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(copd OR "Pulmonary Disease, Chronic Obstructive"[Mesh])

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Am J Respir Crit Care Med

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. 2026 May 8:aamag231.

doi: 10.1093/ajrccm/aamag231. Online ahead of print.

A GOLD Science Committee Perspective on Exacerbations and Cardiovascular Risk In COPD

Dave Singh [1 2], Alvar Agustí [3], Jean Bourbeau [4], Fernando J Martinez [5], David M G Halpin [6], Claus F Vogelmeier [7]

Affiliations Expand

- **PMID: 42104206**

- **DOI: 10.1093/ajrccm/aamag231**

Abstract

Chronic obstructive pulmonary disease (COPD) and cardiovascular diseases (CVDs) have shared risk factors and mechanisms. CVDs are highly prevalent in COPD patients. Additionally, the risk of suffering a cardiovascular (CV) event is increased following an exacerbation and remains elevated for months afterwards. This link between exacerbations and increased CV risk further highlights the importance of preventing exacerbations. Clinical management during and after exacerbations regarding the prevention of CV events remains to be optimised. CV events occur in

patients with COPD who have not previously been diagnosed with CVD. Conventional CV risk tools have historically underestimated the risk of CV events in patients with COPD. All patients with COPD should be investigated for CVDs and markers of CV risk should be assessed at the time of COPD exacerbations. Improving survival in COPD depends on reducing the risk of exacerbations, particularly severe exacerbations, addressing identified CV risk factors and managing CVDs when identified according to guidelines.

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2

Respir Med

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The effect of inhaler prescription and comorbidities on the prognosis of COPD in never-smokers: A nationwide population-based study

Seung Soo Sheen [1], Ju Hyun Oh [2], Won-Il Choi [3], Kyungjoo Kim [4], Chin Kook Rhee [5], Joo Hun Park [6]

Affiliations Expand

- PMID: 42103169

- DOI: 10.1016/j.rmed.2026.108864

Abstract

Background: Most clinical trials evaluating inhaler therapy in COPD have been conducted predominantly in smoking populations, and prognostic factors and therapeutic outcomes in COPD without any history of smoking were not well investigated. Therefore, this study was conducted to investigate the effect of inhaler prescription and comorbidities on the prognosis of COPD in never-smokers.

Methods: A retrospective observational study was undertaken using data from the Korean National Health Insurance Service-National Sample Cohort (NHIS-NSC) Survival analyses were performed according to inhaler prescriptions and comorbidities from index date to December 31, 2019.

Results: Among 2,432 eligible patients, 382 (16.3%) received long-acting muscarinic antagonist(LAMA)/long-acting β_2-agonist(LABA) therapy, 1,780 (73.2%) received inhaled corticosteroid(ICS)/LABA, 187 (7.3%) received LAMA monotherapy, and 83 (3.4%) received LABA monotherapy. In multivariate Cox regression analysis, compared with the LAMA/LABA group, the ICS/LABA group had significantly higher all-cause (HR 1.65; 95% CI 1.22-2.24) and respiratory mortality (HR 1.72; 95% CI 1.07-2.77). Coexisting heart failure, frequent hospitalizations (≥2 times/year vs. none), and emergency room visits along with older age, male sex, and lower body mass index (BMI) were also independently associated with higher respiratory and all-cause mortality ($p<0.05$).

Conclusion: Our data in the cohort of non-smoking COPD suggest that LAMA/LABA therapy was associated with better survival rate compared with ICS/LABA therapy. Moreover, comorbid heart failure, frequent hospitalizations, emergency room visits, older age, male sex, and lower BMI were also independently linked to higher risks of respiratory and all-cause mortality.

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Conflict of interest statement

Declaration of Competing Interest The other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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3

BMC Public Health

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. 2026 May 8.

doi: 10.1186/s12889-026-27617-5. Online ahead of print.

Trends and determinants of pneumococcal vaccine uptake among U.S. adults, 2019-2024: a pooled cross-sectional analysis

Mary Isha Koroma [1], Nirajan Budhathoki [2], Joseph Inungu [3], Jayalakshmi Gurrala [3], Victor Ogbonna Okike [3], Deborah Testimony Cyprian [4], Ramaprabha Makireddy [3], Plamedi Ngankusu Manwana [5], Hina Kainat [3]

Affiliations Expand

- PMID: 42098707

- DOI: 10.1186/s12889-026-27617-5

Free article

Abstract

Background: Pneumococcal disease causes substantial morbidity and mortality among U.S. adults, with an estimated 20,000 deaths and 150,000 hospitalizations annually. Despite effective vaccines, coverage has remained below national targets. Pandemic-related disruptions and the 2022 Advisory Committee on Immunization Practices transition to simplified 15/20 valent Pneumococcal Conjugate Vaccine recommendations may have influenced uptake, but their impact has not been fully assessed. To address this gap, this study examines trends and determinants of pneumococcal vaccine uptake among U.S. adults following the pandemic and 2022 guideline changes.

Methods: We conducted a pooled cross-sectional analysis of National Health Interview Survey data from 2019 to 2024, including 166,948 adults aged ≥ 18 years with complete data. Weighted bivariate analyses assessed associations between vaccination uptake and demographic (age, sex, race/ethnicity), socioeconomic (education, income, citizenship), health-related (chronic conditions including Chronic Obstructive Pulmonary Disease, diabetes, asthma, and cancer; smoking; influenza vaccination), and healthcare access factors (insurance, usual source of care, recent provider visit). Multivariable logistic regression identified independent predictors of vaccination. All analyses incorporated National Health Interview Survey complex survey design and sampling weights.

Results: Overall weighted pneumococcal vaccination coverage remained low, fluctuating between 29.6% and 33.2% across survey years. Coverage was highest among adults aged ≥ 65 years (65.7%) but remained substantially below the Healthy People 2020 goal of 90%. Only 23.0% of adults aged 55-64 years reported vaccination despite risk-based recommendations. Disparities persisted across racial/ethnic groups, with Hispanic adults showing the lowest uptake (13.9%) compared to non-Hispanic White adults (29.1%). In adjusted analyses, age ≥ 65 years (odds ratio [OR] = 9.39; 95% confidence interval [CI]: 8.84-9.96), chronic conditions including Chronic Obstructive Pulmonary Disease (OR = 2.04; 95% CI: 1.90-2.20) and diabetes (OR = 1.84; 95% CI: 1.74-1.95), recent healthcare visits (OR = 1.41; 95% CI: 1.31-1.51), and influenza vaccination were strong independent predictors of uptake. Lack of insurance (OR = 0.89; 95% CI: 0.81-0.98), absence of a usual source of care (OR = 0.81; 95% CI: 0.74-0.88), and non-receipt of influenza vaccine (OR = 0.29; 95% CI: 0.28-0.30) were associated with lower odds of vaccination.

