patients with community-acquired pneumonia. Clinical Microbiology and Infection. 2010; 16:S129-S130

371 Macfarlane JT, Colville A, Guion A, Macfarlane RM, Rose DH. Prospective study of aetiology and outcome of adult lower-respiratory-tract infections in the community. Lancet. 1993; 341(8844):511-514

372 Macfarlane JT, Holmes WF, Macfarlane RM. Reducing reconsultations for acute lower respiratory tract illness with an information leaflet: a randomized controlled study of patients in primary care. British Journal of General Practice. 1997; 47(424):719-722

373 Madaras-Kelly KJ, Remington RE, Sloan KL, Fan VS. Guideline-based antibiotics and mortality in healthcare-associated pneumonia. Journal of General Internal Medicine. 2012; 27(7):845-852

374 Majumdar SR, Eurich DT, Gamble JM, Senthilselvan A, Marrie TJ. Oxygen saturations less than 92% are associated with major adverse events in outpatients with pneumonia: a population-based cohort study. Clinical Infectious Diseases. 2011; 52(3):325-331

375 Mal S, McLeod SL, Iansavichene A, Dukelow A, Lewell M. The impact of prehospital noninvasive positive pressure support ventilation in adult patients with acute respiratory distress: A systematic review and meta-analysis. Canadian Journal of Emergency Medicine. 2013; 15:S3

376 Man SY, Graham CA, Chan SSW, Mak PSK, Yu AHY, Cheung CSK et al. Disease severity prediction for nursing home-acquired pneumonia in the emergency department. Emergency Medicine Journal. 2011; 28(12):1046-1050

377 Manali E, Papadopoulos A, Tsiodras S, Polychronopoulos V, Giamarellou H, Kanellakopoulou K. The impact on community acquired pneumonia empirical therapy of diagnostic bronchoscopic techniques. Scandinavian Journal of Infectious Diseases. 2008; 40(4):286-292

378 Mandell L. Prospective randomised study to compare empirical treatment versus targeted treatment on the basis of the urine antigen results in hospitalised patients with community-acquired pneumonia. Thorax. 2010; 65(2):93-94

379 Mandell LA, Nicolle LE, Ronald AR, Duperval R, Robson HG, Feld R et al. A multicentre prospective randomized trial comparing ceftazidime with cefazolin/tobramycin in the treatment of hospitalized patients with non-pneumococcal pneumonia. Journal of Antimicrobial Chemotherapy. 1983; 12 Suppl A:9-20

380 Mandell LA, Nicolle LE, Ronald AR, Landis SJ, Duperval R, Harding GK et al. A prospective randomized trial of ceftazidime versus cefazolin/tobramycin in the treatment of hospitalized patients with pneumonia. Journal of Antimicrobial Chemotherapy. 1987; 20(1):95-107

381 Mandell LA, Wunderink RG, Anzueto A, Bartlett JG, Campbell GD, Dean NC et al. Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. Clinical Infectious Diseases. 2007; 44 Suppl 2:S27-S72

382 Mangi RJ, Greco T, Ryan J, Thornton G, Andriole VT. Cefoperazone versus combination antibiotic therapy of hospital-acquired pneumonia. American Journal of Medicine. 1988; 84(1):68-74

383 Mangi RJ, Peccerillo KM, Ryan J, Berenson C, Greco T, Thornton G et al. Cefoperazone versus ceftriaxone monotherapy of nosocomial pneumonia. Diagnostic Microbiology and Infectious Disease. 1992; 15(5):441-447

384 Mangi RJ, Ryan J, Berenson C, Greco T, Simms M, Thornton G et al. Cefoperazone versus ceftazidime monotherapy of nosocomial pneumonia. American Journal of Medicine. 1988; 85(1A):44-48

385 Manhold C, von Rolbicki U, Brase R, Timm J, von Pritzbuer E, Heimesaat M et al. Outbreaks of Staphylococcus aureus infections during treatment of late onset pneumonia with ciprofloxacin in a prospective, randomized study. Intensive Care Medicine. 1998; 24(12):1327-1330

386 Maraffi T, Brambilla AM, Aliberti S, Pelosi P, Nava S, Tarsia P. A multicenter randomized controlled trial to evaluate continuous-positive airway pressure (CPAP) versus conventional oxygen in patients with acute respiratory failure (ARF) due to community -acquired pneumonia (CAP). European Respiratory Journal. 2009; 34(S53):364

387 Marfin AA, Sporrer J, Moore PS, Siefkin AD. Risk factors for adverse outcome in persons with pneumococcal pneumonia. Chest. 1995; 107(2):457-462

388 Mariya Joseph N, Sistla S, Kumar Dutta T, Shankar Badhe A, Rasitha D, Chandra Parija S. Outcome of ventilator-associated pneumonia: Impact of antibiotic therapy and other factors. Australasian Medical Journal. 2012; 5(2):135-140

389 Marra F, Reynolds R, Stiver G, Bryce E, Sleigh K, Frighetto L et al. Piperacillin/tazobactam versus imipenem: a double-blind, randomized formulary feasibility study at a major teaching hospital. Diagnostic Microbiology and Infectious Disease. 1998; 31(2):355-368

390 Marras TK, Jamieson L, Chan CK. Inpatient care of community-acquired pneumonia: the effect of antimicrobial guidelines on clinical outcomes and drug costs in Canadian teaching hospitals. Canadian Respiratory Journal. 2004; 11(2):131-137

391 Marrie TJ. When to discharge a patient with pneumonia. Journal of Respiratory Diseases. 1997; 18(12):1071-1079

392 Marrie TJ. Management decisions regarding community-acquired pneumonia. Current Opinion in Infectious Diseases. 1999; 12(2):133-136

393 Marrie TJ. When to discharge a patient with pneumonia. Journal of Respiratory Diseases. 2000; 21(9):558-566

394 Marrie TJ, Lau CY, Wheeler SL, Wong CJ, Vandervoort MK, Feagan BG. A controlled trial of a critical pathway for treatment of community-acquired pneumonia. CAPITAL Study Investigators. Community-Acquired Pneumonia Intervention Trial Assessing Levofloxacin. Journal of the American Medical Association. 2000; 283(6):749-755

395 Marrie TJ, Tyrrell GJ, Garg S, Vanderkooi OG. Factors predicting mortality in invasive pneumococcal disease in adults in alberta. Medicine. 2011; 90(3):171-179

396 Marrie TJ, Shariatzadeh MR. Community-acquired pneumonia requiring admission to an intensive care unit: a descriptive study. Medicine. 2007; 86(2):103-111

397 Marti C, Garin N, Grosgurin O, Poncet A, Combescure C, Carballo S et al. Prediction of severe community-acquired pneumonia: A systematic review and meta-analysis. Critical Care. 2012; 16(4)

398 Martin J, Sawh S, Deshpande S, Newman J. Is moxifloxacin better than other antibiotics for hospitalized patients with community acquired pneumonia? A meta-analysis of randomized trials. International Journal of Antimicrobial Agents. 2009; 34:S25

399 Masia M, Gutierrez F, Shum C, Padilla S, Navarro JC, Flores E et al. Usefulness of procalcitonin levels in community-acquired pneumonia according to the patients outcome research team pneumonia severity index. Chest. 2005; 128(4):2223-2229

400 Mathevon T, Souweine B, Traore O, Aublet B, Caillaud D. ICU-acquired nosocomial infection: impact of delay of adequate antibiotic treatment. Scandinavian Journal of Infectious Diseases. 2002; 34(11):831-835

401 Matsuse H, Yanagihara K, Mukae H, Tanaka K, Nakazato M, Kohno S. Association of plasma neutrophil elastase levels with other inflammatory mediators and clinical features in adult patients with moderate and severe pneumonia. Respiratory Medicine. 2007; 101(7):1521-1528

402 Matta M, Kerneis S, Day N, Lescat M, Hoi AB, Varon E et al. Do clinicians consider the results of the BinaxNOW Streptococcus pneumoniae urinary antigen test when adapting antibiotic regimens for pneumonia patients? Clinical Microbiology and Infection. 2010; 16(9):1389-1393

403 Mbata GC, Chukwuka CJ, Onyedum CC, Onwubere BJC. The CURB-65 scoring system in severity assessment of Eastern Nigerian patients with community-acquired pneumonia: a prospective observational study. Primary Care Respiratory Journal. 2013; 22(2):175-180

404 McNally M, Curtain J, O'Brien KK, Dimitrov BD, Fahey T. Validity of British Thoracic Society guidance (the CRB-65 rule) for predicting the severity of pneumonia in general practice: systematic review and meta-analysis. British Journal of General Practice. 2010; 60(579):e423-e433

405 Medic G, Karabis A, Borrill J, Worrall J, Bergman G. Efficacy of ceftaroline fosamil and other intravenous antibiotics in the treatment of community-acquired pneumonia (CAP): A network meta-analysis (NMA). Value in Health. 2012; 15(7):A385

406 Meehan TP, Chua-Reyes JM, Tate J, Prestwood KM, Scinto JD, Petrillo MK et al. Process of care performance, patient characteristics, and outcomes in elderly patients hospitalized with community-acquired or nursing home-acquired pneumonia. Chest. 2000; 117(5):1378-1385

407 Melander E, Bjorgell A, Bjorgell P, Ovhed I, Molstad S. Medical audit changes physicians' prescribing of antibiotics for respiratory tract infections. Scandinavian Journal of Primary Health Care. 1999; 17(3):180-184

