Diagnostic accuracy of point of care tests for acute respiratory infection: a systematic review of reviews

Supplementary material

Table S1 Reports excluded from the overview of systematic reviews

Aalbers J, O'Brien KK, Chan W-S, Falk GA, Teljeur C, Dimitrov BD, et al. Predicting streptococcal pharyngitis in adults in primary care: a systematic review of the diagnostic accuracy of symptoms and signs and validation of the Centor score. BMC medicine. 2011;9:67.	Incorrect target condition (group A streptococcus).
Abdullahi H, Elnahas A, Konje JC. Seasonal influenza during pregnancy. European Journal of Obstetrics and Gynecology and Reproductive Biology. 2021;258:235-9.	Not a systematic review.
Abel L, Dakin HA, Roberts N, Ashdown HF, Butler CC, Hayward G, et al. Is stratification testing for treatment of chronic obstructive pulmonary disease exacerbations cost-effective in primary care? an early cost-utility analysis. International Journal of Technology Assessment in Health Care. 2019;35(2):116-25.	Not a systematic review.
Alzahrani SA, Al-Salamah MA, Al-Madani WH, Elbarbary MA. Systematic review and meta-analysis for the use of ultrasound versus radiology in diagnosing of pneumonia. Critical ultrasound journal. 2017;9(1):6.	Incorrect index test (imaging).
Anevlavis S, Bouros D. Community acquired bacterial pneumonia. Expert opinion on pharmacotherapy. 2010;11(3):361-74.	Not a systematic review.
Anjay MA, Anoop P. Diagnostic utility of rapid immunochromatographic urine antigen testing in suspected pneumococcal infections. Archives of disease in childhood. 2008;93(7):628-31.	Not a systematic review.
Anonymous. Evaluation of rapid influenza diagnostic tests for influenza A (H3N2)v virus and updated case count--United States, 2012. MMWR Morbidity and mortality weekly report. 2012;61(32):619-21.	Not a systematic review.
Anonymous. Infectious Disease/CDC Update: Update on emerging infections: news from the Centers for Disease Control and Prevention. Evaluation of 11 commercially available rapid influenza diagnostic tests-United States, 2011-2012. Annals of emergency medicine.	Not a systematic review.

2013;61(5):573-7.	
Anonymous. Streptococcal Antigen Test for Pneumonia Detection: A Review of Clinical and Cost-Effectiveness and Guidelines. 2015.	Not a systematic review.
Anonymous. Erratum: A systematic review of rapid diagnostic tests for influenza: considerations for the community pharmacist (Journal of the American Pharmacists Association (2017) 57(1) (13-19) (S1544319116308056) (10.1016/j.japh.2016.08.018)). Journal of the American Pharmacists Association. 2018;58(1):128.	Not a systematic review.
Aquino A, Paschoalin VMF, Tessaro LLG, Raymundo-Pereira PA, Conte-Junior CA. Updating the use of nano-biosensors as promising devices for the diagnosis of coronavirus family members: A systematic review. Journal of pharmaceutical and biomedical analysis. 2022;211:114608.	Not a systematic review.
Au-Yong A. Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary. BET 2. C-reactive protein in the differential diagnosis of heart failure and chest infection. Emergency medicine journal : EMJ. 2009;26(1):58-9.	No quality assessment of included studies, and searches of a single database only.
Avni T, Bieber A, Green H, Steinmetz T, Leibovici L, Paul M. Diagnostic Accuracy of PCR Alone and Compared to Urinary Antigen Testing for Detection of Legionella spp.: a Systematic Review. Journal of clinical microbiology. 2016;54(2):401-11.	Incorrect target condition (Légionnaires disease).
Babin SM, Hsieh Y-H, Rothman RE, Gaydos CA. A meta-analysis of point-of-care laboratory tests in the diagnosis of novel 2009 swine-lineage pandemic influenza A (H1N1). Diagnostic microbiology and infectious disease. 2011;69(4):410-8.	No quality assessment of included studies.
Bach PB, Brown C, Gelfand SE, McCrory DC. Management of acute exacerbations of chronic obstructive pulmonary disease: a summary and appraisal of published evidence. Annals of internal medicine. 2001;134(7):600-20.	No data on diagnostic accuracy outcomes.

Baez AA, Cochon L, Nicolas JM. A Bayesian decision support sequential model for severity of illness predictors and intensive care admissions in pneumonia. BMC medical informatics and decision making. 2019;19(1):284.	Not a systematic review.
Basile K, Kok J, Dwyer DE. Point-of-care diagnostics for respiratory viral infections. Expert review of molecular diagnostics. 2018;18(1):75-83.	Not a systematic review.
Basnayake TL, Waterer GW. Rapid diagnostic tests for defining the cause of community-acquired pneumonia. Current opinion in infectious diseases. 2015;28(2):185-92.	Not a systematic review.
Bassetti M, Russo A, Righi E, Dolso E, Merelli M, D'Aurizio F, et al. Role of procalcitonin in bacteremic patients and its potential use in predicting infection etiology. Expert review of anti-infective therapy. 2019;17(2):99-105.	Not a systematic review.
Berg P, Lindhardt BO. The role of procalcitonin in adult patients with community-acquired pneumonia--a systematic review. Danish medical journal. 2012;59(3):A4357.	Not a systematic review.
Bernstein DI, Mejias A, Rath B, Woods CW, Deeter JP. Summarizing Study Characteristics and Diagnostic Performance of Commercially Available Tests for Respiratory Syncytial Virus: A Scoping Literature Review in the COVID-19 Era. The journal of applied laboratory medicine. 2023;8(2):353-71.	No quality assessment of included studies.
Biserni GB, Scarpini S, Dondi A, Biagi C, Pierantoni L, Masetti R, et al. Potential Diagnostic and Prognostic Biomarkers for Adenovirus Respiratory Infection in Children and Young Adults. Viruses. 2021;13(9).	Not a systematic review.
Bond C, Morgenstern J, Heitz C, Milne WK. Hot off the Press: Difficult to Breathe - It Could be Pneumonia. Academic emergency medicine : official journal of the Society for Academic Emergency Medicine. 2020.	Not a systematic review.
Boulet LP. Future directions in the clinical management of cough: ACCP evidence-based clinical practice guidelines. Chest. 2006;129(1):287S-92S.	Not a systematic review.
Boulware DR, Daley CL, Merrifield C, Hopewell PC, Janoff EN. Rapid diagnosis of pneumococcal pneumonia among HIV-infected adults with urine antigen detection. The Journal of infection. 2007;55(4):300-9.	Incorrect population (people living with HIV).

Brown PM, Schneeberger DL, Piedimonte G. Biomarkers of respiratory syncytial virus (RSV) infection: specific neutrophil and cytokine levels provide increased accuracy in predicting disease severity. Paediatric respiratory reviews. 2015;16(4):232-40.	Not a systematic review.
Brusselle G, Pavord ID, Landis S, Pascoe S, Lettis S, Morjaria N, et al. Blood eosinophil levels as a biomarker in COPD. Respiratory Medicine. 2018;138:21-31.	Not a systematic review.
Bryan C, Boren SA. The use and effectiveness of electronic clinical decision support tools in the ambulatory/primary care setting: A systematic review of the literature. Informatics in Primary Care. 2008;16(2):79-91.	No data on diagnostic accuracy outcomes.
Bustamante A, Vilar-Bergua A, Guettier S, Sanchez-Poblet J, Garcia-Berrocoso T, Giralt D, et al. C-reactive protein in the detection of post-stroke infections: systematic review and individual participant data analysis. Journal of Neurochemistry. 2017;141(2):305-14.	Incorrect population (people who experience an infection after a stroke).
Call SA, Vollenweider MA, Hornung CA, Simel DL, McKinney WP. Does this patient have influenza? JAMA. 2005;293(8):987-97.	Not a systematic review.
Carratala J, Garcia-Vidal C. An update on Legionella. Current opinion in infectious diseases. 2010;23(2):152-7.	Not a systematic review.
Chen K, Ahmed S, Sun C, Sheng Y-J, Wu G, Deng C-L, et al. Accuracy of Molecular Amplification Assays for Diagnosis of Staphylococcal Pneumonia: a Systematic Review and Meta-analysis. Journal of clinical microbiology. 2021;59(8):e0300320.	Incorrect index test (staphylococcal organisms).
Chen Y-WR, Leung JM, Sin DD. A Systematic Review of Diagnostic Biomarkers of COPD Exacerbation. PloS one. 2016;11(7):e0158843.	No data on diagnostic accuracy outcomes.
Choi JJ, McCarthy MW. The prognostic value of mid-regional pro-adrenomedullin in the evaluation of acute dyspnea. Expert Review of Molecular Diagnostics. 2018;18(2):147-53.	Not a systematic review.
Christ-Crain M, Muller B. Biomarkers in respiratory tract infections: diagnostic guides to antibiotic prescription, prognostic markers and mediators. The European respiratory journal. 2007;30(3):556-73.	Not a systematic review.