Conclusions: Pneumococcal vaccination coverage among U.S. adults remained stagnant from 2019 to 2024, with persistent gaps among younger high-risk adults and racial/ethnic minorities. Healthcare engagement, insurance, provider contact, and influenza vaccination, were strongly associated with uptake. These findings suggest that risk-based screening, provider recommendations, and improved access for underserved populations may help address coverage gaps.

Keywords: Streptococcus pneumoniae; Healthcare disparities; Immunization; NHIS; Pneumococcal vaccines; Preventive Medicine; Vaccination coverage.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable. This study is a secondary analysis of publicly available, de-identified National Health Interview Survey (NHIS) data and therefore did not require additional institutional ethics review or informed consent. Consent for publication: Not applicable. This study used de-identified, publicly available NHIS data and includes no identifiable individual-level information. Competing interests: The authors declare no competing interests.

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Nat Biotechnol

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. 2026 May 7.

doi: 10.1038/s41587-026-03136-x. Online ahead of print.

Newcomer anti-IL-33 makes strides in COPD

Charlotte Harrison [1]

Affiliations Expand

- **PMID: 42098314**

- **DOI: 10.1038/s41587-026-03136-x**

No abstract available

Supplementary info

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5

Br J Gen Pract

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. 2026 May 7:BJGP.2025.0593.

doi: 10.3399/BJGP.2025.0593. Online ahead of print.

Point-of-care biomarkers or laboratory-based tests to reduce antibiotic prescribing for COPD exacerbations in primary care: a literature review and meta-analysis

Mathieu Frénois [1], Roxane Fovet [1], David Wyts [2], Claire Collins [3], Matthieu Calafiore [4 5], Christophe Berkhout [6 5 7]

Affiliations Expand

- PMID: 42097636

- DOI: 10.3399/BJGP.2025.0593

Abstract

Background: Acute Exacerbations of COPD (AECOPD) are frequently treated with antibiotics in primary care, leading to antibiotic resistance and adverse effects. Biomarkers might assist in reducing unnecessary antibiotic prescribing when used alongside clinical assessment.

Aim: To evaluate the benefit in primary care of biomarkers point-of-care testing (POCT) in practices and laboratory blood tests in decreasing antibiotic prescribing for AECOPD.

Design and setting: This systematic review identified randomised controlled trials (RCTs) and non-randomised studies conducted in primary care settings, assessing POCTs for COPD.

Method: The primary outcome was the rate of antibiotic prescribing or use, and secondary outcomes were biomarker thresholds for prescribing antibiotics and

patient harm. We conducted searches from January 2022 until November 2025 in four medical databases, six registers and COPD academic societies, extracted data and assessed for quality and bias. Then we performed a meta-analysis whenever possible.

Results: We included seven studies. For CRP POCT, there was one RCT, four non-randomised studies and for PCT in laboratories, two RCTs. The meta-analysis of CRP POCT indicated a significant reduction in antibiotic prescribing (OR=0.41; 95% CI: [0.32-0.53]; I^2=36%) and low certainty of evidence. No meta-analysis for PCT was feasible.

Conclusion: CRP POCT reduces antibiotic prescribing for AECOPD in primary care settings when used alongside with clinical assessment. There is insufficient data to draw conclusions about the PCT biomarker.

Keywords: COPD; biomarker; exacerbation.

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6

Review

Curr Diab Rep

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. 2026 May 7;26(1):12.

doi: 10.1007/s11892-026-01625-6.

Type 2 Diabetes and the Lung - Cause and Consequence

Dinah Foer [1 2 3], Tianshi David Wu [4], Juan C Celedón [5], M Furkan Burak [6 7 8], Vanita R Aroda [9 7]

Affiliations Expand

- PMID: 42095998

- DOI: 10.1007/s11892-026-01625-6

Abstract

Purpose of review: The purpose of this review is to synthesize literature investigating the relationship between type 2 diabetes (T2D) and obstructive airway diseases and to identify implications for clinical care.

Recent findings: Type 2 diabetes is a common and challenging comorbidity in patients with asthma and chronic obstructive pulmonary disease (COPD). Basic, translational and clinical studies support a bidirectional association between T2D and the lung. In animal models and human studies, insulin resistance and hyperglycemia are associated with pulmonary inflammation, respiratory exacerbation risk and disease severity. Corticosteroids are a mainstay for respiratory disease control and exacerbation treatment but promote ongoing metabolic dysregulation. Randomized, placebo-controlled trials of glucose-lowering medications for asthma are actively ongoing. Additional studies addressing clinical pathways to co-manage respiratory and metabolic risk are needed. Patients with comorbid T2D and asthma or COPD are at risk for worse outcomes. There are opportunities to improve cross-disciplinary care, potentially reducing risk and multimorbidity associated with both conditions.

Keywords: Asthma; Chronic obstructive pulmonary disease; Glucagon-like peptide 1 receptor agonists; Hyperglycemia; Hyperinsulinemia.

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Conflict of interest statement

Declarations. Human and Animal Rights and Informed Consent: All reported studies/experiments with human or animal subjects performed by the authors were performed in accordance with all applicable ethical standards including the Helsinki declaration and its amendments, institutional/national research committee standards, and international/national/institutional guidelines. Conflict of interests: TDW, MFB, JC declare no potential conflicts with for-profit entities. DF: Advisory board: Eli Lilly & Co.; institutional contract: Eli Lilly & Co. (site PI NCT07219173). VRA: Institutional contracts with Amgen, Applied Therapeutics, AstraZeneca, Biomea, Boerhinger Ingelheim, Corcept, Fractyl, Eli Lilly, Novo Nordisk, Pfizer, Recordati, Rhythm, Sanofi, Servier; Consultant: Sanofi, Mediflix.

- **108 references**

Supplementary info

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7

ERJ Open Res

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. 2026 May 5;12(3):00884-2025.

doi: 10.1183/23120541.00884-2025. eCollection 2026 May.