408 Melbye H, Berdal BP, Straume B, Russell H, Vorland L, Thacker WL. Pneumonia--a clinical or radiographic diagnosis? Etiology and clinical features of lower respiratory tract infection in adults in general practice. Scandinavian Journal of Infectious Diseases. 1992; 24(5):647-655

409 Melbye H, Straume B, Aasebo U, Brox J. The diagnosis of adult pneumonia in general practice. The diagnostic value of history, physical examination and some blood tests. Scandinavian Journal of Primary Health Care. 1988; 6(2):111-117

410 Menendez R, Cavalcanti M, Reyes S, Mensa J, Martinez R, Marcos MA et al. Markers of treatment failure in hospitalised community acquired pneumonia. Thorax. 2008; 63(5):447-452

411 Menendez R, Cremades MJ, Martinez-Moragon E, Soler JJ, Reyes S, Perpina M. Duration of length of stay in pneumonia: influence of clinical factors and hospital type. European Respiratory Journal. 2003; 22(4):643-648

412 Menendez R, Martinez R, Reyes S, Mensa J, Filella X, Marcos MA et al. Biomarkers improve mortality prediction by prognostic scales in community-acquired pneumonia. Thorax. 2009; 64(7):587-591

413 Menendez R, Martinez R, Reyes S, Mensa J, Polverino E, Filella X et al. Stability in community-acquired pneumonia: one step forward with markers? Thorax. 2009; 64(11):987-992

414 Menendez R, Torres A, Reyes S, Zalacain R, Capelastegui A, Aspa J et al. Initial management of pneumonia and sepsis: factors associated with improved outcome. European Respiratory Journal. 2012; 39(1):156-162

415 Menendez R, Torres A, Rodriguez de Castro F, Zalacain R, Aspa J, Martin Villasclaras JJ et al. Reaching stability in community-acquired pneumonia: The effects of the severity of disease,

treatment, and the characteristics of patients. Clinical Infectious Diseases. 2004; 39(12):1783-1790

416 Menendez R, Torres A, Zalacain R, Aspa J, Martin Villasclaras JJ, Borderias L et al. Risk factors of treatment failure in community acquired pneumonia: implications for disease outcome. Thorax. 2004; 59(11):960-965

417 Menendez R, Torres A, Reyes S, Zalacain R, Capelastegui A, Rajas O et al. Compliance with guidelines-recommended processes in pneumonia: impact of health status and initial signs. PloS One. 2012; 7(5):e37570

418 Metersky ML, Ma A, Bratzler DW, Houck PM. Predicting bacteremia in patients with community-acquired pneumonia. American Journal of Respiratory and Critical Care Medicine. 2004; 169(3):342-347

419 Metersky ML, Sweeney TA, Getzow MB, Siddiqui F, Nsa W, Bratzler DW. Antibiotic timing and diagnostic uncertainty in Medicare patients with pneumonia: is it reasonable to expect all patients to receive antibiotics within 4 hours? Chest. 2006; 130(1):16-21

420 Metersky ML, Waterer G, Nsa W, Bratzler DW. Predictors of in-hospital vs postdischarge mortality in pneumonia. Chest. 2012; 142(2):476-481

421 Meyer TJ, Hill NS. Noninvasive positive pressure ventilation to treat respiratory failure. Annals of Internal Medicine. 1994; 120(9):760-770

422 Migliorati PL, Boccoli E, Bracci LS, Sestini P, Melani AS. A survey on hospitalised community-acquired pneumonia in Italy. Monaldi Archives for Chest Disease - Pulmonary Series. 2006; 65(2):82-88

423 Mira JP, Max A, Burgel PR. The role of biomarkers in community-acquired pneumonia: predicting mortality and response to adjunctive therapy. Critical Care. 2008; 12 Suppl 6:S5

424 Moeller JJ, Ma M, Hernandez P, Marrie T, Touchie C, Patrick W. Discharge Delay in Patients with Community-acquired Pneumonia Managed on a Critical Pathway. Canadian Journal of Infectious Diseases and Medical Microbiology. 2006; 17(2):109-113

425 Mokabberi R, Haftbaradaran A, Ravakhah K. Doxycycline vs. levofloxacin in the treatment of community-acquired pneumonia. Journal of Clinical Pharmacy and Therapeutics. 2010; 35(2):195-200

426 Moncada DC, Rueda ZV, Macias A, Suarez T, Ortega H, Velez LA. Reading and interpretation of chest X-ray in adults with community-acquired pneumonia. Brazilian Journal of Infectious Diseases. 2011; 15(6):540-546

427 Montassier E, Goffinet N, Potel G, Batard E. How to reduce antibiotic consumption for community-acquired pneumonia? Medecine Et Maladies Infectieuses. 2013; 43(2):52-59

428 Moore M, Little P, Rumsby K, Kelly J, Watson L, Warner G et al. Predicting the duration of symptoms in lower respiratory tract infection. British Journal of General Practice. 2008; 58(547):88-92

429 Mortensen EM, Cornell J, Whittle J. Racial variations in processes of care for patients with community-acquired pneumonia. BMC Health Services Research. 2004; 4(1):20

430 Mortensen EM, Restrepo M, Anzueto A, Pugh J. Effects of guideline-concordant antimicrobial therapy on mortality among patients with community-acquired pneumonia. American Journal of Medicine. 2004; 117(10):726-731

431 Mortensen EM, Restrepo MI, Anzueto A, Pugh JA. Antibiotic therapy and 48-hour mortality for patients with pneumonia. American Journal of Medicine. 2006; 119(10):859-864

432 Mountain D, Bailey PM, O'Brien D, Jelinek GA. Blood cultures ordered in the adult emergency department are rarely useful. European Journal of Emergency Medicine. 2006; 13(2):76-79

433 Muller B, Harbarth S, Stolz D, Bingisser R, Mueller C, Leuppi J et al. Diagnostic and prognostic accuracy of clinical and laboratory parameters in community-acquired pneumonia. BMC Infectious Diseases. 2007; 7:10

434 Musher DM, Montoya R, Wanahita A. Diagnostic value of microscopic examination of Gram-stained sputum and sputum cultures in patients with bacteremic pneumococcal pneumonia. Clinical Infectious Diseases. 2004; 39(2):165-169

435 Musonda P, Sankaran P, Subramanian DN, Smith AC, Prentice P, Tariq SM et al. Prediction of mortality in community-acquired pneumonia in hospitalized patients. American Journal of the Medical Sciences. 2011; 342(6):489-493

436 Myint PK, Sankaran P, Musonda P, Subramanian DN, Ruffell H, Smith AC et al. Performance of CURB-65 and CURB-age in community-acquired pneumonia. International Journal of Clinical Practice. 2009; 63(9):1345-1350

437 Myint PK, Kamath AV, Vowler SL, Maisey DN, Harrison BDW. Severity assessment criteria recommended by the British Thoracic Society (BTS) for community-acquired pneumonia (CAP) and older patients. Should SOAR (systolic blood pressure, oxygenation, age and respiratory rate) criteria be used in older people? A compilation study of two prospective cohorts. Age and Ageing. 2006; 35(3):286-291

438 Myint PK, Kwok CS, Majumdar SR, Eurich DT, Clark AB, Espana PP et al. The International Community-Acquired Pneumonia (CAP) Collaboration Cohort (ICCC) study: rationale, design and description of study cohorts and patients. BMJ Open. 2012; 2(3)

439 Nadarajan P, Wilson L, Mohammed B, Connor M, Lane SJ. Compliance in the measurement of CURB-65 in patients with community acquired pneumonia and potential implications for early discharge. Irish Medical Journal. 2008; 101(5):144-146

440 Nafae RM, Ragab MI, Amany FM, Rashed SB. Adjuvant role of corticosteroids in the treatment of community-acquired pneumonia. Egyptian Journal of Chest Diseases and Tuberculosis. 2013; 62(3):439-445

441 Naito T, Suda T, Yasuda K, Yamada T, Todate A, Tsuchiya T et al. A validation and potential modification of the pneumonia severity index in elderly patients with community-acquired pneumonia. Journal of the American Geriatrics Society. 2006; 54(8):1212-1219

442 Nasraway SA, Shorr AF, Kuter DJ, O'Grady N, Le Vu H, Cammarata SK. Linezolid does not increase the risk of thrombocytopenia in patients with nosocomial pneumonia: comparative analysis of linezolid and vancomycin use. Clinical Infectious Diseases. 2003; 37(12):1609-1616

443 Navalesi P, Pollini A. Acute respiratory failure in patients with severe community-acquired pneumonia: a prospective randomized evaluation of noninvasive ventilation. American Journal of Respiratory and Critical Care Medicine. 2000; 162(2 Pt 1):761-762

444 Nayeri F, Brudin L, Darelid J, Nilsson I, Fryden A, Soderstrom C et al. Hepatocyte growth factor may act as an early therapeutic predictor in pneumonia. Scandinavian Journal of Infectious Diseases. 2002; 34(7):500-504

445 Nazarian DJ, Eddy OL, Lukens TW, Weingart SD, Decker WW. Clinical policy: critical issues in the management of adult patients presenting to the emergency department with community-acquired pneumonia. Annals of Emergency Medicine. 2009; 54(5):704-731

446 Neupane B, Walter SD, Krueger P, Marrie T, Loeb M. Predictors of inhospital mortality and re-hospitalization in older adults with community-acquired pneumonia: a prospective cohort study. BMC Geriatrics. 2010; 10:22

447 Ni J, Hu G, Sun R. Clinical evaluation of ertapenem as empirical treatment of severe community-acquired pneumonia in elderly patients. Chinese Journal of Infection and Chemotherapy. 2012; 12(6):424-427