Chu H, Lofgren ET, Halloran ME, Kuan PF, Hudgens M, Cole SR. Performance of rapid influenza H1N1 diagnostic tests: a meta-analysis. Influenza and other respiratory viruses. 2012;6(2):80-6.	No quality assessment of included studies.
Cohen JF, Cohen R, Levy C, Thollot F, Benani M, Bidet P, et al. Selective testing strategies for diagnosing group A streptococcal infection in children with pharyngitis: a systematic review and prospective multicentre external validation study. CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne. 2015;187(1):23-32.	Incorrect target condition (group A streptococcus).
Corneli HM. Rapid strep tests in the emergency department: an evidence-based approach. Pediatric emergency care. 2001;17(4):272-9.	Incorrect target condition (group A streptococcus).
Covert K, Bashore E, Edds M, Lewis PO. Utility of the respiratory viral panel as an antimicrobial stewardship tool. Journal of Clinical Pharmacy and Therapeutics. 2021;46(2):277-85.	No data on diagnostic accuracy outcomes.
Cristovam E, Almeida D, Caldeira D, Ferreira JJ, Marques T. Accuracy of diagnostic tests for Legionnaires' disease: a systematic review. Journal of medical microbiology. 2017;66(4):485-9.	Incorrect target condition (Légionnaires disease).
Cruciani M, Mengoli C. An Overview of Meta-analyses of Diagnostic Tests in Infectious Diseases. Infectious Disease Clinics of North America. 2009;23(2):225-67.	No data on diagnostic accuracy outcomes.
Dale AP, Marchello C, Ebell MH. Clinical gestalt to diagnose pneumonia, sinusitis, and pharyngitis: a meta-analysis. The British journal of general practice : the journal of the Royal College of General Practitioners. 2019;69(684):e444-e53.	Searches were not comprehensive (single database only).
Dilger AE, Peters AT, Wunderink RG, Tan BK, Kern RC, Conley DB, et al. Procalcitonin as a Biomarker in Rhinosinusitis: A Systematic Review. American journal of rhinology & allergy. 2019;33(2):103-12.	No data on diagnostic accuracy outcomes.
Dubois C, Smeesters PR, Refes Y, Levy C, Bidet P, Cohen R, et al. Diagnostic accuracy of rapid nucleic acid tests for group A streptococcal pharyngitis: systematic review and meta-analysis. Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases. 2021;27(12):1736-45.	Incorrect target condition (group A streptococcus).
Ebell MH. Predicting pneumonia in adults with respiratory illness.	Not a systematic review.

American Family Physician. 2007;76(4):560.	
Ebell MH, Afonso A. A systematic review of clinical decision rules for the diagnosis of influenza. Annals of family medicine. 2011;9(1):69-77.	Searches were not comprehensive (single database only).
Ebell MH, Bentivegna M, Cai X, Hulme C, Kearney M. Accuracy of Biomarkers for the Diagnosis of Adult Community-acquired Pneumonia: A Meta-analysis. Academic emergency medicine : official journal of the Society for Academic Emergency Medicine. 2020;27(3):195-206.	Searches were not comprehensive (single database only).
Ebell MH, Chupp H, Cai X, Bentivegna M, Kearney M. Accuracy of Signs and Symptoms for the Diagnosis of Community-acquired Pneumonia: A Meta-analysis. Academic emergency medicine : official journal of the Society for Academic Emergency Medicine. 2020;27(7):541-53.	Searches were not comprehensive (single database only).
Ebell MH, Marchello C, Callahan M. Clinical Diagnosis of Bordetella Pertussis Infection: A Systematic Review. Journal of the American Board of Family Medicine : JABFM. 2017;30(3):308-19.	Incorrect target condition (bordatella pertussis).
Ebell MH, McKay B, Dale A, Guilbault R, Ermias Y. Accuracy of Signs and Symptoms for the Diagnosis of Acute Rhinosinusitis and Acute Bacterial Rhinosinusitis. Annals of family medicine. 2019;17(2):164-72.	Incorrect target condition (rhinosinusitis).
Ebell MH, McKay B, Guilbault R, Ermias Y. Diagnosis of acute rhinosinusitis in primary care: a systematic review of test accuracy. The British journal of general practice : the journal of the Royal College of General Practitioners. 2016;66(650):e612-32.	Incorrect target condition (rhinosinusitis).
Ebell MH, Rahmatullah I, Cai X, Bentivegna M, Hulme C, Thompson M, et al. A Systematic Review of Clinical Prediction Rules for the Diagnosis of Influenza. Journal of the American Board of Family Medicine : JABFM. 2021;34(6):1123-40.	Incorrect target condition (clinical prediction rules for influenza, not for bacterial/viral infection).
Ebell MH, Smith MA, Barry HC, Ives K, Carey M. The rational clinical examination. Does this patient have strep throat? JAMA. 2000;284(22):2912-8.	Incorrect target condition (group A streptococcus).
Ebell MH, Walsh ME, Fahey T, Kearney M, Marchello C. Meta-analysis of Calibration, Discrimination, and Stratum-Specific Likelihood Ratios for the CRB-65 Score. Journal of general internal medicine.	Prediction model for severity, not diagnosis.

2019;34(7):1304-13.	
Ebell MH, White LL, Casault T. A systematic review of the history and physical examination to diagnose influenza. The Journal of the American Board of Family Practice. 2004;17(1):1-5.	Searches were not comprehensive (single database only).
Fekete T. Review: In suspected influenza, some rapid tests have high sensitivity and high specificity for detecting infection. Annals of Internal Medicine. 2018;168(2):JC9.	Not a systematic review.
Flynn MF, Kelly M, Dooley JSG. Nasopharyngeal Swabs vs. Nasal Aspirates for Respiratory Virus Detection: A Systematic Review. Pathogens (Basel, Switzerland). 2021;10(11).	Incorrect index test (not specific to point of care tests, and only compares sampling sites).
Fraser H, Gallacher D, Achana F, Court R, Taylor-Phillips S, Nduka C, et al. Rapid antigen detection and molecular tests for group A streptococcal infections for acute sore throat: systematic reviews and economic evaluation. Health technology assessment (Winchester, England). 2020;24(31):1-232.	Incorrect target condition (group A streptococcus).
Goncalves PF, Falcao LM, Pinheiro ID. Procalcitonin as biomarker of infection: Implications for evaluation and treatment. American Journal of Therapeutics. 2017;24(3):e243-e9.	No quality assessment of included studies, and searches of a single database only.
Guo R, Li J, Ma X, Pan L. The predictive value of neutrophil-to-lymphocyte ratio for chronic obstructive pulmonary disease: a systematic review and meta-analysis. Expert review of respiratory medicine. 2020;14(9):929-36.	No data on diagnostic accuracy outcomes.
Hankey B, Riley B. Towards evidence based emergency medicine: Best BETs from the manchester royal infirmary. Emergency Medicine Journal. 2015;32(6):493-5.	Not a systematic review.
Hawkins NM, Khosla A, Virani SA, McMurray JJV, FitzGerald JM. B-type natriuretic peptides in chronic obstructive pulmonary disease: a systematic review. BMC pulmonary medicine. 2017;17(1):11.	No data on diagnostic accuracy outcomes.