Predictive models for mortality readmission events and cardiovascular complications in patients with COPD: a systematic review and meta-analysis

Ilektra M Papazoglou [1], Hassan Abbas [1], Patrick Murphy [2 3], Nicholas Hart [2 3], Abdel Douiri [1]

Affiliations Expand

- PMID: 42094233

- PMCID: PMC13139928

- DOI: 10.1183/23120541.00884-2025

Abstract

Background: COPD is a major global health burden, associated with high rates of mortality, readmissions and cardiovascular disease (CVD) complications. Predictive models, including statistical and machine learning (ML) approaches, have been developed to support risk stratification and clinical decision-making. This review assesses their performance and generalisability.

Methods: A systematic search of EMBASE, MEDLINE and PubMed identified studies published since 2015 evaluating predictive models for COPD-related outcomes. Studies were screened using predefined criteria, and model performance was synthesised *via* meta-analysis. Pooled area under the curve (AUC) values were calculated for each model type. Risk of bias was assessed using the Prediction model Risk Of Bias ASsessment Tool (PROBAST).

Results: Of 3 488 records screened, 37 studies met inclusion criteria: 20 focused on mortality, 14 on readmissions and six on CVD complications. Statistical models had a pooled AUC of 0.787 (95% CI 0.755-0.816). For mortality, statistical models outperformed or matched ML models (AUC 0.801 *versus* 0.760; p=0.1195), while ML models outperformed statistical approaches for readmissions (AUC 0.812 *versus* 0.758; p=0.4423). CVD outcomes showed a pooled AUC of 0.810 (95% CI 0.749-0.859). External validation often reduced ML model performance, raising concerns about overfitting.

Conclusions: ML models improve readmission prediction but offer no consistent advantage for mortality, where statistical models perform similarly. ML models face

generalisability challenges due to overfitting. Future work should emphasise real-world validation and hybrid approaches to enhance interpretability and clinical applicability in COPD care.

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Conflict of interest statement

Conflicts of interest: All authors have confirmed that they have no conflicts of interest to declare.

- **78 references**
- **5 figures**

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Ann Am Thorac Soc

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. 2026 May 6:aaoag117.

doi: 10.1093/annalsats/aaoag117. Online ahead of print.

A journey of 1000 miles begins with a single step -proteomics, hyperinflation and COPD

Peter M A Calverley Professor [1]

Affiliations Expand

- **PMID: 42090466**
- **DOI: 10.1093/annalsats/aaoag117**

No abstract available

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Review

Curr Med Res Opin

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. 2026 May 6:1-14.

doi: 10.1080/03007995.2026.2667497. Online ahead of print.

Pathophysiological crosstalk between chronic obstructive pulmonary disease and type 2 diabetes mellitus: implications for SGLT2 inhibitor-based intervention

Rongshuang Yang [1], Weiping Fu [1]

Affiliations Expand

- PMID: 42090374

- DOI: 10.1080/03007995.2026.2667497

Abstract

The intertwined global epidemics of chronic obstructive pulmonary disease (COPD) and type 2 diabetes mellitus (T2DM) pose an increasing challenge in chronic disease management, constituting a clinically significant bidirectional threat. This review integrates current evidence to propose a pathological interactive axis underlying this comorbidity, driven by shared risk factors such as smoking, obesity, and physical inactivity, and mediated through interconnected inflammatory signaling (e.g. IL-6/NF-κB and NLRP3/IL-1β), metabolic dysregulation, and oxidative stress. Within this framework, pulmonary inflammation in COPD may exacerbate systemic metabolic abnormalities, whereas chronic hyperglycemia and insulin resistance in T2DM may, in turn, aggravate lung injury, sustaining a self-perpetuating cycle of multi-organ dysfunction. Against this background, sodium-glucose cotransporter 2 inhibitors (SGLT2i) have emerged as a pharmacological class of interest due to their pleiotropic metabolic and anti-inflammatory properties. Experimental and indirect clinical evidence suggests that SGLT2i may modulate key inflammatory and oxidative stress pathways, including macrophage polarization, AMPK/NF-κB/NLRP3 signaling, mitochondrial protection, and Nrf2-SIRT1 activation. In addition, SGLT2i-associated improvements in body weight, metabolic efficiency, and cardiopulmonary loading may indirectly influence pulmonary-metabolic interactions. However, evidence for direct benefits on COPD-specific clinical outcomes remains limited and largely hypothesis-generating. Despite these mechanistic insights, substantial gaps remain regarding cross-organ molecular

interactions, the role of hypoxia, and translational limitations of current models. Future research should prioritize dedicated randomized controlled trials, advanced single-cell and spatial omics approaches, and integrated digital health strategies to refine individualized SGLT2i-based interventions and advance multi-organ protective therapies in this complex patient population.

Keywords: Chronic obstructive pulmonary disease; SGLT2 inhibitor; comorbidity mechanism; intervention pathway; type 2 diabetes mellitus.

Supplementary info

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10

Cochrane Database Syst Rev

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. 2026 May 6;5(5):CD016265.

doi: 10.1002/14651858.CD016265.

Singing for adults with chronic respiratory disease

Mette Kaasgaard [1 2], Stephen Clift [3 4], Camilla Hansen Nejstgaard [5 6], Kirsten Buch Rasmussen [7], Katarzyna Grebosz-Haring [8 9], Helene Louise Hartmeyer [1 2], Morten Hostrup [10], Arne Bathke [11 12], J Matt McCrary [13 14]

Affiliations Expand

- **PMID: 42089381**
- **PMCID: PMC13147495**
- **DOI: 10.1002/14651858.CD016265**

Abstract

This is a protocol for a Cochrane Review (intervention). The objectives are as follows: To evaluate the benefits and harms of singing for chronic respiratory diseases in adults compared to all studied comparison groups.

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Conflict of interest statement

Kaasgaard M: has been involved in the conduct, analysis, and publication of research on singing and respiratory diseases

Clift S: has been involved in the conduct, analysis, and publication of research on singing and respiratory diseases

Hansen Nejstgaard C: none known

Buch Rasmussen K: none known

Grebosz-Haring K: none known

Hartmeyer HL: none known

Hostrup M: none known

Bathke A: none known

McCrary JM: none known

The review authors will not perform any selection, data extraction, risk of bias assessment, or certainty of the evidence assessment for studies in which they have been involved themselves. In these cases, the tasks will be handled by one of the other review authors related to the study.

- **109 references**

Supplementary info

MeSH termsExpand

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Cite

11

Cardiol Rev

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. 2026 May 6.

doi: 10.1097/CRD.0000000000001295. Online ahead of print.