448 Ni J, Sun R, Hu GP. Clinical effect of ertapenem in the treatment of severe community-Acquired pneumonia in elderly patients. Respirology. 2011; 16:57

449 Nielsen RB, Mor A, Sorensen HT, Thomsen RW. Preadmission use of antibiotics and 30-day mortality after hospitalization with pneumonia: A population-based cohort study. Pharmacoepidemiology and Drug Safety. 2013; 22:59-60

450 Nissen LR, Jacobsen J, Ravn TJ, Wahlgreen C, Auning-Hansen H. Fosfomycin-ampicillin versus gentamicin-ampicillin in the treatment of critically ill patients with pneumonia. Infection. 1986; 14(5):246-249

451 Niu W, Wan Y-G, Li M-Y, Wu Z-X, Zhang L-G, Wang J-X. The diagnostic value of serum procalcitonin, IL-10 and C-reactive protein in community acquired pneumonia and tuberculosis. European Review for Medical and Pharmacological Sciences. 2013; 17(24):3329-3333

452 Nobre V, Harbarth S, Graf JD, Rohner P, Pugin J. Use of procalcitonin to shorten antibiotic treatment duration in septic patients: a randomized trial. American Journal of Respiratory and Critical Care Medicine. 2008; 177(5):498-505

453 Norrby SR, Finch RG, Glauser M, Graninger W, Huneburg H, Knorr C et al. Monotherapy in serious hospital-acquired infections: A clinical trial of ceftazidime versus imipenem/cilastatin. Journal of Antimicrobial Chemotherapy. 1993; 31(6):927-937

454 Norrby SR, Petermann W, Willcox PA, Vetter N, Salewski E. A comparative study of levofloxacin and ceftriaxone in the treatment of hospitalized patients with pneumonia. Scandinavian Journal of Infectious Diseases. 1998; 30(4):397-404

455 Nullmann H, Pflug MA, Wesemann T, Heppner HJ, Pientka L, Thiem U. External validation of the CURSI criteria (confusion, urea, respiratory rate and shock index) in adults hospitalised for community-acquired pneumonia. BMC Infectious Diseases. 2014; 14(1):39

456 O'Donovan C, Rudd R, O'Neill S, Fitzgerald MX, McNicholas W, Flavell-Matts SG et al. Augmentin (intravenous then oral) compared with cefuroxime followed by cephalexin for chest infections in hospitalised patients. British Journal of Clinical Practice. 1987; 41(12):1044-1052

457 Okimoto N, Hayashi Y, Ishiga M, Nanba F, Kishimoto M, Yagi S et al. Procalcitonin and severity of community-acquired pneumonia. Journal of Infection and Chemotherapy. 2009; 15(6):426-427

458 Olaechea PM, Quintana JM, Gallardo MS, Insausti J, Maravi E, Alvarez B. A predictive model for the treatment approach to community-acquired pneumonia in patients needing ICU admission. Intensive Care Medicine. 1996; 22(12):1294-1300

459 Oppong R, Jit M, Smith RD, Butler CC, Melbye H, Molstad S et al. Cost-effectiveness of point-of-care C-reactive protein testing to inform antibiotic prescribing decisions. British Journal of General Practice. 2013; 63(612):465-471

460 Ortega L, Sierra M, Dominguez J, Martinez J, Matas L, Bastart F et al. Utility of a pneumonia severity index in the optimization of the diagnostic and therapeutic effort for community-acquired pneumonia. Scandinavian Journal of Infectious Diseases. 2005; 37(9):657-663

461 Ortega-Gonzalez A, Cobos-Ceballos MJ, Serrano-Rebollo JC, Vargas-Hidalgo T, Gomez-Fernandez M, Garcia-Lopez JJ et al. Noninvasive mechanical ventilation in the treatment of community-acquired pneumonia. Current Respiratory Medicine Reviews. 2010; 6(3):167-170

462 Ortqvist A, Hedlund J, Wretlind B, Carlstrom A, Kalin M. Diagnostic and prognostic value of interleukin-6 and C-reactive protein in community-acquired pneumonia. Scandinavian Journal of Infectious Diseases. 1995; 27(5):457-462

463 Ott SR, Allewelt M, Lorenz J, Reimnitz P, Lode H, German Lung Abscess Study Group. Moxifloxacin vs ampicillin/sulbactam in aspiration pneumonia and primary lung abscess. Infection. 2008; 36(1):23-30

464 Paganin F, Lilienthal F, Bourdin A, Lugagne N, Tixier F, Genin R et al. Severe community-acquired pneumonia: assessment of microbial aetiology as mortality factor. European Respiratory Journal. 2004; 24(5):779-785

465 Paladino JA, Gudgel LD, Forrest A, Niederman MS. Cost-effectiveness of IV-to-oral switch therapy: azithromycin vs cefuroxime with or without erythromycin for the treatment of community-acquired pneumonia. Chest. 2002; 122(4):1271-1279

466 Papaventsis D, Moraitou H, Makarona M, Niki S, Havouti F, Mytas S et al. Usefulness and reproducibility of sputum Gram stain in LRTIs. Clinical Microbiology and Infection. 2009; 15:S228

467 Park DW, Yoon YK, Lee C, Lee MS, Ryu S, Choi YJ et al. Impact of delayed appropriate antibiotic therapy on mortality in patients with carbapenem-resistant Acinetobacter baumannii bacteraemia: A multicentre prospective observational study. Clinical Microbiology and Infection. 2012; 18:290

468 Park JH, Choi SP, Wee JH. "Is it cost-effective to use procalcitonin to predict outcome in community-acquired pneumonia in the ED?" Response to the authors. American Journal of Emergency Medicine. 2013; 31(2):428-429

469 Park JH, Wee JH, Choi SP, Oh SH. The value of procalcitonin level in community-acquired pneumonia in the ED. American Journal of Emergency Medicine. 2012; 30(7):1248-1254

470 Park SY, Park S, Lee MG, Kim DG, Suh GY, Kim C et al. Minor criteria of Infectious Disease Society Of America/American Thoracic Society for severe community-acquired pneumonia can predict delayed treatment response. Journal of Korean Medical Science. 2012; 27(8):907-913

471 Parry MF, Neu HC. A comparative study of ticarcillin plus tobramycin versus carbenicillin plus gentamicin for the treatment of serious infections due to gram-negative bacilli. American Journal of Medicine. 1978; 64(6):961-966

472 Pauls S, Kruger S, Muche R, Klemen D, Billich C, Gerstner S et al. Assessment of pneumonia severity: multidetector-row CT in comparison to clinical score CRB-65. Clinical Imaging. 2008; 32(5):342-345

473 Peacock JEJ, Pegram PS, Weber SF, Leone PA. Prospective, randomized comparison of sequential intravenous followed by oral ciprofloxacin with intravenous ceftazidime in the treatment of serious infections. American Journal of Medicine. 1989; 87(5A):185S-190S

474 Pereira JM, Teixeira-Pinto A, Basilio C, Sousa-Dias C, Mergulhao P, Paiva JA. Biomarkers kinetics to early predict response in severe community-acquired pneumonia. Intensive Care Medicine. 2012; 38:S118

475 Perlino CA, Jurado R. Double-blind comparison of ceforanide VS. procaine penicillin treatment of pneumococcal pneumonia. Current Therapeutic Research - Clinical and Experimental. 1981; 30(3):271-276

476 Petermann W, Alegre-Martin J, Odenholt I, Phillips MJ, Willcox PA, Tack K et al. A prospective, randomized, multicenter comparative study of clinafloxacin versus a ceftriaxone-based regimen in the treatment of hospitalized patients with community-acquired pneumonia. Scandinavian Journal of Infectious Diseases. 2001; 33(11):832-837

477 Phua J, Ngerng WJ, Lim TK. The impact of a delay in intensive care unit admission for community-acquired pneumonia. European Respiratory Journal. 2010; 36(4):826-833

478 Pilotto A, Addante F, Ferrucci L, Leandro G, D'Onofrio G, Corritore M et al. The multidimensional prognostic index predicts short- and long-term mortality in hospitalized geriatric patients with pneumonia. Journals of Gerontology Series A, Biological Sciences and Medical Sciences. 2009; 64(8):880-887

479 Pines JM, Isserman JA, Hinfey PB. The measurement of time to first antibiotic dose for pneumonia in the emergency department: a white paper and position statement prepared for the American Academy of Emergency Medicine. Journal of Emergency Medicine. 2009; 37(3):335-340

480 Pines JM, Localio AR, Hollander JE, Baxt WG, Lee H, Phillips C et al. The impact of emergency department crowding measures on time to antibiotics for patients with community-acquired pneumonia. Annals of Emergency Medicine. 2007; 50(5):510-516

481 Plaut ME, Perlino CA. Cefamandole vs. procaine penicillin for treatment of pneumonia due to Streptococcus pneumoniae: a random trial. Journal of Infectious Diseases. 1978; 137 Suppl:S133-S138

482 Pletz MW, von Baum H, Van Der Linden M, Rohde G, Schutte H, Suttorp N et al. The burden of pneumococcal pneumonia - experience of the German competence network CAPNETZ. Pneumologie. 2012; 66(8):470-475

483 Polverino E, Cilloniz C, Dambrava P, Gabarrus A, Ferrer M, Agusti C et al. Systemic corticosteroids for community-acquired pneumonia: reasons for use and lack of benefit on outcome. Respirology. 2013; 18(2):263-271