He C, Wang B, Li D, Xu H, Shen Y. Performance of procalcitonin in diagnosing parapneumonic pleural effusions: A clinical study and meta-analysis. Medicine. 2017;96(33):e7829.	Incorrect target condition (parapneumonic pleural effusions).
Hobbs FD, Delaney BC, Fitzmaurice DA, Wilson S, Hyde CJ, Thorpe GH, et al. A review of near patient testing in primary care. Health technology assessment (Winchester, England). 1997;1(5):i-iv, 1-229.	Incorrect index tests.
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 (Carlton, Vic). 2013;18(8):1177-83.	Incorrect target condition (pathogen specific tests for Streptococcus pneumoniae).
Huang C, Huang P-T, Yao J-Y, Li Z-W, Weng L-B, Guo X-G. Pooled analysis of nuclear acid sequence-based amplification for rapid diagnosis of Mycoplasma pneumoniae infection. Journal of clinical laboratory analysis. 2019;33(5):e22879.	Incorrect target condition (pathogen specific tests for Mycoplasma pneumoniae).
Huang Q, Xiong H, Shuai T, Wang Y, Zhang C, Zhang M, et al. The clinical value of suPAR in diagnosis and prediction for patients with chronic obstructive pulmonary disease: a systematic review and meta-analysis. Therapeutic advances in respiratory disease. 2020;14:1753466620938546.	Incorrect index test (not a point of care test).
Huang WJ, Huang GT, Zhan QM, Chen JL, Luo WT, Wu LH, et al. The neutrophil to lymphocyte ratio as a novel predictor of asthma and its exacerbation: a systematic review and meta-analysis. European review for medical and pharmacological sciences. 2020;24(22):11719-28.	No data on diagnostic accuracy outcomes.
Hughes JM, Penney C, Boyd S, Daley P. Risk of bias and limits of reporting in diagnostic accuracy studies for commercial point-of-care tests for respiratory pathogens. Epidemiology and Infection. 2018;146(6):747-56.	Searches were not comprehensive (single database only).
Iwase S, Nakada TA, Hattori N, Takahashi W, Takahashi N, Aizimu T, et al. Interleukin-6 as a diagnostic marker for infection in critically ill patients: A systematic review and meta-analysis. American Journal of Emergency Medicine. 2019;37(2):260-5.	Incorrect population (critically ill people).
Jacobus CH, Raja AS. How accurate are rapid influenza diagnostic	Not a systematic review.

tests? Annals of emergency medicine. 2013;61(1):89-90.	
Jose BPdS, Camargos PAM, Cruz Filho AASd, Correa RdA. Diagnostic accuracy of respiratory diseases in primary health units. Revista da Associacao Medica Brasileira (1992). 2014;60(6):599-612.	No quality assessment of included studies, and searches of a single database only.
Joseph P, Godofsky E. Outpatient Antibiotic Stewardship: A Growing Frontier-Combining Myxovirus Resistance Protein A With Other Biomarkers to Improve Antibiotic Use. Open forum infectious diseases. 2018;5(2):ofy024.	No data on diagnostic accuracy outcomes.
Jullien S, Fitzgerald F, Keddie S, Baerenbold O, Bassat Q, Bradley J, et al. Diagnostic accuracy of multiplex respiratory pathogen panels for influenza or respiratory syncytial virus infections: systematic review and meta-analysis. BMC infectious diseases. 2022;22(1):785.	Incorrect index test (not a point of care multiplex test).
Kamat IS, Ramachandran V, Eswaran H, Guffey D, Musher DM. Procalcitonin to Distinguish Viral From Bacterial Pneumonia: A Systematic Review and Meta-analysis. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America. 2020;70(3):538-42.	Searches were not comprehensive (single database only).
Karakioulaki M, Stolz D. Biomarkers and clinical scoring systems in community-acquired pneumonia. Annals of Thoracic Medicine. 2019;14(3):165-72.	Not a systematic review.
Kawasaki T, Nakagawa N, Murata M, Yasuo S, Yoshida T, Ando K, et al. Diagnostic accuracy of urinary antigen tests for legionellosis: A systematic review and meta-analysis. Respiratory investigation. 2022;60(2):205-14.	Incorrect target condition (Légionnaires disease).
Kazal LA. Re: Signs and symptoms that rule out community-acquired pneumonia in outpatient adults: A systematic review and meta-analysis. Journal of the American Board of Family Medicine. 2019;32(5):753.	Not a systematic review.
Koo CY, Eisenhut M. Towards evidence-based emergency medicine: best BETs from the Manchester Royal Infirmary. Can inflammatory markers distinguish streptococcal from viral tonsillitis? Emergency medicine journal : EMJ. 2011;28(8):715-7.	Not a systematic review.

Koski RR, Klepser ME. A systematic review of rapid diagnostic tests for influenza: considerations for the community pharmacist. Journal of the American Pharmacists Association : JAPhA. 2017;57(1):13-9.	No quality assessment of included studies.
Koutsokera A, Kostikas K, Nicod LP, Fitting J-W. Pulmonary biomarkers in COPD exacerbations: a systematic review. Respiratory research. 2013;14:111.	Incorrect index test (not point of care tests).
Krolicka AL, Kruczkowska A, Krajewska M, Kusztal MA. Hyponatremia in Infectious Diseases-A Literature Review. International journal of environmental research and public health. 2020;17(15).	No data on diagnostic accuracy outcomes.
Landry V, Coburn P, Kost K, Liu X, Li-Jessen NYK. Diagnostic Accuracy of Liquid Biomarkers in Airway Diseases: Toward Point-of-Care Applications. Frontiers in medicine. 2022;9:855250.	No quality assessment of included studies.
Lean WL, Arnup S, Danchin M, Steer AC. Rapid diagnostic tests for group A streptococcal pharyngitis: a meta-analysis. Pediatrics. 2014;134(4):771-81.	Incorrect target condition (group A streptococcus).
Li D, Shen Y, Qin J, Wan C, Zeng N, Chen L, et al. Diagnostic performance of C-reactive protein for parapneumonic pleural effusion: a meta-analysis. Annals of translational medicine. 2019;7(1):1.	Incorrect target condition (parapneumonic pleural effusions).
Li S, Huang X, Chen Z, Zhong H, Peng Q, Deng Y, et al. Neutrophil CD64 expression as a biomarker in the early diagnosis of bacterial infection: a meta-analysis. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases. 2013;17(1):e12-23.	Incorrect population (children, inpatients and people with sepsis).
Lippi G, Meschi T, Cervellin G. Inflammatory biomarkers for the diagnosis, monitoring and follow-up of community-acquired pneumonia: clinical evidence and perspectives. European journal of internal medicine. 2011;22(5):460-5.	Not a systematic review.
Long B, Long D, Koyfman A. Emergency Medicine Evaluation of Community-Acquired Pneumonia: History, Examination, Imaging and Laboratory Assessment, and Risk Scores. Journal of Emergency Medicine. 2017;53(5):642-52.	No quality assessment of included studies.
Mahony JB. Detection of respiratory viruses by molecular methods. Clinical Microbiology Reviews. 2008;21(4):716-47.	Not a systematic review.