Long-Term Oxygen Therapy and Cardiovascular Physiology: Divergent Effects in Heart Failure and Pulmonary Hypertension

Josef Kusayev [1], Shrikant Nayak [1], William H Frishman [2], Wilbert S Aronow [2]

Affiliations Expand

- PMID: 42087317

- DOI: 10.1097/CRD.0000000000001295

Abstract

Long-term oxygen therapy (LTOT) is a cornerstone of management for chronic hypoxemic respiratory diseases, such as chronic obstructive pulmonary disease, yet its physiological impact as a potent modulator of cardiovascular function remains a subject of ongoing investigation. While oxygen is primarily prescribed to correct arterial desaturation, its role as a regulator of vascular tone and cellular metabolism suggests it can exert significant, and sometimes contrasting, effects on the heart and systemic circulation. This review evaluates the evidence for LTOT in heart failure and pulmonary hypertension, 2 conditions where oxygen is frequently utilized despite varying levels of baseline hypoxemia. In heart failure, LTOT has not been shown to improve key hemodynamic variables and relevant endpoints, such as exercise capacity, in normoxemic patients. Some studies suggest that supplemental oxygen may even impose hemodynamic strain in this population by increasing systemic vascular resistance and reducing cardiac output. On the other hand, LTOT shows promise in improving relevant hemodynamic variables in pulmonary hypertension, such as mean pulmonary arterial pressure, as well as exercise capacity and other clinical measures across various baseline oxygen saturation levels. These findings suggest that the cardiovascular response to LTOT is highly dependent on the specific underlying pathology.

Keywords: heart failure; oxygen supplementation; pulmonary hypertension.

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Conflict of interest statement

Disclosure: The authors declare no conflicts of interest.

- 21 references

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12

Review

Heart Lung

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. 2026 May 4:79:102827.

doi: 10.1016/j.hrtlng.2026.102827. Online ahead of print.

Prevalence and associated factors of dysphagia in chronic obstructive pulmonary disease patients: A systematic review and meta-analysis

Yang Yang [1], Hong Yan [2], Lin Zhao [1], Yu Li [1], Kuaile Li [1], Feiyan Wan [1]

Affiliations Expand

- PMID: 42085928

- DOI: 10.1016/j.hrtlng.2026.102827

Abstract

Background: Dysphagia is common in patients with COPD, and clarifying its prevalence and associated factors is an important prerequisite for developing effective nursing strategies.

Objectives: To systematically evaluate the prevalence and associated factors of dysphagia in COPD patients, thereby informing personalized interventions and risk reduction.

Methods: We searched CNKI, WanFang, VIP, CBM, PubMed, Embase, Web of Science, and Cochrane Library from inception to August 27, 2025, for observational studies on dysphagia prevalence and associated factors in COPD patients. Two reviewers independently screened, assessed quality, and extracted data. Meta-analysis was conducted using Stata 16.0.

Results: A total of 18 studies involving 4608 patients were included. The meta-analysis revealed that the overall prevalence of dysphagia in COPD patients was 38.2% (95%CI: 29.8%-46.6%). The occurrence of dysphagia was associated with age (OR=1.18), mMRC dyspnea grade (OR=1.69), CAT score (OR=1.60), number of missing teeth (OR=2.63), nutritional status (OR=1.85), smoking status (OR=1.84), disease stage (OR=3.33), comorbid gastroesophageal reflux (OR=2.57), and the use of non-invasive mechanical ventilation (OR=0.40).

Conclusion: The prevalence of dysphagia in COPD patients is 38.2%. Current evidence suggests that higher age, higher mMRC dyspnea grade, elevated CAT

score, number of missing teeth≥6, malnutrition, smoking history, acute exacerbation stage, and comorbid gastroesophageal reflux are risk factors, while the use of non-invasive mechanical ventilation is associated with lower odds of dysphagia. Healthcare professionals should develop personalized interventions based on these associated factors to optimize disease management for COPD patients.

Keywords: Associated factors; Chronic obstructive pulmonary disease; Dysphagia; Meta-analysis; Prevalence.

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Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary info

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13

Curr Opin Pulm Med

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. 2026 May 5.

doi: 10.1097/MCP.0000000000001282. Online ahead of print.

The clinical relevance of chest computed tomography imaging in pulmonary hypertension associated with lung diseases

Shelsey W Johnson [1], Farbod N Rahaghi [2], Raul San Jose Estépar [3]

Affiliations Expand

- **PMID: 42083403**

- **DOI: 10.1097/MCP.0000000000001282**

Abstract

Purpose of review: The purpose of this review is to describe the use of chest computed tomography (CT) data to expand sub-phenotyping of pulmonary hypertension associated with chronic lung disease (Group 3 pulmonary hypertension) and inform identification of effective treatment.

Recent findings: In the last 5 years, breakthroughs in clinical pulmonary hypertension research highlight the importance of chest CT data to inform disease trajectory and mortality risk. In presumed idiopathic pulmonary arterial hypertension (Group 1 pulmonary hypertension), a Group 1 'lung phenotype' with abnormal CT chest findings such as emphysema and fibrosis, experiences a mortality risk similar to that of Group 3 disease. Post hoc analyses of Group 3 pulmonary hypertension clinical trials highlight CT abnormalities to inform adverse treatment response, with implications for additional failed clinical trials to date. In fact, pulmonary hypertension guidelines emphasize the critical role for acquisition of standardized high-resolution CT data at pulmonary hypertension diagnosis and clinical trial enrollment.

Summary: Chest CT imaging is critical in the clinical management of pulmonary hypertension associated with chronic lung disease. Future research will not only incorporate CT data into Group 3 pulmonary hypertension phenotyping research but also consider treatment effect visualization on the lung parenchyma and pulmonary arterial vasculature as a novel clinical trial endpoint.

Keywords: Group 3 pulmonary hypertension; chest computed tomography; emphysema; pulmonary hypertension associated with chronic obstructive pulmonary disease; pulmonary hypertension associated with interstitial lung disease.

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- **43 references**

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BMJ Open

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. 2026 May 3;16(4):e112993.

doi: 10.1136/bmjopen-2025-112993.