484 Polyzos KA, Mavros MN, Vardakas KZ, Makris MC, Rafailidis PI, Falagas ME. Efficacy and safety of telavancin in clinical trials: a systematic review and meta-analysis. PloS One. 2012; 7(8):e41870

485 Polzin A, Pletz M, Erbes R, Raffenberg M, Mauch H, Wagner S et al. Procalcitonin as a diagnostic tool in lower respiratory tract infections and tuberculosis. European Respiratory Journal. 2003; 21(6):939-943

486 Portier H, Brambilla C, Garre M, Paganin F, Poubeau P, Zuck P. Moxifloxacin monotherapy compared to amoxicillin-clavulanate plus roxithromycin for nonsevere community-acquired pneumonia in adults with risk factors. European Journal of Clinical Microbiology and Infectious Diseases. 2005; 24(6):367-376

487 Portier H, May T, Proust A, Tolstuchow N, Muir JF, Balmes P et al. Comparative efficacy of sparfloxacin in comparison with amoxycillin plus ofloxacin in the treatment of community-acquired pneumonia. Journal of Antimicrobial Chemotherapy. 1996; 37(SUPPL. A):83-91

488 Pothirat C, Champunot R, Inchai J. The optimal duration of antibiotic treatment for hospital acquired pneumonia a comparative study between the two antibiotic discontinuation policies. Chest. 2006; 130(4 Suppl):106s

489 Puzniak L, Huang D, Biswas P, Morrow L. Linezolid and vancomycin in the treatment of patients with nosocomial pneumonia proven due to methicillin-resistant Staphylococcus aureus by body weight. Clinical Microbiology and Infection. 2011; 17:S823

490 Quattromani E, Powell ES, Khare RK, Cheema N, Sauser K, Periyanayagam U et al. Hospital-reported data on the pneumonia quality measure "Time to First Antibiotic Dose" are not associated with inpatient mortality: results of a nationwide cross-sectional analysis. Academic Emergency Medicine. 2011; 18(5):496-503

491 Quintero-Perez NP, Andrade-Villaneuva JF, Leon-Garnica G, Bertin-Montano M, Rodriguez-Chagollan JJ, Rodriguez-Noriega E. Efficacy and safety of intravenous ciprofloxacin in the treatment of serious infections. A comparison with ceftazidime. American Journal of Medicine. 1989; 87(5A):198S-201S

492 Raboud J, Shigayeva A, McGeer A, Bontovics E, Chapman M, Gravel D et al. Risk factors for SARS transmission from patients requiring intubation: a multicentre investigation in Toronto, Canada. PloS One. 2010; 5(5):e10717

493 Rahav G, Fidel J, Gibor Y, Shapiro M. Azithromycin versus comparative therapy for the treatment of community acquired pneumonia. International Journal of Antimicrobial Agents. 2004; 24(2):181-184

494 Rahbar H, Abreu-Lanfrranco O, Singh A, Tims M, Ramasamy B, Biedron C et al. Risk factors for readmissions in patients 65 or older admitted for pneumonia. Journal of the American Geriatrics Society. 2012; 60:S84-S85

495 Ramanujam P, Rathlev NK. Blood cultures do not change management in hospitalized patients with community-acquired pneumonia. Academic Emergency Medicine. 2006; 13(7):740-745

496 Ramirez JA. Switch therapy in community-acquired pneumonia. Diagnostic Microbiology and Infectious Disease. 1995; 22(1-2):219-223

497 Ramirez JA, Vargas S, Ritter GW, Brier ME, Wright A, Smith S et al. Early switch from intravenous to oral antibiotics and early hospital discharge: a prospective observational study of 200

consecutive patients with community-acquired pneumonia. Archives of Internal Medicine. 1999; 159(20):2449-2454

498 Ramirez J, Dartois N, Gandjini H, Yan JL, Korth-Bradley J, McGovern PC. Randomized phase 2 trial to evaluate the clinical efficacy of two high-dosage tigecycline regimens versus imipenem-cilastatin for treatment of hospital-acquired pneumonia. Antimicrobial Agents and Chemotherapy. 2013; 57(4):1756-1762

499 Rapp RP, Billeter M, Hatton J, Young AB, Tibbs PA, Dempsey RJ. Intravenous ciprofloxacin versus ceftazidime for treatment of nosocomial pneumonia and urinary tract infection. Clinical Pharmacy. 1991; 10(1):49-55

500 Rarus R, Crowley A, Nagel J, Alaniz C. Comparison of clinical outcomes with azithromycin and fluoroquinolones in the treatment of legionella pneumonia. Critical Care Medicine. 2012; 40(12 SUPPL. 1):229

501 Rausch S, Flammang M, Haas N, Stein R, Tabouring P, Delvigne S et al. C-reactive protein to initiate or withhold antibiotics in acute respiratory tract infections in adults, in primary care: review. Bulletin De La Societe Des Sciences Medicales Du Grand-Duche De Luxembourg. 2009;(1):79-87

502 Rea-Neto A, Niederman M, Lobo SM, Schroeder E, Lee M, Kaniga K et al. Efficacy and safety of doripenem versus piperacillin/tazobactam in nosocomial pneumonia: a randomized, open-label, multicenter study. Current Medical Research and Opinion. 2008; 24(7):2113-2126

503 Reechaipichitkul W, Lulitanond V, Sawanyawisuth K, Lulitanond A, Limpawattana P. Etiologies and treatment outcomes for out-patients with community-acquired pneumonia (CAP) at Srinagarind Hospital, Khon Kaen, Thailand. Southeast Asian Journal of Tropical Medicine and Public Health. 2005; 36(5):1261-1267

504 Reechaipichitkul W, Pisprasert V. Severe community-acquired pneumonia (CAP) treated at Srinagarind Hospital, Khon Kaen, Thailand. Southeast Asian Journal of Tropical Medicine and Public Health. 2004; 35(2):430-433

505 Reed WW, Byrd GS, Gates RHJ, Howard RS, Weaver MJ. Sputum gram's stain in community-acquired pneumococcal pneumonia. A meta-analysis. Western Journal of Medicine. 1996; 165(4):197-204

506 Rehman S, Rehman K, Akash MSH. A prospective study of inpatients to determine microbial etiology and therapeutic outcome of antibiotics for community-acquired pneumonia in pakistan. BioImpacts. 2013; 3(2):91-95

507 Rello J, Rue M, Jubert P, Muses G, Sonora R, Valles J et al. Survival in patients with nosocomial pneumonia: impact of the severity of illness and the etiologic agent. Critical Care Medicine. 1997; 25(11):1862-1867

508 Rello J, Rodriguez A, Lisboa T, Gallego M, Lujan M, Wunderink R. PIRO score for community-acquired pneumonia: a new prediction rule for assessment of severity in intensive care unit patients with community-acquired pneumonia. Critical Care Medicine. 2009; 37(2):456-462

509 Remmelts HHF, Meijvis SCA, Heijligenberg R, Rijkers GT, Oosterheert JJ, Bos WJW et al. Biomarkers define the clinical response to dexamethasone in community-acquired pneumonia. Journal of Infection. 2012; 65(1):25-31

510 Remmelts HHF, van de Garde EMW, Meijvis SCA, Peelen ELGC, Damoiseaux JGMC, Grutters JC et al. Addition of vitamin D status to prognostic scores improves the prediction of outcome in community-acquired pneumonia. Clinical Infectious Diseases. 2012; 55(11):1488-1494

511 Renaud B, Santin A, Coma E, Camus N, Van Pelt D, Hayon J et al. Association between timing of intensive care unit admission and outcomes for emergency department patients with community-acquired pneumonia. Critical Care Medicine. 2009; 37(11):2867-2874

512 Renaud B, Coma E, Labarere J, Hayon J, Roy PM, Boureaux H et al. Routine use of the Pneumonia Severity Index for guiding the site-of-treatment decision of patients with pneumonia in the emergency department: a multicenter, prospective, observational, controlled cohort study. Clinical Infectious Diseases. 2007; 44(1):41-49

513 Renaud B, Schuetz P, Claessens YE, Labarere J, Albrich W, Mueller B. Proadrenomedullin improves Risk of Early Admission to ICU score for predicting early severe community-acquired pneumonia. Chest. 2012; 142(6):1447-1454

514 Restrepo MI, Mortensen EM, Velez JA, Frei C, Anzueto A. A comparative study of community-acquired pneumonia patients admitted to the ward and the ICU. Chest. 2008; 133(3):610-617

515 Reyes Calzada S, Martinez Tomas R, Cremades Romero MJ, Martinez Moragon E, Soler Cataluna JJ, Menendez Villanueva R. Empiric treatment in hospitalized community-acquired pneumonia. Impact on mortality, length of stay and re-admission. Respiratory Medicine. 2007; 101(9):1909-1915

516 Rhew DC, Tu GS, Ofman J, Henning JM, Richards MS, Weingarten SR. Early switch and early discharge strategies in patients with community-acquired pneumonia: a meta-analysis. Archives of Internal Medicine. 2001; 161(5):722-727

517 Rhew DC, Weingarten SR. Achieving a safe and early discharge for patients with community-acquired pneumonia. Medical Clinics of North America. 2001; 85(6):1427-1440

518 Richards G, Levy H, Laterre PF, Feldman C, Woodward B, Bates BM et al. CURB-65, PSI, and APACHE II to assess mortality risk in patients with severe sepsis and community acquired pneumonia in PROWESS. Journal of Intensive Care Medicine. 2011; 26(1):34-40

519 Rodriguez RM, Fancher ML, Phelps M, Hawkins K, Johnson J, Stacks K et al. An emergency department-based randomized trial of nonbronchoscopic bronchoalveolar lavage for early pathogen identification in severe community-acquired pneumonia. Annals of Emergency Medicine. 2001; 38(4):357-363