Malinovska A, Hernried B, Lin A, Badaki-Makun O, Fenstermacher K, Ervin AM, et al. Monocyte Distribution Width as a Diagnostic Marker for Infection: A Systematic Review and Meta-Analysis. Chest. 2023.	Incorrect index test (not a point of care test).
Marchello CS, Ebell MH. Response: Re: Signs and symptoms that rule out community-acquired pneumonia in outpatient adults: A systematic review and meta-analysis. Journal of the American Board of Family Medicine. 2019;32(5):753-4.	Letter to the Editor, no primary data.
Marchello CS, Ebell MH, Dale AP, Harvill ET, Shen Y, Whalen CC. Signs and Symptoms That Rule out Community-Acquired Pneumonia in Outpatient Adults: A Systematic Review and Meta-Analysis. Journal of the American Board of Family Medicine : JABFM. 2019;32(2):234-47.	Searches were not comprehensive (single database only).
Masot O, Cox A, Mold F, Sund-Levander M, Tingstrom P, Boersema GC, et al. Decision support-tools for early detection of infection in older people (aged> 65 years): a scoping review. BMC geriatrics. 2022;22(1):552.	No data on diagnostic accuracy outcomes.
McCrory DC, Brown C, Gelfand SE, Bach PB. Management of acute exacerbations of COPD: a summary and appraisal of published evidence. Chest. 2001;119(4):1190-209.	Not a systematic review.
McMullen AR, Anderson NW, Burnhamfor CAD. Pathology consultation on influenza diagnostics. American Journal of Clinical Pathology. 2016;145(4):440-8.	Not a systematic review.
Mehdipour A, Wiley E, Richardson J, Beauchamp M, Kuspinar A. The Performance of Digital Monitoring Devices for Oxygen Saturation and Respiratory Rate in COPD: A Systematic Review. COPD. 2021;18(4):469-75.	No data on diagnostic accuracy outcomes.
Memar MY, Baghi HB. Presepsin: A promising biomarker for the detection of bacterial infections. Biomedicine and Pharmacotherapy. 2019;111:649-56.	Not a systematic review.
Metlay JP, Kapoor WN, Fine MJ. Does this patient have community-acquired pneumonia? Diagnosing pneumonia by history and physical examination. JAMA. 1997;278(17):1440-5.	Searches were not comprehensive (single database only).

Metlay JP, Waterer GW, Long AC, Anzueto A, Brozek J, Crothers K, et al. Diagnosis and treatment of adults with community-acquired pneumonia. American Journal of Respiratory and Critical Care Medicine. 2019;200(7):E45-E67.	Not a systematic review.
Milas GP, Issaris V, Papavasileiou V. Blood urea nitrogen to albumin ratio as a predictive factor for pneumonia: A meta-analysis. Respiratory medicine and research. 2022;81:100886.	No data on diagnostic accuracy outcomes.
Mohan A, Harikrishna J. Biomarkers for the diagnosis of bacterial infections: In pursuit of the 'Holy Grail'. Indian Journal of Medical Research. 2015;141(3):271-3.	Not a systematic review.
Muller B, Christ-Crain M, Schuetz P. Meta-analysis of procalcitonin for sepsis detection. Lancet Infectious Diseases. 2007;7(8):498-9.	Not a systematic review.
Ni W, Bao J, Yang D, Xi W, Wang K, Xu Y, et al. Potential of serum procalcitonin in predicting bacterial exacerbation and guiding antibiotic administration in severe COPD exacerbations: a systematic review and meta-analysis. Infectious diseases (London, England). 2019;51(9):639-50.	Incorrect population (all participants were hospitalised).
Ojha SC, Chen K, Sun C, Ahmed S, Sheng Y-J, Deng C-L. Clinical Relevance of Xpert MRSA/SA in Guiding Therapeutic Decisions for Staphylococcal Infections: A Diagnostic Test Accuracy Analysis. Infectious diseases and therapy. 2022;11(3):1205-27.	Incorrect target condition (not assessing acute respiratory infections).
Onyenekwu CP, Okwundu CI, Ochodo EA. Procalcitonin, C-reactive protein, and presepsin for the diagnosis of sepsis in adults and children. Cochrane Database of Systematic Reviews. 2017;2017(4):CD012627.	Protocol, not a systematic review.
Otten T, de Mast Q, Koeneman B, Althaus T, Lubell Y, van der Ven A. Value of C-reactive protein in differentiating viral from bacterial aetiologies in patients with non-malaria acute undifferentiated fever in tropical areas: a meta-analysis and individual patient data study. Transactions of the Royal Society of Tropical Medicine and Hygiene. 2021;115(10):1130-43.	Incorrect population (people with fever, not ARI).
Pearson M. Chronic Obstructive Pulmonary Disease: National clinical guideline on management of chronic obstructive pulmonary disease in adults in primary and secondary care. Thorax. 2004;59:1-232.	Not a systematic review.

Relich RF, Abbott AN. Syndromic and Point-of-Care Molecular Testing. Clinics in Laboratory Medicine. 2022;42(4):507-31.	Not a systematic review.
Renier W, Winckelmann KH-v, Verbakel JY, Aertgeerts B, Buntinx F. Signs and symptoms in adult patients with acute dyspnea: a systematic review and meta-analysis. European journal of emergency medicine : official journal of the European Society for Emergency Medicine. 2018;25(1):3-11.	Incorrect population (not people with suspected ARI).
Richards S, Conover C, DiOrio M, Park S, Balish A, Garten R, et al. Evaluation of rapid influenza diagnostic tests for influenza A (H3N2)v virus and updated case count - United States, 2012. Morbidity and Mortality Weekly Report. 2012;61(32):619-21.	Not a systematic review.
Said MA, Johnson HL, Nonyane BAS, Deloria-Knoll M, O'Brien KL, Andreo F, et al. Estimating the burden of pneumococcal pneumonia among adults: a systematic review and meta-analysis of diagnostic techniques. PloS one. 2013;8(4):e60273.	No data on diagnostic accuracy outcomes.
Salez N, Nougairede A, Ninove L, Zandotti C, De Lamballerie X, Charrel RN. Xpert Flu for point-of-care diagnosis of human influenza in industrialized countries. Expert Review of Molecular Diagnostics. 2014;14(4):411-8.	Not a systematic review.
Schuetz P, Albrich W, Mueller B. Procalcitonin for diagnosis of infection and guide to antibiotic decisions: past, present and future. BMC medicine. 2011;9:107.	Not a systematic review.
Sheng F, Chen L, Lin H, Wu H. Systematic review and meta-analysis: value of venous blood gas in the diagnosis of acute exacerbation of chronic obstructive pulmonary disease in Emergency Department. Annals of palliative medicine. 2022;11(4):1473-81.	No data on diagnostic accuracy outcomes.
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):1576-85.	Incorrect target condition (Légionnaires disease).
Sierra R. C-reactive protein and procalcitonin as markers of infection, inflammatory response, and sepsis. Clinical Pulmonary Medicine. 2007;14(3):127-39.	Not a systematic review.