'It helps my anxiety because I'm managing my breathlessness': a qualitative exploration of anxiety and breathlessness in patients with advanced chronic respiratory disease receiving specialist palliative care

Lucy Bleazard [1 2], Kate Walker [3], Sue Ashton [4], Christina Faull [4]

Affiliations Expand

- PMID: 42082241
- PMCID: PMC13141109
- DOI: 10.1136/bmjopen-2025-112993

Abstract

Objectives: To explore the lived experiences of anxiety related to breathlessness in patients who are receiving specialist palliative care for advanced chronic respiratory disease (CRD), such as chronic obstructive pulmonary disease and interstitial lung diseases.

Design: This qualitative exploration formed part of a mixed-methods feasibility study of a novel intervention. Participants receiving specialist palliative care for CRD engaged in semi-structured interviews. Data were analysed using thematic analysis.

Setting: Two hospice sites in a single UK region.

Participants: 11 participants were included in the analysis (7 male participants and 4 female participants with an age range of 49-75 years). Ethnicities were self-reported as white British (n=8) and Asian/British Asian (n=3).

Results: Three key organising themes emerged: (1) Understanding my breathlessness-participants described their breathlessness as progressive, frightening and restrictive. (2) Understanding my anxiety-described as emotional distress with a profound physical component, often compounded by external life stressors. (3) Vicious circle interlinks breathlessness and anxiety-a circular bi-directional relationship where anxiety could not be separated from breathlessness. Participants often employed non-pharmacological strategies to manage both their anxiety and breathlessness interdependently.

Conclusions: Our findings provide insight into the intricate relationship between anxiety and breathlessness in patients with a range of CRD. There is an ongoing need for holistic support for patients with anxiety related to breathlessness in non-malignant conditions.

Keywords: Adult palliative care; PALLIATIVE CARE; RESPIRATORY MEDICINE (see Thoracic Medicine).

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Conflict of interest statement

Competing interests: None declared.

- **30 references**
- **1 figure**

Supplementary info

MeSH termsExpand

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15

Review

Sleep Breath

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. 2026 May 2;30(2):154.

doi: 10.1007/s11325-026-03692-1.

What is the most effective non-pharmacological treatment for poor sleep quality in Chronic obstructive pulmonary disease patients? a systematic review

Gary Yeung [1], Hady Atef [2]

Affiliations Expand

- **PMID: 42069826**
- **PMCID: PMC13135557**
- **DOI: 10.1007/s11325-026-03692-1**

Abstract

Background: Chronic obstructive pulmonary disease (COPD) features poor sleep quality due to nocturnal dyspnea and psychological distress, leading to increased hospital admissions and reduced quality of life. Considering patient preference and existing evidence, non-pharmacological intervention, i.e. cognitive behavioral therapy for insomnia (CBT-I), on sleep for COPD patients had its potential efficacy. However, current guidelines do not include sleep management as standard care, and there is a lack of comprehensive reviews on this topic. This systematic review hence evaluated the effectiveness of non-pharmacological treatments for poor sleep in COPD patients.

Methods: Literature identification was conducted through MEDLINE, CINHAL PLUS, AMED and ScienceDirect under PRISMA guidance. Randomized controlled trials, cohort studies and cross-sectional studies regarding poor sleep quality among COPD population were retrieved. Abstract, title and full text screening were performed by the author and assessed by a second reviewer. Risk of bias and quality appraisal was done with JBI scale.

Results: 12 articles (783 patients) were identified, including 9 randomized controlled trials, 1 cohort study and 2 cross-sectional studies. The risk of bias (quality) was ranked: low (high) for 3, moderate (moderate) for 7 and high (low) for 2. Several interventions were identified (number of study): CBT-I (2) and cognitive behavioral therapy (1), pulmonary rehabilitation (PR) (2), progressive muscle relaxation technique (PMRT) (2), non-invasive ventilation (NIV) (3), relaxation exercise (RE) (1) and therapeutic touch (TT) (1). Significant improvement in sleep quality was reported in PMRT, TT and RE.

Conclusion: PMRT, TT and RE showed improvement in sleep quality in COPD patients yet unable to rank their effectiveness as heterogeneous outcome measures across studies. No substantial evidence was capable to demonstrate effectiveness of CBT-I, CBT, PR and NIV to explicit COPD patients. Moreover, future research including combination of non-pharmacological treatments is needed.

Keywords: Chronic obstructive pulmonary disease; Non-pharmacological; Sleep quality.

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Conflict of interest statement

Declarations. Conflict of interest: All authors certify that they have no affiliations. With or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter or materials discussed in this manuscript. Ethical approval: This article does not contain any studies with human participants performed by any of the authors.

- **73 references**
- **1 figure**

Supplementary info

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Thorax

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. 2026 May 7:thorax-2025-223725.

doi: 10.1136/thorax-2025-223725. Online ahead of print.

Determinants of declining lung function trajectories from childhood to adulthood after preterm birth

James T D Gibbons [1 2 3], Elizabeth F Smith [1 2], Andrew C Wilson [1 3], Shannon J Simpson [4 2]

Affiliations Expand

- PMID: 42009575

- DOI: 10.1136/thorax-2025-223725

Free article

Abstract

Background: Preterm birth is associated with lifelong respiratory sequelae, yet our understanding of lung function trajectories across the lifespan remains limited. We aimed to identify patterns of spirometry development from childhood to early adulthood in survivors of very preterm birth using novel data-driven methods.

Methods: In this longitudinal study, 116 individuals born ≤32 weeks' gestation and 39 term-born controls underwent spirometry testing at up to four timepoints between 4-23 years of age. Patterns (trajectories) of forced expiratory volume in 1 s (FEV_1), forced vital capacity (FVC) and FEV_1/FVC z-scores were derived using group-based trajectory modelling. Risk factors for declining trajectories were assessed using regression analysis.

Results: Preterm participants followed distinct trajectories including low-declining FEV_1 and very-low-declining FEV_1/FVC patterns. Term controls remained stable. Trajectory prevalence estimates require caution due to non-random attrition. Higher gestational age (OR 0.70, 95% CI 0.54 to 0.89) and early-childhood FEV_1 (OR 0.03, 95% CI 0.00 to 0.17) protected against low-declining FEV_1, while asthma diagnosis (OR 5.55, 95% CI 1.51 to 27.4) and chest CT abnormalities increased risk. For

FEV_1/FVC decline, higher early-childhood FEV_1 was protective (OR 0.39, 95% CI 0.19 to 0.68), while bronchodilator responsiveness (OR 7.65, 95% CI 2.58 to 26.7), asthma diagnosis (OR 2.59, 95% CI 1.02 to 6.96) and CT abnormalities increased risk.