520 Roh YH, Lee BJ. Treatment of elderly patients with community-acquired pneumonia with the guidance of procalcitonin. Chest. 2013; 144(4 MEETING ABSTRACT)

521 Roh Y-H. Antibiotic therapy with the guidance of procalcitonin in patients with community-acquired pneumonia. Chest. 2010; 138(4):592A

522 Romanelli G, Cravarezza P, Pozzi A, Franchino L, Ravizzola G, Zulli R et al. Carbapenems in the treatment of severe community-acquired pneumonia in hospitalized elderly patients: a comparative study against standard therapy. Journal of Chemotherapy. 2002; 14(6):609-617

523 Roson B, Carratala J, Dorca J, Casanova A, Manresa F, Gudiol F. Etiology, reasons for hospitalization, risk classes, and outcomes of community-acquired pneumonia in patients

hospitalized on the basis of conventional admission criteria. Clinical Infectious Diseases. 2001; 33(2):158-165

524 Roson B, Gudiol F. Utility of gram stain and sputum culture in the management of community-acquired pneumonia. Clinical Pulmonary Medicine. 2003; 10(1):1-5

525 Roson B, Carratala J, Fernandez-Sabe N, Tubau F, Manresa F, Gudiol F. Causes and factors associated with early failure in hospitalized patients with community-acquired pneumonia. Archives of Internal Medicine. 2004; 164(5):502-508

526 Rubinstein E, Cammarata S, Oliphant T, Wunderink R, Linezolid Nosocomial Pneumonia Study Group. Linezolid (PNU-100766) versus vancomycin in the treatment of hospitalized patients with nosocomial pneumonia: a randomized, double-blind, multicenter study. Clinical Infectious Diseases. 2001; 32(3):402-412

527 Rubinstein E, Lalani T, Corey GR, Kanafani ZA, Nannini EC, Rocha MG et al. Telavancin versus vancomycin for hospital-acquired pneumonia due to gram-positive pathogens. Clinical Infectious Diseases. 2011; 52(1):31-40

528 Ruf B, Schurmann D, Horbach I, Fehrenbach FJ, Pohle HD. Prevalence and diagnosis of Legionella pneumonia: a 3-year prospective study with emphasis on application of urinary antigen detection. Journal of Infectious Diseases. 1990; 162(6):1341-1348

529 Ruiz-Gonzalez A, Falguera M, Porcel JM, Martinez-Alonso M, Cabezas P, Geijo P et al. C-reactive protein for discriminating treatment failure from slow responding pneumonia. European Journal of Internal Medicine. 2010; 21(6):548-552

530 Salluh JIF, Povoa P, Soares M, Castro-Faria-Neto HC, Bozza FA, Bozza PT. The role of corticosteroids in severe community-acquired pneumonia: a systematic review. Critical Care. 2008; 12(3):R76

531 Salluh JIF, Rabello LSCF, Rosolem MM, Soares M, Bozza FA, Verdeal JC et al. The impact of coagulation parameters on the outcomes of patients with severe community-acquired pneumonia requiring intensive care unit admission. Journal of Critical Care. 2011; 26(5):496-501

532 San Pedro GS, Cammarata SK, Oliphant TH, Todisco T, Linezolid Community-Acquired Pneumonia Study Group. Linezolid versus ceftriaxone/cefpodoxime in patients hospitalized for the treatment of Streptococcus pneumoniae pneumonia. Scandinavian Journal of Infectious Diseases. 2002; 34(10):720-728

533 Sanyal S, Smith PR, Saha AC, Gupta S, Berkowitz L, Homel P. Initial microbiologic studies did not affect outcome in adults hospitalized with community-acquired pneumonia. American Journal of Respiratory and Critical Care Medicine. 1999; 160:346-348:346-348

534 Scalera NM, File J. Determining the duration of therapy for patients with community-acquired pneumonia. Current Infectious Disease Reports. 2013; 15(2):191-195

535 Schentag JJ, Vari AJ, Winslade NE, Swanson DJ, Smith IL, Simons GW et al. Treatment with aztreonam or tobramycin in critical care patients with nosocomial gram-negative pneumonia. American Journal of Medicine. 1985; 78(2A):34-41

536 Schlueter M, James C, Dominguez A, Tsu L, Seymann G. Practice patterns for antibiotic de-escalation in culture-negative healthcare-associated pneumonia. Infection. 2010; 38(5):357-362

537 Schonwald S, Gunjaca M, Kolacny-Babic L, Car V, Gosev M. Comparison of azithromycin and erythromycin in the treatment of atypical pneumonias. Journal of Antimicrobial Chemotherapy. 1990; 25 Suppl A:123-126

538 Schonwald S, Skerk V, Petricevic I, Car V, Majerus-Misic L, Gunjaca M. Comparison of three-day and five-day courses of azithromycin in the treatment of atypical pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 1991; 10(10):877-880

539 Schroeder S, Hochreiter M, Koehler T, Schweiger AM, Bein B, Keck FS et al. Procalcitonin (PCT)-guided algorithm reduces length of antibiotic treatment in surgical intensive care patients with severe sepsis: results of a prospective randomized study. Langenbeck's Archives of Surgery / Deutsche Gesellschaft Fur Chirurgie. 2009; 394(2):221-226

540 Schuetz P, Albrich W, Christ-Crain M, Chastre J, Mueller B. Procalcitonin for guidance of antibiotic therapy. Expert Review of Anti-Infective Therapy. 2010; 8(5):575-587

541 Schuetz P, Batschwaroff M, Dusemund F, Albrich W, Bürgi U, Maurer M et al. Effectiveness of a procalcitonin algorithm to guide antibiotic therapy in respiratory tract infections outside of study conditions: a post-study survey. European Journal of Clinical Microbiology and Infectious Diseases. 2010; 29(3):269-277

542 Schuetz P, Briel M, Mueller B. Clinical outcomes associated with procalcitonin algorithms to guide antibiotic therapy in respiratory tract infections. Journal of the American Medical Association. 2013; 309(7):717-718

543 Schuetz P, Christ-Crain M, Thomann R, Falconnier C, Wolbers M, Widmer I et al. Effect of procalcitonin-based guidelines vs standard guidelines on antibiotic use in lower respiratory tract infections: The ProHOSP randomized controlled trial. Journal of the American Medical Association. 2009; 302(10):1059-1066

544 Schuetz P, Christ-Crain M, Thomann R, Falconnier C, Wolbers M, Widmer I et al. Effect of procalcitonin-based guidelines compared with standard guidelines on antibiotic use in lower respiratory tract infections: The randomized-controlled multicenter ProHOSP trial. Critical Care. 2009; 13:S157

545 Schuetz P, Christ-Crain M, Wolbers M, Schild U, Thomann R, Falconnier C et al. Procalcitonin guided antibiotic therapy and hospitalization in patients with lower respiratory tract infections: a prospective, multicenter, randomized controlled trial. BMC Health Services Research. 2007; 7:102

546 Schuetz P, Grolimund E, Kutz A, Haubitz S, Mueller B. Procalcitonin-guided antibiotic therapy in patients with congestive heart failure and suspicion of lower respiratory tract infection: Results from a randomized trial. Critical Care. 2013; 17:S12

547 Schuetz P, Koller M, Christ-Crain M, Steyerberg E, Stolz D, Muller C et al. Predicting mortality with pneumonia severity scores: importance of model recalibration to local settings. Epidemiology and Infection. 2008; 136(12):1628-1637

548 Schuetz P, Suter-Widmer I, Chaudri A, Christ-Crain M, Zimmerli W, Mueller B et al. Prognostic value of procalcitonin in community-acquired pneumonia. European Respiratory Journal. 2011; 37(2):384-392

549 Schuetz P, Chiappa V, Briel M, Greenwald JL. Procalcitonin algorithms for antibiotic therapy decisions: a systematic review of randomized controlled trials and recommendations for clinical algorithms. Archives of Internal Medicine. 2011; 171(15):1322-1331

550 Schuetz P, Litke A, Albrich WC, Mueller B. Blood biomarkers for personalized treatment and patient management decisions in community-acquired pneumonia. Current Opinion in Infectious Diseases. 2013; 26(2):159-167

551 Schuetz P, Wolbers M, Christ-Crain M, Thomann R, Falconnier C, Widmer I et al. Prohormones for prediction of adverse medical outcome in community-acquired pneumonia and lower respiratory tract infections. Critical Care. 2010; 14(3):R106

552 See S. Is azithromycin monotherapy as efficacious as cefuroxime plus erythromycin for the treatment of community-acquired pneumonia in hospitalized patients? Journal of Family Practice. 2000; 49(10):883-884

553 Seppa Y, Bloigu A, Honkanen PO, Miettinen L, Syrjala H. Severity assessment of lower respiratory tract infection in elderly patients in primary care. Archives of Internal Medicine. 2001; 161(22):2709-2713

554 Seymann G, Barger K, Choo S, Sawhney S, Davis D. Clinical judgment versus the Pneumonia Severity Index in making the admission decision. Journal of Emergency Medicine. 2008; 34(3):261-268

555 Seymann GB. Community-acquired pneumonia: defining quality care. Journal of Hospital Medicine. 2006; 1(6):344-353

556 Shafiq M, Mansoor MS, Khan AA, Sohail MR, Murad MH. Adjuvant steroid therapy in community-acquired pneumonia: A systematic review and meta-analysis. Journal of Hospital Medicine. 2013; Epublication