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):2303-10.	Incorrect target condition (pathogen specific tests for Streptococcus pneumoniae).
Smith MN, Brotherton AL, Lusardi K, Tan CA, Hammond DA. Systematic Review of the Clinical Utility of Methicillin-Resistant Staphylococcus aureus (MRSA) Nasal Screening for MRSA Pneumonia. The Annals of pharmacotherapy. 2019;53(6):627-38.	Incorrect population (inpatients/ICU).
Stewart EH, Davis B, Clemans-Taylor BL, Littenberg B, Estrada CA, Centor RM. Rapid antigen group A streptococcus test to diagnose pharyngitis: a systematic review and meta-analysis. PloS one. 2014;9(11):e111727.	Incorrect target condition (group A streptococcus).
Stokes K, Castaldo R, Federici C, Pagliara S, Maccaro A, Cappuccio F et al. The use of artificial intelligence systems in diagnosis of pneumonia via signs and symptoms: A systematic review. Biomedical Signal Processing and Control. 2022; 72:103325	No quality assessment of included studies (use of the STARD reporting checklist, not a methodological assessment).
Su X, Lei T, Yu H, Zhang L, Feng Z, Shuai T, et al. NT-proBNP in Different Patient Groups of COPD: A Systematic Review and Meta-Analysis. International journal of chronic obstructive pulmonary disease. 2023;18:811-25.	No data on diagnostic accuracy outcomes.
Subsoontorn P, Lohitnavy M, Kongkaew C. The diagnostic accuracy of isothermal nucleic acid point-of-care tests for human coronaviruses: A systematic review and meta-analysis. Scientific reports. 2020;10(1):22349.	Incorrect index test (predominantly COVID-19).
Tang J-H, Gao D-P, Zou P-F. Comparison of serum PCT and CRP levels in patients infected by different pathogenic microorganisms: a systematic review and meta-analysis. Brazilian journal of medical and biological research = Revista brasileira de pesquisas medicas e biologicas. 2018;51(7):e6783.	No data on diagnostic accuracy outcomes.
Tenover FC. The role for rapid molecular diagnostic tests for infectious diseases in precision medicine. Expert Review of Precision Medicine and Drug Development. 2018;3(1):69-77.	Not a systematic review.

Thai TN, Dale AP, Ebell MH. Signs and symptoms of Group A versus Non-Group A strep throat: A meta-analysis. Family practice. 2018;35(3):231-8.	Searches were not comprehensive (single database only).
Thornton HV, Turner KME, Harrison S, Hammond A, Hawcroft C, Hay AD. Assessing the potential of upper respiratory tract point-of-care testing: a systematic review of the prognostic significance of upper respiratory tract microbes. Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases. 2019;25(11):1339-46.	No data on diagnostic accuracy outcomes.
Ticinesi A, Scarlata S, Nouvenne A, Lauretani F, Incalzi RA, Ungar A. The Geriatric Patient: The Ideal One for Chest Ultrasonography? A Review From the Chest Ultrasound in the Elderly Study Group (GRETA) of the Italian Society of Gerontology and Geriatrics (SIGG). Journal of the American Medical Directors Association. 2020;21(4):447-54.e6.	Incorrect index test (chest ultrasound).
Vachhani R, Patel T, Centor RM, Estrada CA. Sensitivity for Diagnosing Group A Streptococcal Pharyngitis from Manufacturers is 10% Higher than Reported in Peer-Reviewed Publications. Southern medical journal. 2017;110(1):59-64.	Incorrect target condition (group A streptococcus).
van de Kant KDG, van der Sande LJTM, Jobsis Q, van Schayck OCP, Dompeling E. Clinical use of exhaled volatile organic compounds in pulmonary diseases: a systematic review. Respiratory research. 2012;13:117.	Incorrect population (not people with ARI).
van de Pol AC, van der Zalm MM, Jansen NJG, van der Ent CK, van Loon AM, Kimpen JLL, et al. Conventional vs molecular viral tests for respiratory viruses: A systematic review. Current Respiratory Medicine Reviews. 2010;6(4):300-9.	Incorrect population (children).
Wang H, Li F, Huang H, Wu F, Chen L, Zhang D, et al. Serum surfactant protein D is a potential biomarker for chronic obstructive pulmonary disease: A Systematic Review and Meta-analysis. Clinical Laboratory. 2019;65(12):2387-95.	No data on diagnostic accuracy outcomes.
Willis BH, Coomar D, Baragilly M. Comparison of Centor and McIsaac scores in primary care: a meta-analysis over multiple thresholds. The British journal of general practice : the journal of the Royal College of General Practitioners. 2020;70(693):e245-e54.	Incorrect target condition (group A streptococcus).

Wroblewski T, Marcisz C. Procalcitonin as a biomarker of acute lower respiratory tract infections. Expert Opinion on Medical Diagnostics. 2009;3(1):67-79.	Not a systematic review.
Xie L-M, Yin X, Xie T-A, Su J-W, Huang Q, Zhang J-H, et al. Meta-Analysis of the Diagnostic Efficacy of the Luminex xTAG Respiratory Viral Panel FAST v2 Assay for Respiratory Viral Infections. Yonsei medical journal. 2022;63(1):95-103.	Incorrect index test (not a point of care multiplex test).
Xie X, Sinclair A, Dendukuri N. Evaluating the accuracy and economic value of a new test in the absence of a perfect reference test. Research synthesis methods. 2017;8(3):321-32.	Not a systematic review.
Yancey JR, Nelson MD, Whalen NJ. Procalcitonin for Diagnosis, Risk Assessment, and Prognosis of Respiratory Tract Infections. American Family Physician. 2022;106(3):333-4.	Not a systematic review.
Yasuo S, Murata M, Nakagawa N, Kawasaki T, Yoshida T, Ando K, et al. Diagnostic accuracy of urinary antigen tests for pneumococcal pneumonia among patients with acute respiratory failure suspected pneumonia: a systematic review and meta-analysis. BMJ open. 2022;12(8):e057216.	Incorrect target condition (pathogen specific tests for Streptococcus pneumoniae).
Ye W, Huang Q-D, Tang T-Y, Qin G-Y. Diagnostic value of pentraxin 3 in respiratory tract infections: A meta-analysis. Medicine. 2020;99(14):e19532.	Incorrect population (people with ventilator-associated pneumonia).
Yoon SH, Min IK, Ahn JG. Immunochromatography for the diagnosis of Mycoplasma pneumoniae infection: A systematic review and meta-analysis. PloS one. 2020;15(3):e0230338.	Incorrect target condition (pathogen specific tests for Mycoplasma pneumoniae).
Yousefi A, Farsiani H, Ghazvini K, Yousefi M. Multiplex pcr systems for the isolation of respiratory bacterial infection: Systematic review. International Journal of Pharmaceutical Research. 2021;13(1):6189-204.	Incorrect population (children) and not point of care tests.

Table S2 Search for primary DTA studies on white cell differential count: Excluded studies

Ahn JM, Hwang SO, Moon JS, Lee SJ, Cha YS. Predictive Value of the Neutrophil-to-Lymphocyte Ratio for the Diagnosis of Pneumonia in Normothermic Dyspneic Patients with Chronic Heart Failure in the Emergency Department. Journal of Emergency Medicine. 2020;58(6):892-901.	Wrong population.
Aronen M, Viikari L, Kohonen I, Vuorinen T, Hameenaho M, Wuorela M, et al. Respiratory tract virus infections in the elderly with pneumonia. BMC geriatrics. 2019;19(1):111.	Wrong population.
Ashkenazi-Hoffnung L, Oved K, Navon R, Friedman T, Boico O, Paz M, et al. A host-protein signature is superior to other biomarkers for differentiating between bacterial and viral disease in patients with respiratory infection and fever without source: a prospective observational study. European Journal of Clinical Microbiology and Infectious Diseases. 2018;37(7):1361-71.	Wrong population.
Ates H, Ates I, Bozkurt B, Celik HT, Ozol D, Yildirim Z. What is the most reliable marker in the differential diagnosis of pulmonary embolism and community-acquired pneumonia? Blood Coagulation and Fibrinolysis. 2016;27(3):252-8.	Wrong study design.
Ayala-Lopez N, Peaper DR, Harb R. Procalcitonin Correlates With but Is Not Superior to Other Diagnostic Markers of Bacterial Pneumonia. American journal of clinical pathology. 2020.	No 2x2 data reported.
Bello S, Minchole E, Fandos S, Lasierra AB, Ruiz MA, Simon AL, et al. Inflammatory response in mixed viral-bacterial community-acquired pneumonia. BMC Pulmonary Medicine. 2014;14(1):123.	No 2x2 data reported.
Berhane M, Melku M, Amsalu A, Enawgaw B, Getaneh Z, Asrie F. The role of neutrophil to lymphocyte count ratio in the differential diagnosis of pulmonary tuberculosis and bacterial community-acquired pneumonia: A cross-sectional study at Ayder and Mekelle Hospitals, Ethiopia. Clinical Laboratory. 2019;65(4):527-33.	Wrong study design.
Bochud PY, Moser F, Erard P, Verdon F, Studer JP, Villard G, et al. Community-acquired pneumonia: A prospective outpatient study. Medicine. 2001;80(2):75-87.	No 2x2 data reported.
Cai R, Li H, Tao Z. Heparin-binding protein and procalcitonin in the diagnosis of pathogens causing community-acquired pneumonia in adult patients: A retrospective study. PeerJ. 2021;9:11056.	Wrong population.
Chang CH, Tsao KC, Hu HC, Huang CC, Kao KC, Chen NH, et al. Procalcitonin and C-reactive protein cannot differentiate bacterial or viral infection in COPD	No 2x2 data reported.