Conclusions: A substantial proportion of very preterm survivors demonstrate progressive airway obstruction between early childhood and young adulthood, highlighting preterm birth as a significant risk factor for early onset chronic obstructive pulmonary disease. Early lung function screening and identifying modifiable risk factors may provide opportunities for intervention before clinically significant airway obstruction develops.

Keywords: Bronchopulmonary Dysplasia; COPD Pathology; Paediatric Lung Disease; Pulmonary Disease, Chronic Obstructive.

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Conflict of interest statement

Competing interests: None declared.

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17

Review

Vaccine

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. 2026 May 10:81:128560.

doi: 10.1016/j.vaccine.2026.128560. Epub 2026 Apr 17.

Enhancing uptake of respiratory vaccinations in asthma and chronic obstructive pulmonary disease (COPD) patients: a systematic review

Radhika Rani Gulati [1], Fatima Yaqub [2], Anna L Goodman [3]

Affiliations Expand

- **PMID: 42000586**

- DOI: 10.1016/j.vaccine.2026.128560

Abstract

Introduction: Despite influenza, pneumococcal and COVID vaccines being widely recommended for patients with chronic respiratory disease, vaccination rates in this cohort remain low. The aim of this systematic review is to identify interventions which are effective in increasing respiratory vaccination rates in adults with chronic obstructive pulmonary disease (COPD) or asthma.

Methods: The inclusion and exclusion criteria for the study can be found in the PROSPERO protocol (PROSPERO registration no: CRD42025588565). A search was run across four databases (MEDLINE, Embase, CENTRAL and ClinicalTrials.gov) in February 2025, which returned 2537 studies. Eleven studies were deemed to meet the study inclusion/exclusion criteria and these were narratively synthesised: four randomised clinical trials (RCTs), six longitudinal studies and one observational cohort study. Risk of bias was assessed using the Cochrane's Risk of Bias (RoB-V2) and ROBIN-I-V2 tools. Studies were categorised according to the COM-B model of behaviour change.

Results: All 11 studies consisted of COPD populations, with four studies also including asthma patients. Interventions focused on patient education, with/without involvement of a healthcare professional (HCP). Nine of the eleven studies showed a statistically significant improvement in influenza and/or pneumococcal vaccination rate with an intervention. No studies assessing COVID vaccine uptake in this population were suitable for inclusion. Most studies targeted patients' capability to get vaccinated through improving patients' and HCPs' knowledge. Fewer studies focused on social opportunity (e.g. support from other patients/HCPs) or automatic motivation (e.g. reminders).

Discussion: The published literature in this area is currently limited. Most studies are non-randomised and are at high-risk of bias, making meta-analysis not possible. Further research should assess the practicalities (physical opportunity) of vaccination, especially in low-income economies (where most respiratory patients reside) and standardising research methods to allow for future meta-analysis.

Other: There is no funding for this review.

Keywords: Asthma; Behavioural science; COPD; Health promotion; Influenza; Pneumococcal; Public health; Vaccine; Vaccine hesitancy.

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Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Oxford University has entered into a partnership with AstraZeneca for further development of ChAdOx1 nCoV-19. Anna Goodman is named as an inventor on a patent covering use of a particular promoter construct that is often used in ChAdOx1-vectored vaccines and is incorporated in the ChAdOx1 nCoV-19 vaccine. She has benefited from royalty income paid to the University of Oxford from sales of this vaccine by AstraZeneca and its licensees under the University's revenue sharing policy. She may benefit further in the future. The organisation and

department in which we work has delivered vaccine trials for commercial sponsors including Jansen, AZ, Moderna, Novavax.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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18

Clin Med (Lond)

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. 2026 May 6;26(3):100574.

doi: 10.1016/j.clinme.2026.100574. Online ahead of print.

A multi-centre quality improvement project to assess the impact of a standardised NIV care bundle on mortality outcomes in patients with acute type 2 respiratory failure

Christopher J Michie [1], Kirsty R Ward [2], Peter W Creber [3], Susie Beresford [4], Mark C Juniper [5], Rebecca Helen Mason [6]

Affiliations Expand

- PMID: 41956252

- DOI: 10.1016/j.clinme.2026.100574

Free article

Abstract

The evidence for non-invasive ventilation (NIV) is clear; however, real-world outcomes fall short of those demonstrated by clinical trials. We developed a five-step care bundle in line with BTS quality standards to standardise management and guide clinicians through the first few hours of NIV care. This was combined with staff training initiatives. The project aimed to reduce acute NIV mortality to 10%. Although this target was not met, the project delivered a 7% reduction in mortality from 28% to 21%, equating to 143 fewer deaths in 2023 compared to 2022. The project also delivered increased staff confidence. Through this project we have

demonstrated that early, effective NIV, in appropriate patients, delivered in a standardised way by confident and competent staff, improves outcomes.

Keywords: Acute; BTS; COPD; Care bundle; Mortality; NCEPOD; NIV; Neuromuscular disease; Obesity hypoventilation; QI; Respiratory.

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Conflict of interest statement

Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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19

Eur Respir J

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. 2026 May 7;67(5):2502404.

doi: 10.1183/13993003.02404-2025. Print 2026 May.

Ozone and risk of COPD in the USA: demographic insights from the All Of Us Research Program

Shelton Lo [1], Gabriel A Goodney [2], Hantao Wang [2], Jungeun Lim [2], Susan Valerie Czach [2], Jared A Fisher [3], Maryam Hashemian [2], Véronique L Roger [2], Rena R Jones [3], Jason Y Y Wong [2]

Affiliations Expand

- PMID: 41819535
- PMCID: PMC13150354
- DOI: 10.1183/13993003.02404-2025

Abstract

Even consistently below regulatory limits, the cardiopulmonary effects of ozone were apparent independent of smoking and other atmospheric conditions; certain subgroups might be more susceptible to the harmful effects of ozone https://bit.ly/4aGi0u3

Conflict of interest statement

Conflict of interest: The authors have no potential conflicts of interest to disclose.

Update of

- **Residential Ozone and Risk of Chronic Obstructive Pulmonary Disease in the United States: Demographic Differences in the All of Us Research Program.**

Lo S, Goodney GA, Wang H, Lim J, Czach SV, Fisher JA, Shearer JJ, Hashemian M, Roger VL, Jones RR, Wong JYY.medRxiv [Preprint]. 2025 May 14:2025.05.13.25327336. doi: 10.1101/2025.05.13.25327336.Update in: Eur Respir J. 2026 May 7;67(5):2502404. doi: 10.1183/13993003.02404-2025.PMID: 40463549 Free PMC article. Preprint.