557 Shah PM, Stille W. Cefotaxime versus ceftriaxone for the treatment of nosocomial pneumonia. Results of a multicenter study. Diagnostic Microbiology and Infectious Disease. 1995; 22(1-2):171-172

558 Shakeel Q, Cabrera R, Paje D, Vahia A, Uduman AK, Watanabe Tejada LC. Evaluation of charlson comorbidity index as a predictor of adverse outcomes in patients admitted with community-acquired pneumonia. Journal of General Internal Medicine. 2013; 28:S74-S75

559 Shariatzadeh MR, Marrie TJ. Does sputum culture affect the management and/or outcome of community-acquired pneumonia? Eastern Mediterranean Health Journal. 2009; 15(4):792-799

560 Sheikh M, Mehta U, Shaikh Z, D'Orazi F, Roy MD, Zhu QM et al. Noninvasive positive pressure ventilation use at New York hospital medical center queens: A quality-improvement project. Chest. 2010; 138(4)

561 Shi Y, Xu Y, Rui X, Du W, Liu Y, Wang Y. The role of serial measurements of serum procalcitonin in efficacy evaluation in patients with pneumonia. Chinese Journal of Infection and Chemotherapy. 2013; 13(3):190-194

562 Shimada T, Noguchi Y, Jackson JL, Miyashita J, Hayashino Y, Kamiya T et al. Systematic review and metaanalysis: Urinary antigen tests for legionellosis. Chest. 2009; 136(6):1576-1585

563 Shorr AF, Bodi M, Rodriguez A, Sole-Violan J, Garnacho-Montero J, Rello J et al. Impact of antibiotic guideline compliance on duration of mechanical ventilation in critically ill patients with community-acquired pneumonia. Chest. 2006; 130(1):93-100

564 Shorr AF, Susla GB, Kollef MH. Quinolones for treatment of nosocomial pneumonia: a meta-analysis. Clinical Infectious Diseases. 2005; 40 Suppl 2:S115-S122

565 Shorr AF, Zilberberg MD, Reichley R, Kan J, Hoban A, Hoffman J et al. Readmission following hospitalization for pneumonia: the impact of pneumonia type and its implication for hospitals. Clinical Infectious Diseases. 2013; 57(3):362-367

566 Siami GA, Wilkins WT, Bess DT, Christman JW. Comparison of ciprofloxacin with imipenem in the treatment of severe pneumonia in hospitalised geriatric patients. Drugs. 1995; 49 Suppl 2:436-438

567 Sibila O, Meduri GU, Mortensen EM, Anzueto A, Laserna E, Fernandez JF et al. Improving the 2007 Infectious Disease Society of America/American Thoracic Society severe community-acquired pneumonia criteria to predict intensive care unit admission. Journal of Critical Care. 2013; 28(3):284-290

568 Sibila O, Mortensen EM, Redrow G, Lugo E, Laserna E, Anzueto A et al. Evaluation of the IDSA/ATS minor criteria for severe community-acquired pneumonia. Hospital Practice. 2012; 40(2):158-164

569 Siegel RE. Strategies for early discharge of the hospitalized patient with community-acquired pneumonia. Clinics in Chest Medicine. 1999; 20(3):599-605

570 Siegel RE, Halpern NA, Almenoff PL, Lee A, Cashin R, Greene JG. A prospective randomized study of inpatient iv. antibiotics for community-acquired pneumonia. The optimal duration of therapy. Chest. 1996; 110(4):965-971

571 Sieger B, Berman SJ, Geckler RW, Farkas SA. Empiric treatment of hospital-acquired lower respiratory tract infections with meropenem or ceftazidime with tobramycin: a randomized study. Meropenem Lower Respiratory Infection Group. Critical Care Medicine. 1997; 25(10):1663-1670

572 Siempos II, Dimopoulos G, Falagas ME. Meta-analyses on the Prevention and Treatment of Respiratory Tract Infections. Infectious Disease Clinics of North America. 2009; 23(2):331-353

573 Siempos II, Vardakas KZ, Kopterides P, Falagas ME. Adjunctive therapies for community-acquired pneumonia: a systematic review. Journal of Antimicrobial Chemotherapy. 2008; 62(4):661-668

574 Siempos II, Vardakas KZ, Manta KG, Falagas ME. Carbapenems for the treatment of immunocompetent adult patients with nosocomial pneumonia. European Respiratory Journal. 2007; 29(3):548-560

575 Sifuentes-Osornio J, Macias A, Amieva RI, Ramos A, Ruiz-Palacios GM. Intravenous ciprofloxacin and ceftazidime in serious infections. A prospective, controlled clinical trial with third-party blinding. American Journal of Medicine. 1989; 87(5A):202S-205S

576 Sikka P, Jaafar WM, Bozkanat E, El-Solh AA. A comparison of severity of illness scoring systems for elderly patients with severe pneumonia. Intensive Care Medicine. 2000; 26(12):1803-1810

577 Silber SH, Garrett C, Singh R, Sweeney A, Rosenberg C, Parachiv D et al. Early administration of antibiotics does not shorten time to clinical stability in patients with moderate-to-severe community-acquired pneumonia. Chest. 2003; 124(5):1798-1804

578 Sinclair A, Xie X, and Dendukuri N. The clinical effectiveness and cost of a pneumococcal urine antigen immunochromatographic test (BinaxNOW Streptococcus pneumoniae) in the diagnosis of community acquire Streptococcus pneumoniae pneumonia in patients admitted to hospital. Technology Assessment Unit of the McGill University Health Centre (MUHC), 2012. Available from: https://secureweb.mcgill.ca/tau/sites/mcgill.ca.tau/files/muhc_tau_2011_57_binaxnow.pdf

579 Sinclair A, Xie X, Teltscher M, Dendukuri N. Systematic review and meta-analysis of a urine-based pneumococcal antigen test for diagnosis of community-acquired pneumonia caused by Streptococcus pneumoniae. Journal of Clinical Microbiology. 2013; 51(7):2303-2310

580 Skalsky K, Yahav D, Lador A, Eliakim-Raz N, Leibovici L, Paul M. Macrolides vs. quinolones for community-acquired pneumonia: meta-analysis of randomized controlled trials. Clinical Microbiology and Infection. 2013; 19(4):370-378

581 Sligl WI, Asadi L, Eurich DT, Tjosvold L, Marrie TJ, Majumdar SR. Macrolides and mortality in critically ill patients with community-acquired pneumonia: a systematic review and meta-analysis. Critical Care Medicine. 2014; 42(2):420-432

582 Sligl WI, Eurich DT, Marrie TJ, Majumdar SR. Only severely limited, premorbid functional status is associated with short- and long-term mortality in patients with pneumonia who are critically ill: a prospective observational study. Chest. 2011; 139(1):88-94

583 Smith KJ, Wateska A, Nowalk MP, Raymund M, Lee BY, Zimmerman RK et al. Cost-Effectiveness of Procalcitonin-Guided Antibiotic Use in Community Acquired Pneumonia. Journal of General Internal Medicine. 2013; 28(9):1157-1164

584 Smith RP, Lipworth BJ. C-reactive protein in simple community-acquired pneumonia. Chest. 1995; 107(4):1028-1031

585 Smith RP, Lipworth BJ, Cree IA, Spiers EM, Winter JH. C-reactive protein. A clinical marker in community-acquired pneumonia. Chest. 1995; 108(5):1288-1291

586 Smyrnios NA, Schaefer OP, Collins RM, Madison JM. Applicability of prediction rules in patients with community-acquired pneumonia requiring intensive care: a pilot study. Journal of Intensive Care Medicine. 2005; 20(4):226-232

587 Socan M, Marinic-Fiser N, Kraigher A, Kotnik A, Logar M. Microbial aetiology of community-acquired pneumonia in hospitalised patients. European Journal of Clinical Microbiology and Infectious Diseases. 1999; 18(11):777-782

588 Sopena N, Martinez-Vazquez C, Rodriguez-Suarez JR, Segura F, Valencia A, Sabria M. Comparative study of the efficacy and tolerance of azithromycin versus clarithromycin in the treatment of community-acquired pneumonia in adults. Journal of Chemotherapy. 2004; 16(1):102-103

589 Sorde R, Falco V, Lowak M, Domingo E, Ferrer A, Burgos J et al. Current and potential usefulness of pneumococcal urinary antigen detection in hospitalized patients with community-acquired pneumonia to guide antimicrobial therapy. Archives of Internal Medicine. 2011; 171(2):166-172

590 Sousa E, Pinho R, Guedes C, Marcal P, Amaro P. Community-acquired pneumonia in the intensive care unit. Intensive Care Medicine. 2010; 36:S344

591 Speets AM, Hoes AW, van der Graaf Y, Kalmijn S, Sachs APE, Mali WPT. Chest radiography and pneumonia in primary care: diagnostic yield and consequences for patient management. European Respiratory Journal. 2006; 28(5):933-938

592 Speets AM, van der Graaf Y, Hoes AW, Kalmijn S, Sachs AP, Rutten MJ et al. Chest radiography in general practice: indications, diagnostic yield and consequences for patient management. British Journal of General Practice. 2006; 56(529):574-578

593 Speich R, Imhof E, Vogt M, Grossenbacher M, Zimmerli W. Efficacy, safety, and tolerance of piperacillin/tazobactam compared to co-amoxiclav plus an aminoglycoside in the treatment of severe pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 1998; 17(5):313-317