exacerbation requiring emergency department visits. International Journal of COPD. 2015;10:767-74.	
Choi J, Oh JY, Lee YS, Hur GY, Lee SY, Shim JJ, et al. The association between blood eosinophil percent and bacterial infection in acute exacerbation of chronic obstructive pulmonary disease. International Journal of COPD. 2019;14:953-9.	No 2x2 data reported.
Cox AJ, Gleeson M, Pyne DB, Callister R, Hopkins WG, Fricker PA. Clinical and laboratory evaluation of upper respiratory symptoms in elite athletes. Clinical Journal of Sport Medicine. 2008;18(5):438-45.	No 2x2 data reported.
Dal Negro RW, Micheletto C, Tognella S, Visconti M, Guerriero M, Sandri MF. A two-stage logistic model based on the measurement of pro-inflammatory cytokines in bronchial secretions for assessing bacterial, viral, and non-infectious origin of COPD exacerbations. COPD: Journal of Chronic Obstructive Pulmonary Disease. 2005;2(1):7-16.	No 2x2 data reported.
Dixon G, Lama-Lopez A, Bintcliffe OJ, Morley AJ, Hooper CE, Maskell NA. The role of serum procalcitonin in establishing the diagnosis and prognosis of pleural infection. Respiratory Research. 2017;18(1):30.	Frozen samples used.
Dowell SF, Anderson LJ, Gary Jr HE, Erdman DD, Plouffe JF, File Jr TM, et al. Respiratory syncytial virus is an important cause of community-acquired lower respiratory infection among hospitalized adults. Journal of Infectious Diseases. 1996;174(3):456-62.	Wrong population.
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):687-95.	No 2x2 data reported.
Fernando Saldias P, Orlando Diaz P, Jorge Dreyse D, Aldo Gaggero B, Christian Sandoval A, Carmen Lisboa B. Etiology and biomarkers of systemic inflammation in mild to moderate COPD exacerbations. Revista Medica de Chile. 2012;140(1):10-8.	Not in English.
Fredman G, Kolpen M, Hertz FB, Petersen PT, Jensen AV, Baunbaek-Egelund G, et al. The inflamed sputum in lower respiratory tract infection: l-lactate levels are correlated to neutrophil accumulation. APMIS. 2019;127(2):72-9.	No 2x2 data reported.
Gao S, Duan Y, Chen J, Wang J. Evaluation of Blood Markers at Admission for Predicting Community Acquired Pneumonia in Chronic Obstructive Pulmonary Disease. COPD: Journal of Chronic Obstructive Pulmonary Disease.	Wrong population.

2021;18(5):557-66.	
Han Q, Wen X, Wang L, Han X, Shen Y, Cao J, et al. Role of hematological parameters in the diagnosis of influenza virus infection in patients with respiratory tract infection symptoms. Journal of clinical laboratory analysis. 2020:e23191.	Wrong population.
Holmberg H, Bodin L, Jonsson I, Krook A. Rapid aetiological diagnosis of pneumonia based on routine laboratory features. Scandinavian Journal of Infectious Diseases. 1990;22(5):537-45.	Wrong population.
Kerttula Y, Leinonen M, Koskela M, Makela PH. The aetiology of pneumonia. Application of bacterial serology and basic laboratory methods. Journal of Infection. 1987;14(1):21-30.	Wrong population.
Kragsbjerg P, Jones I, Vikerfors T, Holmberg H. Diagnostic value of blood cytokine concentrations in acute pneumonia. Thorax. 1995;50(12):1253-7.	Wrong population.
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):964-9.	No 2x2 data reported.
Lee JY, Hwang SJ, Shim JW, Jung HL, Park MS, Woo HY, et al. Clinical significance of serum procalcitonin in patients with community-acquired lobar pneumonia. The Korean journal of laboratory medicine. 2010;30(4):406-13.	Wrong population.
Lee TC, Taggart LR, Mater B, Katz K, McGeer A. Predictors of pandemic influenza infection in adults presenting to two urban emergency departments, Toronto, 2009. Canadian Journal of Emergency Medicine. 2011;13(1):7-12.	Wrong study design.
Lehtomaki K, Leinonen M, Takala A, Hovi T, Herva E, Koskela M. Etiological diagnosis of pneumonia in military conscripts by combined use of bacterial culture and serological methods. European Journal of Clinical Microbiology and Infectious Diseases. 1988;7(3):348-54.	Wrong study design.
Li Y, Van Houten CB, Boers SA, Jansen R, Cohen A, Engelhard D, et al. The diagnostic value of nasal microbiota and clinical parameters in a multi-parametric prediction model to differentiate bacterial versus viral infections in lower respiratory tract infections. PLoS ONE. 2022;17(4):e0267140.	Wrong population.
Marcos MA, Camps M, Pumarola T, Martinez JA, Martinez E, Mensa J, et al. The role of viruses in the aetiology of community-acquired pneumonia in adults. Antiviral Therapy. 2006;11(3):351-9.	No 2x2 data reported.

Mirete Ferrer JC, Gutierrez Rodero F, Hernandez Aguado I, del Mar Masia Canuto M, Rodriguez Diaz JC, Royo Garia G. Community-acquired pneumonia associated with influenza virus. Medicina Clinica. 2002;118(16):622-6.	Not in English.
Noweta K, Frankowska M, Grzelewska-Rzymowska I. Exacerbations of chronic obstructive pulmonary disease and the role of sputum bacteriological examination. Pneumonologia i Alergologia Polska. 2006;74(4):396-402.	Not in English.
Patel B, Oye M, Norez D, Isache C. Peripheral blood lymphocyte-to-monocyte ratio as a screening marker for influenza infection. Journal of Investigative Medicine. 2021;69(1):47-51.	Wrong target condition.
Pauksen K, Elfman L, Ulfgren AK, Venge P. Serum levels of granulocyte-colony stimulating factor (G-CSF) in bacterial and viral infections, and in atypical pneumonia. British Journal of Haematology. 1994;88(2):256-60.	Wrong study design.
Ponka A, Sarna S. Differential diagnosis of viral, mycoplasmal and bacteraemic pneumococcal pneumonias on admission to hospital. European Journal of Respiratory Diseases. 1983;64(5):360-8.	Wrong study design.
Ruiz-Gonzalez A, Falguera M, Vives M, Nogues A, Porcel JM, Rubio-Caballero M. Community-acquired pneumonia: Development of a bedside predictive model and scoring system to identify the aetiology. Respiratory Medicine. 2000;94(5):505-10.	Wrong population.
Ruiz-Gonzalez A, Saez-Huerta E, Martinez-Alonso M, Bernet-Sanchez A, Porcel JM. A Simple Scoring System to Differentiate Bacterial from Viral Infections in Acute Exacerbations of COPD Requiring Hospitalization. International Journal of COPD. 2022;17:773-9.	No 2x2 data reported.
Sambursky R, Shapiro N. Evaluation of a combined MxA and CRP point-of-care immunoassay to identify viral and/or bacterial immune response in patients with acute febrile respiratory infection. European clinical respiratory journal. 2015;2:28245.	No 2x2 data reported.
Sim JK, Oh JY, Lee EJ, Hur GY, Lee SH, Lee SY, et al. Serum procalcitonin for differential diagnosis of acute exacerbation and bacterial pneumonia in patients with interstitial lung disease. American Journal of the Medical Sciences. 2016;351(5):499-505.	No 2x2 data reported.
Sirohi P, Barodia MK, Nehara HR, Chhimpa AR, Dabas A, Kumar R. Application of haematological indices in the diagnosis of swine influenza infection in adults. Journal of Clinical and Diagnostic Research. 2020;14(9):OC32-OC5.	Wrong population.