- **15 references**
- **1 figure**

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20

Randomized Controlled Trial

Eur Heart J

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. 2026 May 5;47(17):2077-2089.

doi: 10.1093/eurheartj/ehaf447.

Cardiovascular benefit of continuous positive airway pressure according to high-risk obstructive sleep apnoea: a multi-trial analysis

Ali Azarbarzin [1], Daniel Vena [1], Neda Esmaeili [1], Andrew Wellman [1], Lucía Pinilla [2 3], Ludovico Messineo [1], Andrey Zinchuk [4], Raichel Alex [1], Mathias Baumert [5], Kelly A Loffler [2], Craig S Anderson [6 7 8], David P White [1], Susan Redline [1], Daniel J Gottlieb [1], Ferran Barbé [3 9], Yuksel Peker [10 11 12 13], Manuel Sánchez-de-la-Torre [3 14], Doug McEvoy [2], Scott A Sands [1]

Affiliations Expand

- PMID: 40794640
- PMCID: PMC12874658
- DOI: 10.1093/eurheartj/ehaf447

Abstract

Background and aims: Randomized trials of continuous positive airway pressure (CPAP) treatment for obstructive sleep apnoea (OSA) in patients with cardiovascular disease have not detected reduced risk of major adverse cardiovascular and cerebrovascular events (MACCEs). This study tested whether the cardiovascular benefit of CPAP occurs preferentially in high-risk OSA, characterized by greater OSA-related heart rate acceleration or hypoxaemia.

Methods: In a post hoc analysis of pooled Randomized Intervention with Continuous Positive Airway Pressure in Coronary Artery Disease and Obstructive Sleep Apnoea, Impact of Continuous Positive Airway Pressure on Patients with Acute Coronary Syndrome and Nonsleepy Obstructive Sleep Apnoea, and Sleep Apnoea Cardiovascular Endpoints Study randomized trials; outcomes were stratified by high-risk OSA status, defined by heart rate response following OSA respiratory events >9.4 b.p.m. (third tertile) or oxygen desaturation area under baseline (hypoxic burden) > 87.1% min/h (third tertile). Cox mixed models quantified the CPAP treatment effect on MACCE (including cardiovascular mortality, myocardial infarction, and stroke) within high-risk OSA and the difference vs low-risk status (primary test). Secondary analyses examined participants without excessive sleepiness (Epworth <11 points) or without increased blood pressure (systolic/diastolic <140/90 mmHg).

Results: In 3549 participants, 16.6% and 16.3% reached the MACCE endpoint with CPAP (n = 1778) and usual care (n = 1771), respectively. The CPAP treatment effect was greater in participants with vs without high-risk OSA [interaction hazard ratio (iHR) .69, 95% confidence interval (CI) .50-.95, Pinteraction = .024; Nhigh-risk = 1832]. The differential effect was stronger in those without excessive sleepiness (iHR .59, 95% CI .41-.84; Nhigh-risk = 1509), or without increased blood pressure (iHR .54, 95% CI .36-.81; Nhigh-risk = 1244). Continuous positive airway pressure benefits in high-risk OSA were observed alongside harm in low-risk OSA.

Conclusions: Continuous positive airway pressure preferentially improves cardiovascular outcomes in high-risk OSA, while harm in low-risk OSA may counteract this effect. These findings provide a pathway to identify patients likely to benefit.

Keywords: Heart rate response; Hypoxic burden; MACCE; Obstructive sleep apnoea; Phenotype; Precision medicine.

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- **Cited by 5 articles**
- **55 references**
- **2 figures**

"Multimorbidity"[Mesh Terms] OR Multimorbidity[Text Word]

1

Int J Equity Health

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. 2026 May 8.

doi: 10.1186/s12939-026-02869-0. Online ahead of print.

Accelerated multimorbidity in early adulthood and long-term functional disability in later life: a life-course epidemiological study

Yushan Du [1], Xiaohan Zhu [1], Mingxing Wang [1], Ziyi Ye [1], Wen Cui [2], Chao Guo [3]

Affiliations Expand

- **PMID: 42098715**
- **DOI: 10.1186/s12939-026-02869-0**

Free article

Abstract

Background: Chronic somatic diseases (CSDs), particularly cardiometabolic diseases (CMDs) are recognized contributors to functional disability, yet limited evidence examines these associations by employing longitudinal approaches.

Objective: This study aimed to investigate the association between early adulthood patterns of CMDs and other CSDs with the incidence and trajectories of later-life functional disability.

Methods: Data were drawn from the China Health and Retirement Longitudinal Study implemented during 2011-2020. Functional disability was measured by activities of daily living (ADL) and instrumental activities of daily living (IADL). Latent class trajectory modeling was used to identify 10-year trajectories of functional disability. Sequence analysis was used to cluster CSD patterns from ages 18 to 44 and time-dependent Cox proportional hazard models and logistical regressions were employed to detect the associations between early adulthood CSD patterns and the incident risk and longitudinal trajectory of functional disability in later life.

Results: Among 7,077 participants, four distinct early adulthood disease patterns were identified: (I) "Long-term health," (II) "Long-term with a non-CMD CSD", (III) "Later fast transition to CMDs or non-CMD CSDs", and (IV) "Early transition to CMDs or multimorbidity". After adjusting for covariates, participants with a history of CSDs showed higher risks of functional disability.

Conclusion: This study confirms that early adulthood patterns of CSDs are differentially associated with later-life functional disability, through the establishment of a lifespan-based disease-disability research framework and multi-disease trajectory modeling. Early diagnosis and interventions for CSDs are important to sustain functional function in aging.

Clinical trial number: Not applicable.

Keywords: Cardiometabolic diseases; Chronic somatic disease; Disability; Multimorbidity.

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Conflict of interest statement

Declarations. Human ethics and consent to participate: The CHARLS protocol was approved by the Ethics Committee of Peking University (approval code: IRB00001052-11015) and conducted in accordance with China's Regulations on Ethical Review of Biomedical Research Involving Human Subjects (Trial Version, 2007) and the Declaration of Helsinki (2008 version). All participants in the CHARLS provided written informed consent. **Consent for publication:** This manuscript has not been published previously and is not under consideration for publication elsewhere. It will not be submitted to another journal while being considered by International Journal for Equity in Health. No part of this manuscript has been presented at meetings or posted online, including preprint servers. **Competing interests:** The authors declare no competing interests.