594 Spurling GKP, Del Mar CB, Dooley L, Foxlee R, Farley R. Delayed antibiotics for respiratory infections. Cochrane Database of Systematic Reviews. 2013; Issue 4:CD004417. DOI:10.1002/14651858.CD004417.pub4

595 Stauble SP, Reichlin S, Dieterle T, Leimenstoll B, Schoenenberger R, Martina B. Community-acquired pneumonia - Which patients are hospitalized? Swiss Medical Weekly. 2001; 131(13-14):188-192

596 Steurer J, Held U, Spaar A, Bausch B, Zoller M, Hunziker R et al. A decision aid to rule out pneumonia and reduce unnecessary prescriptions of antibiotics in primary care patients with cough and fever. BMC Medicine. 2011; 9:56

597 Stevens DL, Herr D, Lampiris H, Hunt JL, Batts DH, Hafkin B. Linezolid versus vancomycin for the treatment of methicillin-resistant Staphylococcus aureus infections. Clinical Infectious Diseases. 2002; 34(11):1481-1490

598 Stolz D, Christ-Crain M, Bingisser R, Leuppi J, Miedinger D, Muller C et al. Antibiotic treatment of exacerbations of COPD: a randomized, controlled trial comparing procalcitonin-guidance with standard therapy. Chest. 2007; 131(1):9-19

599 Stolz D, Christ-Crain M, Gencay MM, Bingisser R, Huber PR, Muller B et al. Diagnostic value of signs, symptoms and laboratory values in lower respiratory tract infection. Swiss Medical Weekly. 2006; 136(27-28):434-440

600 Stolz D, Smyrnios N, Eggimann P, Pargger H, Thakkar N, Siegemund M et al. Procalcitonin for reduced antibiotic exposure in ventilator-associated pneumonia: a randomised study. European Respiratory Journal. 2009; 34(6):1364-1375

601 Subramanian DN, Musonda P, Sankaran P, Tariq SM, Kamath AV, Myint PK. Performance of SOAR (systolic blood pressure, oxygenation, age and respiratory rate) scoring criteria in community-acquired pneumonia: a prospective multi-centre study. Age and Ageing. 2013; 42(1):94-97

602 Sun HK, Nicolau DP, Kuti JL. Resource utilization of adults admitted to a large urban hospital with community-acquired pneumonia caused by streptococcus pneumoniae. Chest. 2006; 130(3):807-814

603 Tamura M, Watanabe M, Nakajima A, Kurai D, Ishii H, Takata S et al. Serial quantification of procalcitonin predicts clinical outcome and prognosis in patients with community-acquired pneumonia (CAP). Journal of Infection and Chemotherapy. 2014; 20(2):97-103

604 Tanimowo MO. Mortality predictors in community-acquired pneumonia. Nigerian Journal of Clinical Practice. 2009; 12(3):298-301

605 Tellier G, Chang JR, Asche CV, Lavin B, Stewart J, Sullivan SD. Comparison of hospitalization rates in patients with community-acquired pneumonia treated with telithromycin for 5 or 7 days or clarithromycin for 10 days. Current Medical Research and Opinion. 2004; 20(5):739-747

606 Tellier G, Niederman MS, Nusrat R, Patel M, Lavin B. Clinical and bacteriological efficacy and safety of 5 and 7 day regimens of telithromycin once daily compared with a 10 day regimen of clarithromycin twice daily in patients with mild to moderate community-acquired pneumonia. Journal of Antimicrobial Chemotherapy. 2004; 54(2):515-523

607 Theerthakarai R, El-Halees W, Ismail M, Solis RA, Khan MA. Nonvalue of the initial microbiological studies in the management of nonsevere community-acquired pneumonia. Chest. 2001; 119(1):181-184

608 Thiem U, Niklaus D, Sehlhoff B, Stuckle C, Heppner HJ, Endres HG et al. C-reactive protein, severity of pneumonia and mortality in elderly, hospitalised patients with community-acquired pneumonia. Age and Ageing. 2009; 38(6):693-697

609 Tomii K, Seo R, Tachikawa R, Harada Y, Murase K, Kaji R et al. Impact of noninvasive ventilation (NIV) trial for various types of acute respiratory failure in the emergency department; decreased mortality and use of the ICU. Respiratory Medicine. 2009; 103(1):67-73

610 Torres A, Bauer TT, Leon-Gil C, Castillo F, Alvarez-Lerma F, Martinez-Pellus A et al. Treatment of severe nosocomial pneumonia: a prospective randomised comparison of intravenous ciprofloxacin with imipenem/cilastatin. Thorax. 2000; 55(12):1033-1039

611 Torres A, Muir JF, Corris P, Kubin R, Duprat-Lomon I, Sagnier PP et al. Effectiveness of oral moxifloxacin in standard first-line therapy in community-acquired pneumonia. European Respiratory Journal. 2003; 21(1):135-143

612 Torres A, Serra-Batlles J, Ferrer A, Jimenez P, Celis R, Cobo E et al. Severe community-acquired pneumonia. Epidemiology and prognostic factors. American Review of Respiratory Disease. 1991; 144(2):312-318

613 Trakada G, Gogos C, Basiaris C, Spiropoulos K. The pathophysiological significance of prognostic factors for fatal outcome in lower respiratory tract infections. Respirology. 2003; 8(1):53-57

614 Trenholme GM, Schmitt BA, Spear J, Gvazdinskas LC, Levin S. Randomized study of intravenous/oral ciprofloxacin versus ceftazidime in the treatment of hospital and nursing home patients with lower respiratory tract infections. American Journal of Medicine. 1989; 87(5A):116S-118S

615 Troy L, Wong K, Chan R, Barnes D. Low prevalence of positive urinary pneumococcal antigen tests in community acquired pneumonia. Respirology. 2011; 16:82

616 Tseng JS, Chan MC, Hsu JY, Kuo BI-T, Wu CL. Procalcitonin is a valuable prognostic marker in ARDS caused by community-acquired pneumonia. Respirology. 2008; 13(4):505-509

617 Upadhyay S, Niederman MS. Biomarkers: what is their benefit in the identification of infection, severity assessment, and management of community-acquired pneumonia? Infectious Disease Clinics of North America. 2013; 27(1):19-31

618 van der Eerden MM, de Graaff CS, Bronsveld W, Jansen HM, Boersma WG. Prospective evaluation of pneumonia severity index in hospitalised patients with community-acquired pneumonia. Respiratory Medicine. 2004; 98(9):872-878

619 van der Eerden MM, Vlaspolder F, de Graaff CS, Groot T, Bronsveld W, Jansen HM et al. Comparison between pathogen directed antibiotic treatment and empirical broad spectrum antibiotic treatment in patients with community acquired pneumonia: a prospective randomised study. Thorax. 2005; 60(8):672-678

620 van Vugt SF, Broekhuizen BD, Lammens C, Zuithoff NP, de Jong PA, Coenen S et al. Use of serum C reactive protein and procalcitonin concentrations in addition to symptoms and signs to predict pneumonia in patients presenting to primary care with acute cough: diagnostic study. BMJ. 2013; 346:f2450

621 Vardakas KZ, Siempos II, Grammatikos A, Athanassa Z, Korbila IP, Falagas ME. Respiratory fluoroquinolones for the treatment of community-acquired pneumonia: a meta-analysis of randomized controlled trials. Canadian Medical Association Journal. 2008; 179(12):1269-1277

622 Vecchiarino P, Bohannon RW, Ferullo J, Maljanian R. Short-term outcomes and their predictors for patients hospitalized with community-acquired pneumonia. Heart and Lung. 2004; 33(5):301-307

623 Vetter N, Cambronero-Hernandez E, Rohlf J, Simon S, Carides A, Oliveria T et al. A prospective, randomized, double-blind multicenter comparison of parenteral ertapenem and ceftriaxone for the treatment of hospitalized adults with community-acquired pneumonia. Clinical Therapeutics. 2002; 24(11):1770-1785

624 Wagner HN, Jr., Bennett IL, Jr., Lasagna L, Cluff LE et al. The effect of hydrocortisone upon the course of pneumococcal pneumonia treated with penicillin. Bulletin of the Johns Hopkins Hospital. 1956; 98(3):197-215

625 Waterer GW, Jennings SG, Wunderink RG. The impact of blood cultures on antibiotic therapy in pneumococcal pneumonia. Chest. 1999; 116(5):1278-1281

626 Waterer GW, Wunderink RG. The influence of the severity of community-acquired pneumonia on the usefulness of blood cultures. Respiratory Medicine. 2001; 95(1):78-82

627 Waterer GW, Kessler LA, Wunderink RG. Medium-term survival after hospitalization with community-acquired pneumonia. American Journal of Respiratory and Critical Care Medicine. 2004; 169(8):910-914

628 Watts S, Bryan ED. Characteristics of ED pneumonia patients who did not meet 6 hour standard for antibiotic administration. Academic Emergency Medicine. 2011; 18(5 SUPPL. 1):S177-S178

629 Watts SH, Bryan ED. Emergency Department Pneumonia Patients Who do not Meet the Six-Hour Criteria for Antibiotic Administration: Do They Have a Different Clinical Presentation? Journal of Clinical Medicine Research. 2012; 4(5):338-345

630 Weatherall C, Paoloni R, Gottlieb T. Point-of-care urinary pneumococcal antigen test in the emergency department for community acquired pneumonia. Emergency Medicine Journal. 2008; 25(3):144-148

631 Weber DJ, Calderwood SB, Karchmer AW, Pennington JE. Ampicillin versus cefamandole as initial therapy for community-acquired pneumonia. Antimicrobial Agents and Chemotherapy. 1987; 31(6):876-882