Stein M, Lipman-Arens S, Oved K, Cohen A, Bamberger E, Navon R, et al. A novel host-protein assay outperforms routine parameters for distinguishing between bacterial and viral lower respiratory tract infections. Diagnostic Microbiology and Infectious Disease. 2018;90(3):206-13.	Wrong population.
Tanriverdi H, Ornek T, Erboy F, Altinsoy B, Uygur F, Atalay F, et al. Comparison of diagnostic values of procalcitonin, C-reactive protein and blood neutrophil/lymphocyte ratio levels in predicting bacterial infection in hospitalized patients with acute exacerbations of COPD. Wiener Klinische Wochenschrift. 2015;127(19):756-63.	Wrong population.
Titova E, Aune MW, Fonn K, Henriksen AH, Asberg A. Neutrophil CD64 Expression as a Diagnostic Marker in Patients Hospitalized with Exacerbations of COPD: A Prospective Observational Study. Lung. 2015;193(5):717-24.	Wrong population.
van de Geijn GJM, Denker S, Meuleman-van Waning V, Koeleman HGM, Birnie E, Braunstahl GJ, et al. Evaluation of new laboratory tests to discriminate bacterial from nonbacterial chronic obstructive pulmonary disease exacerbations. International Journal of Laboratory Hematology. 2016;38(6):616-28.	Wrong study design.
Yoon NB, Son C, Um SJ. Role of the neutrophil-lymphocyte count ratio in the differential diagnosis between pulmonary tuberculosis and bacterial community-acquired pneumonia. Annals of Laboratory Medicine. 2013;33(2):105-10.	Wrong study design.

Table S3 Search for primary DTA studies on multiplex PCR tests: Excluded studies

Akashi Y, Suzuki H, Ueda A, Hirose Y, Hayashi D, Imai H, et al. Analytical and clinical evaluation of a point-of-care molecular diagnostic system and its influenza A/B assay for rapid molecular detection of the influenza virus. Journal of Infection and Chemotherapy. 2019;25(8):578-83.	Wrong population.
Alby K, Popowitch EB, Miller MB. Comparative evaluation of the nanosphere verigene RV+ assay and the simplexa flu A/B & RSV kit for detection of influenza and respiratory syncytial viruses. Journal of Clinical Microbiology. 2013;51(1):352-3.	Frozen samples used.
Arbefeville S, Thonen-Kerr E, Ferrieri P. Prospective and Retrospective Evaluation of the Performance of the FDA-Approved Cepheid Xpert Flu/RSV XC Assay. Lab Medicine. 2017;48(4):E53-E6.	Frozen samples used.
Babady NE, England MR, Smith KLJ, He T, Wijetunge DS, Tang YW, et al. Multicenter evaluation of the eplex respiratory pathogen panel for the detection of viral and bacterial respiratory tract pathogens in nasopharyngeal swabs. Journal of Clinical Microbiology. 2018;56(2):e01658-17.	Wrong population.
Balada-Llasat JM, LaRue H, Kelly C, Rigali L, Pancholi P. Evaluation of commercial ResPlex II v2.0, MultiCode-PLx, and xTAG respiratory viral panels for the diagnosis of respiratory viral infections in adults. Journal of Clinical Virology. 2011;50(1):42-5.	Not point of care.
Banerjee D, Kanwar N, Hassan F, Lankachandra K, Selvarangan R. Comparative analysis of Four sample-to-answer influenza A/B and RSV nucleic acid amplification assays using adult respiratory specimens. Journal of Clinical Virology. 2019;118:9-13.	Frozen samples used.
Bayart JL, Gillot C, Dogne JM, Roussel G, Verbelen V, Favresse J, et al. Clinical performance evaluation of the Fluorecare SARS-CoV-2 & Influenza A/B & RSV rapid antigen combo test in symptomatic individuals. Journal of Clinical Virology. 2023;161:105419.	Frozen samples used.
Bennett S, MacLean A, Gunson R. Verification of Cepheid Xpert Xpress Flu/RSV assay for use with gargle samples, sputa and endotracheal secretions. The Journal of hospital infection. 2019;101(1):114-5.	No 2x2 data reported.
Binnicker MJ, Espy MJ, Irish CL, Vetter EA. Direct detection of influenza A and B viruses in less than 20 minutes using a commercially available rapid	Frozen samples

PCR Assay. Journal of Clinical Microbiology. 2015;53(7):2353-4.	used.
Blank C. New respiratory assay panel provides quick results for several flu strains. Drug Topics. 2011;155(11).	Wrong publication type.
Boerger AC, Binnicker MJ. Comparison of the Panther Fusion respiratory panels to routine methods for detection of viruses in upper and lower respiratory tract specimens. Diagnostic microbiology and infectious disease. 2020;97(2):115014.	Frozen samples used.
Boers SA, Melchers WJG, Peters CJA, Toonen M, McHugh MP, Templeton KE, et al. Multicenter evaluation of QIAstat-Dx respiratory panel V2 for detection of viral and bacterial respiratory pathogens. Journal of Clinical Microbiology. 2020;58(6):e01793-19.	Unclear population and/or setting.
Boukli N, Flamand C, Chea KL, Heng L, Keo S, Sour K, et al. One assay to test them all: Multiplex assays for expansion of respiratory virus surveillance. Frontiers in Medicine. 2023;10:1161268.	Unclear population and/or setting.
Butt SA, Maceira VP, McCallen ME, Stellrecht KA. Comparison of three commercial RT-PCR systems for the detection of respiratory viruses. Journal of Clinical Virology. 2014;61(3):406-10.	Wrong population.
Chan M, Koo SH, Jiang B, Lim PQ, Tan TY. Comparison of the Biofire FilmArray Respiratory Panel, Seegene AnyplexII RV16, and Argene for the detection of respiratory viruses. Journal of Clinical Virology. 2018;106:13-7.	No 2x2 data reported.
Chen JH, Lam HY, Yip CC, Cheng VC, Chan JF, Leung TH, et al. Evaluation of the molecular Xpert Xpress Flu/RSV assay vs. Alere i Influenza A & B assay for rapid detection of influenza viruses. Diagnostic Microbiology and Infectious Disease. 2018;90(3):177-80.	Wrong population.
Chen JHK, Lam HY, Yip CCY, Wong SCY, Chan JFW, Edmond SK, et al. Clinical evaluation of the new high-throughput luminex nxtag respiratory pathogen panel assay for multiplex respiratory pathogen detection. Journal of Clinical Microbiology. 2016;54(7):1820-5.	Unclear population and/or setting.
Chen L, Tian Y, Chen S, Liesenfeld O. Performance of the Cobas(R) Influenza A/B Assay for Rapid Pcr-Based Detection of Influenza Compared to Prodesse ProFlu+ and Viral Culture. European journal of microbiology &	Unclear population and/or

immunology. 2015;5(4):236-45.	setting.
Cheng A, Riedel S, Arnaout R, Kirby JE. Verification of the Abbott Alinity m Resp-4-Plex assay for detection of SARS-CoV-2, influenza A/B, and respiratory syncytial virus. Diagnostic Microbiology and Infectious Disease. 2022;102(2):115575.	Frozen samples used.
Cho HJ, Jang JW, Ko SY, Choi SH, Lim CS, An SSA. Evaluation and verification of the nanosphere Verigene RV+ assay for detection of influenza A/B and H1/H3 subtyping. Journal of Medical Virology. 2015;87(1):18-24.	Frozen samples used.
Cohen DM, Kline J, May LS, Harnett GE, Gibson J, Liang SY, et al. Accurate pcr detection of influenza a/b and respiratory syncytial viruses by use of cepheid xpert flu+rsv xpress assay in point-of-care settings: Comparison to prodesse proflu+. Journal of Clinical Microbiology. 2018;56(2):e01237-17.	Unclear population and/or setting.
DiMaio MA, Sahoo MK, Waggoner J, Pinsky BA. Comparison of Xpert Flu rapid nucleic acid testing with rapid antigen testing for the diagnosis of influenza A and B. Journal of Virological Methods. 2012;186(1):137-40.	Frozen samples used.
Doern CD, Lacey D, Huang R, Haag C. Evaluation and implementation of FilmArray Version 1.7 for improved detection of adenovirus respiratory tract infection. Journal of Clinical Microbiology. 2013;51(12):4036-9.	Wrong population.
Domnich A, Bruzzone B, Trombetta CS, De Pace V, Ricucci V, Varesano S, et al. Rapid differential diagnosis of SARS-CoV-2, influenza A/B and respiratory syncytial viruses: Validation of a novel RT-PCR assay. Journal of Clinical Virology. 2023;161:105402.	Frozen samples used.
Dugas AF, Valsamakis A, Gaydos CA, Forman M, Hardick J, Kidambi P, et al. Evaluation of the Xpert Flu Rapid PCR assay in high-risk emergency department patients. Journal of Clinical Microbiology. 2014;52(12):4353-5.	Frozen samples used.
Edin A, Eilers H, Allard A. Evaluation of the Biofire Filmarray Pneumonia panel plus for lower respiratory tract infections. Infectious Diseases. 2020;52(7):479-88.	Wrong population.
Ellis J, Guest P, Lawson V, Loecherbach J, Lindner N, McCulloch A. Performance Evaluation of the Microfluidic Antigen LumiraDx SARS-CoV-2 and Flu A/B Test in Diagnosing COVID-19 and Influenza in Patients with Respiratory Symptoms. Infectious Diseases and Therapy. 2022;11(6):2099-2109.	Frozen samples used.

Folgueira L, Moral N, Pascual C, Delgado R. Comparison of the Panther Fusion and Allplex assays for the detection of respiratory viruses in clinical samples. PLoS ONE. 2019;14(12):e0226403.	Wrong population.
Galar A, Catalan P, Vesperinas L, Miguens I, Munoz L, Garcia-Espona A, et al. Use of Saliva Swab for Detection of Influenza Virus in Patients Admitted to an Emergency Department. Microbiology Spectrum. 2021;9(1):1-6.	Wrong population.
Ganzenmueller T, Kaiser R, Baier C, Wehrhane M, Hilfrich B, Witthuhn J, et al. Comparison of the performance of the Panther Fusion respiratory virus panel to R-Gene and laboratory developed tests for diagnostic and hygiene screening specimens from the upper and lower respiratory tract. Journal of medical microbiology. 2020;69(3):427-35.	Wrong population.
Gast KB, Vrolijk ACIM, Bergmans AMC, Geelen TH, Kluytmans JAJW, Pas SD. Clinical performance of the Xpert Xpress Flu/RSV assay for the detection of influenza A, B, and respiratory syncytial virus on ESwabTM medium. Journal of Clinical Virology Plus. 2022;2(1):100066.	Wrong population.
Gibson J, Schechter-Perkins EM, Mitchell P, Mace S, Tian Y, Williams K, et al. Multi-center evaluation of the cobas Liat Influenza A/B & RSV assay for rapid point of care diagnosis. Journal of Clinical Virology. 2017;95:5-9.	Unclear population and/or setting.
Goldenberg SD, Edgeworth JD. The Enigma ML FluAB-RSV assay: A fully automated molecular test for the rapid detection of influenza A, B and respiratory syncytial viruses in respiratory specimens. Expert Review of Molecular Diagnostics. 2015;15(1):23-32.	Wrong study design.
Gomez S, Prieto C, Vera C, Otero JR, Folgueira L. Evaluation of a new rapid diagnostic test for the detection of influenza and RSV. Enfermedades Infecciosas y Microbiologia Clinica. 2016;34(5):298-302.	Unable to retrieve.
Gosert R, Naegele K, Hirsch HH. Comparing the Cobas Liat Influenza A/B and respiratory syncytial virus assay with multiplex nucleic acid testing. Journal of Medical Virology. 2019;91(4):582-7.	Wrong population.
Haglund S, Quttineh M, Nilsson Bowers A, Matussek A, Henningsson AJ. Xpert Flu as a rapid diagnostic test for respiratory tract viral infection: evaluation and implementation as a 24/7 service. Infectious Diseases. 2018;50(2):140-4.	Unclear population and/or setting.

Haigh J, Cutino-Moguel MT, Wilks M, Welch CA, Melzer M. A service evaluation of simultaneous near-patient testing for influenza, respiratory syncytial virus, Clostridium difficile and norovirus in a UK district general hospital. Journal of Hospital Infection. 2019;103(4):441-6.	Unclear population and/or setting.
Hindiyeh M, Kolet L, Meningher T, Weil M, Mendelson E, Mandelboim M. Evaluation of Simplexa flu A/B & RSV for direct detection of influenza viruses (A and B) and respiratory syncytial virus in patient clinical samples. Journal of Clinical Microbiology. 2013;51(7):2421-4.	Frozen samples used.
Ho YII, Wong AH, Lai RWM. Comparison of the Cepheid Xpert Xpress Flu/RSV Assay to inhouse Flu/RSV triplex real-time RT-PCR for rapid molecular detection of Influenza A, Influenza B and Respiratory Syncytial Virus in respiratory specimens. Journal of Medical Microbiology. 2018;67(11):1576-80.	Unclear population and/or setting.
Hughes AEO, Webber DM, Wallace MA, Johnson C, Burnham CA, Anderson NW. Comparable Detection of Viral Pathogens in Lower Respiratory Tract Specimens With the BioFire Respiratory Panel 2 and BioFire Pneumonia Panel. Journal of clinical microbiology. 2020.	Wrong population.
Hur KH, Sung H, Kim MN. Comparative evaluation of two automated multiplex RT-PCR tests for rapid detection of influenza and respiratory syncytial viruses. Clinical Laboratory. 2021;67(6):1472-6.	Frozen samples used.
Hwang SM, Lim MS, Han M, Hong YJ, Kim TS, Lee HR, et al. Comparison of xTAG respiratory virus panel and verigene respiratory virus plus for detecting influenza virus and respiratory syncytial virus. Journal of Clinical Laboratory Analysis. 2015;29(2):116-21.	Frozen samples used.
Isles N, Badman SG, Ballard S, Zhang B, Howden BP, Guy R, et al. Analytical sensitivity and specificity of the Cepheid Xpert Xpress SARS-CoV-2/Flu/RSV assay. Pathology. 2022;54(1):120-2.	Wrong population.
Jarrett J, Uhteg K, Forman MS, Hanlon A, Vargas C, Carroll KC, et al. Clinical performance of the GenMark Dx ePlex respiratory pathogen panels for upper and lower respiratory tract infections. Journal of Clinical Virology. 2021;135:104737.	Frozen samples used.
Jee H, Park S, Lee J, Lim CS, Jang WS. Comparative Clinical Evaluation of a Novel FluA/FluB/SARS-CoV-2 Multiplex LAMP and Commercial FluA/FluB/SARS-CoV-2/RSV RT-qPCR Assays. Diagnostics.	Not point of care.

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