632 Weerasuriya D, Houry D, Hess J, Wu D, Haley L, Atallah H. Relationship between hospital length of stay and door to antibiotic time in pneumonia patients in the emergency department: A retrospective study. Academic Emergency Medicine. 2011; 18(5 SUPPL. 1):S177

633 Weingarten SR, Riedinger MS, Hobson P, Noah MS, Johnson B, Giugliano G et al. Evaluation of a pneumonia practice guideline in an interventional trial. American Journal of Respiratory and Critical Care Medicine. 1996; 153(3):1110-1115

634 Weiss G, Benedix F, Lippert H. Diagnostic problems of nosocomial infections in patients with severe sepsis and ongoing antimicrobial treatment - Efficiency and value of serum inflammatory markers and routine microbiological monitoring. Clinical Intensive Care. 2006; 17(3-4):113-123

635 Welker JA, Huston M, McCue JD. Antibiotic timing and errors in diagnosing pneumonia. Archives of Internal Medicine. 2008; 168(4):351-356

636 Welte T, Petermann W, Schurmann D, Bauer TT, Reimnitz P, MOXIRAPID Study Group. Treatment with sequential intravenous or oral moxifloxacin was associated with faster clinical improvement than was standard therapy for hospitalized patients with community-acquired pneumonia who received initial parenteral therapy. Clinical Infectious Diseases. 2005; 41(12):1697-1705

637 West M, Boulanger BR, Fogarty C, Tennenberg A, Wiesinger B, Oross M et al. Levofloxacin compared with imipenem/cilastatin followed by ciprofloxacin in adult patients with nosocomial pneumonia: a multicenter, prospective, randomized, open-label study. Clinical Therapeutics. 2003; 25(2):485-506

638 Whittaker J, Tehan S. Augmentin (intravenous then oral) compared with cefuroxime followed by cephalexin for chest infections in hospitalized patients. Journal of Drug Development. 1989; 2(Suppl 1):71-77

639 Williams D, Perri M, Zervos MJ. Randomized comparative trial with ampicillin/sulbactam versus cefamandole in the therapy of community acquired pneumonia. European Journal of Clinical Microbiology and Infectious Diseases. 1994; 13(4):293-298

640 Willis R. Cefepime vs cefotaxime in the treatment of pneumonia. Infections in Medicine. 1998; 15(9):636-643

641 Wilson KC, Schunemann HJ. An appraisal of the evidence underlying performance measures for community-acquired pneumonia. American Journal of Respiratory and Critical Care Medicine. 2011; 183(11):1454-1462

642 Wilton G, Adelman M, Schentag J, Lee H. Predictors for time to improvement in community-acquired pneumonia: Pharmacodynamic correlation with time to treatment response. International Journal of Antimicrobial Agents. 2009; 34:S28-S29

643 Wood F, Brookes-Howell L, Hood K, Cooper L, Verheij T, Goossens H et al. A multi-country qualitative study of clinicians' and patients' views on point of care tests for lower respiratory tract infection. Family Practice. 2011; 28(6):661-669

644 Woodhead MA, Arrowsmith J, Chamberlain-Webber R, Wooding S, Williams I. The value of routine microbial investigation in community-acquired pneumonia. Respiratory Medicine. 1991; 85(4):313-317

645 Woods GL, Isaacs RD, McCarroll KA, Friedland IR. Ertapenem therapy for community-acquired pneumonia in the elderly. Journal of the American Geriatrics Society. 2003; 51(11):1526-1532

646 Wu JH, Howard DH, McGowan JEJ, Turpin RS, Henry Hu X. Adherence to infectious diseases society of America guidelines for empiric therapy for patients with community-acquired pneumonia in a commercially insured cohort. Clinical Therapeutics. 2006; 28(9):1451-1461

647 Wunderink RG, Cammarata SK, Oliphant TH, Kollef MH, Linezolid Nosocomial Pneumonia Study Group. Continuation of a randomized, double-blind, multicenter study of linezolid versus vancomycin in the treatment of patients with nosocomial pneumonia. Clinical Therapeutics. 2003; 25(3):980-992

648 Wunderink RG, Niederman MS, Kollef MH, Shorr AF, Kunkel MJ, Baruch A et al. Linezolid in methicillin-resistant Staphylococcus aureus nosocomial pneumonia: a randomized, controlled study. Clinical Infectious Diseases. 2012; 54(5):621-629

649 Wysocki M, Antonelli M. Noninvasive mechanical ventilation in acute hypoxaemic respiratory failure. European Respiratory Journal. 2001; 18(1):209-220

650 Xu S, Xiong S, Xu Y, Liu J, Liu H, Zhao J et al. Efficacy and safety of intravenous moxifloxacin versus cefoperazone with azithromycin in the treatment of community acquired pneumonia. Journal of Huazhong University of Science and Technology - Medical Sciences. 2006; 26(4):421-424

651 Yahav D, Leibovici L, Goldberg E, Bishara J, Paul M. Time to first antibiotic dose for patients hospitalised with community-acquired pneumonia. International Journal of Antimicrobial Agents. 2013; 41(5):410-413

652 Yakovlev SV, Stratchounski LS, Woods GL, Adeyi B, McCarroll KA, Ginanni JA et al. Ertapenem versus cefepime for initial empirical treatment of pneumonia acquired in skilled-care facilities or in hospitals outside the intensive care unit. European Journal of Clinical Microbiology and Infectious Diseases. 2006; 25(10):633-641

653 Yanagihara K, Fukuda Y, Seki M, Izumikawa K, Higashiyama Y, Miyazaki Y et al. Clinical comparative study of sulbactam/ampicillin and imipenem/cilastatin in elderly patients with community-acquired pneumonia. Internal Medicine. 2006; 45(17):995-999

654 Yangco BG, Palumbo JA, Nolen T, Lifland PW, Schleupner CJ. Comparative multicentre evaluation of the safety and efficacy of ceftazidime versus cefamandole for pneumonia. Journal of Antimicrobial Chemotherapy. 1986; 18(4):521-529

655 Yende S, D'Angelo G, Mayr F, Kellum JA, Weissfeld L, Kaynar AM et al. Elevated hemostasis markers after pneumonia increases one-year risk of all-cause and cardiovascular deaths. PloS One. 2011; 6(8)

656 Yende S, D'Angelo G, Kellum JA, Weissfeld L, Fine J, Welch RD et al. Inflammatory markers at hospital discharge predict subsequent mortality after pneumonia and sepsis. American Journal of Respiratory and Critical Care Medicine. 2008; 177(11):1242-1247

657 Yoshimoto A, Nakamura H, Fujimura M, Nakao S. Severe community-acquired pneumonia in an intensive care unit: risk factors for mortality. Internal Medicine. 2005; 44(7):710-716

658 Yu H, Rubin J, Dunning S, Li S, Sato R. Clinical and economic burden of community-acquired pneumonia in the Medicare fee-for-service population. Journal of the American Geriatrics Society. 2012; 60(11):2137-2143

659 Yu KT, Wyer PC. Evidence-based emergency medicine/critically appraised topic. Evidence behind the 4-hour rule for initiation of antibiotic therapy in community-acquired pneumonia. Annals of Emergency Medicine. 2008; 51(5):651-652

660 Yuan X, Liang BB, Wang R, Liu Yn, Sun CG, Cai Y et al. Treatment of community-acquired pneumonia with moxifloxacin: a meta-analysis of randomized controlled trials. Journal of Chemotherapy. 2012; 24(5):257-267

661 Zaitsev A, Sinopalnikov A, Tyrsin O, Morozov A. Pharmacoeconomic analysis of sequential intravenous/peroral (I.V./P.O.) therapy of community-acquired pneumonia (CAP). Value in Health. 2012; 15(4):A241

662 Zaitsev A, Synopalnikov A, Tyrsin O. Pharmacoeconomic analysis of treatment of community-acquired pneumonia (CAP). Value in Health. 2011; 14(7):A278

663 Zaitsev A, Tyrsin O, Morozov A. Clinico-economic evaluation of treatment of community-acquired pneumonia (CAP) complicated by sepsis with moxifloxacin compared to ceftriaxone-azithromycin. Value in Health. 2011; 14 (7):A269

664 Zanetti G, Bally F, Greub G, Garbino J, Kinge T, Lew D et al. Cefepime versus imipenem-cilastatin for treatment of nosocomial pneumonia in intensive care unit patients: a multicenter, evaluator-blind, prospective, randomized study. Antimicrobial Agents and Chemotherapy. 2003; 47(11):3442-3447

665 Zhang Y, Fang C, Dong BR, Wu T, Deng JL. Oxygen therapy for pneumonia in adults. Cochrane Database of Systematic Reviews. 2012; Issue 3:CD006607. DOI:10.1002/14651858.CD006607.pub4

666 Zilberberg MD, Shorr AF, Micek ST, Mody SH, Kollef MH. Antimicrobial therapy escalation and hospital mortality among patients with health-care-associated pneumonia: a single-center experience. Chest. 2008; 134(5):963-968

667 Ziss DR, Stowers A, Feild C. Community-acquired pneumonia: compliance with centers for Medicare and Medicaid services, national guidelines, and factors associated with outcome. Southern Medical Journal. 2003; 96(10):949-959

668 Zobel K, Martus P, Pletz MW, Ewig S, Prediger M, Welte T et al. Interleukin 6, lipopolysaccharide-binding protein and interleukin 10 in the prediction of risk and etiologic patterns in patients with community-acquired pneumonia: results from the German competence network CAPNETZ. BMC Pulmonary Medicine. 2012; 12:6