Supplementary info

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Pediatr Res

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. 2026 May 8.

doi: 10.1038/s41390-026-05046-9. Online ahead of print.

A systematic scoping review and gap analysis of questionnaires to assess multimorbidity among children

Jogesh Murmu [# 1], Abhinav Sinha [# 1], Upasana Nayak [# 1], Somen Pradhan [2], Krushna Chandra Sahoo [1], Debdutta Bhattacharya [1], Sanghamitra Pati [3]

Affiliations Expand

- PMID: 42098422

- DOI: 10.1038/s41390-026-05046-9

Abstract

Assessment tools specifically designed for children are crucial to addressing their unique healthcare needs, enabling more comprehensive and tailored care. This review intends to examine tools that assess multimorbidity in children to uncover critical gaps. This review followed PRISMA guidelines and is registered in PROSPERO (CRD42024520342). This review focused on tools/questionnaires/instruments that assess chronic diseases and multimorbidity among children aged 0-18 years. The search was performed from PubMed, Embase, Web of Science, and CINAHL databases. Eleven studies were included out of 11,876 records screened. The tools (CHQ, ISAAC, DAWBA, and MINI-KID) identified were initially created to assess one condition. They remain widely used in multimorbidity studies because of their validity and common usage, but re-purposing them can restrict full understanding of comorbidities. Other studies used or modified these tools to estimate multimorbidity constructs, with no specifically designed tool employed to estimate childhood multimorbidity. The risk of bias was generally moderate among cross-sectional studies and low among cohort studies. The existing child health questionnaires were not designed for assessing multimorbidity and vary widely in scope and focus. These findings underscore the urgent need for standardized, culturally acceptable, and pediatric-specific tools to assess multimorbidity. IMPACT: This review highlights critical gaps in pediatric multimorbidity assessment tools, emphasizing their limited scope, validity, and cultural adaptability. It analyzes existing methodologies, revealing inconsistencies in chronic condition coverage and a lack of validation across diverse populations.

The study underscores the need for standardized, comprehensive tools to improve assessment accuracy and management. Findings suggest that developing multidimensional instruments will enhance precision and inform better healthcare strategies. Addressing these gaps is essential for equitable, evidence-based multimorbidity management in children, ultimately improving long-term health outcomes.

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Conflict of interest statement

Competing interests: The authors declare no competing interests.

- 43 references

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3

Review

J Psychopharmacol

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. 2026 May 7:2698811261433212.

doi: 10.1177/02698811261433212. Online ahead of print.

Cardiovascular mortality and depression: A systematic review and meta-analysis of the association with antidepressant treatment and co-morbidity

Tiago da Silva Costa [1 2 3], Beth Hall [2], Sean Hill [4 5], Ramy Teama [2], Eleanor Romaine [2], Sharmin Ahmed [6], Iain McKinnon [2 7], Stuart Watson [1 2 3], Alan Bagnall [8 9 10], Ryan Kenny [11], Richard Hamish McAllister-Williams [1 2 3]

Affiliations Expand

- PMID: 42097883

- DOI: 10.1177/02698811261433212

Abstract

Background: Depression is associated with increased mortality, with underlying causes unclear. We conducted a systematic review and meta-analysis of cardiovascular (CV) mortality in depression and how antidepressant treatments and comorbidities modify this.

Methods: We searched Medline, Embase, Scopus, Web of Science and Cochrane registers (inception to 31 December 2024) for randomised controlled trials (RCTs) and observational studies comparing CV mortality in adults with depression vs without, and receiving antidepressants vs controls. We excluded studies with <12 months follow-up, reporting only all-cause mortality or lacking control groups. Random-effects meta-analyses were conducted with CV mortality as the primary outcome. Risk of bias was assessed with RoB 2 and ROBINS-I.

Prospero: CRD42020200812.

Results: We included 7 RCTs and 47 cohort studies (1,593,722 people). In multivariable-adjusted cohorts (*k* = 26), depression was associated with a significantly higher CV mortality versus no-depression (hazard ratio (HR): 1.45, 95% CI: 1.25-1.69). Effects were similar in non-selected community-dwelling cohorts and those with CV disease or type 2 diabetes. Antidepressants overall were associated with increased CV mortality in cohorts but after adjustment only tricyclic antidepressants (TCAs) had significantly increased risk vs no antidepressant (*k* = 4; HR: 1.27, 95% CI: 1.02-1.58). RCT findings were directionally consistent but underpowered.

Conclusions: Depression is associated with increased risk of CV mortality irrespective of comorbid group studied. Antidepressants do not appear to modify this risk, apart from TCAs, which may increase it. The antidepressant models in particular had high heterogeneity, reflecting a knowledge gap on the long-term effects of antidepressants in patients with depression on CV mortality.

Keywords: antidepressants; cardiovascular; depression; mortality; multimorbidity.

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Br J Gen Pract

. 2026 May 7:BJGP.2025.0798.

doi: 10.3399/BJGP.2025.0798. Online ahead of print.

Multimorbidity and cardiovascular prevention in primary care: Cohort study in New Zealand

Stina Mannheimer [1], Yeunhyang Catherine Choi [2], Katrina Poppe [3], Jingyuan Liang [2], Vanessa Selak [4], Allan Moffitt [5], Sue Wells [6]

Affiliations Expand

- PMID: 42097633

- DOI: 10.3399/BJGP.2025.0798

Abstract

Background: Multimorbidity adds complexity to medication management. National guidelines in New Zealand (NZ) recommend dual therapy with blood-pressure- and lipid-lowering agents for most patients at five-year cardiovascular disease (CVD) risk ≥15% (high risk), considered at 5-14% (intermediate risk), and not generally recommended at <5% (low risk).

Aim: To examine the association between multimorbidity and dispensing of dual therapy across risk strata.

Design and setting: A cohort study among 430,286 patients aged 30-79 years without prior CVD, enrolled in the NZ Primary Health Organisation ProCare in 2014.

Method: Multivariable Poisson regression estimated relative risks (RR) for dual therapy across CVD risk groups at cohort entry. Two-year maintenance of dual therapy was then compared by multimorbidity within each risk stratum.

Results: Baseline dual therapy receipt was 1.5%, 31% and 40% in low, intermediate and high risk groups respectively. Multimorbidity was associated with greater use of dual therapy across risk groups (low risk: RR 2.90 [95% CI 2.77-3.03]; intermediate risk: RR 1.35 [95% CI 1.32-1.38]; high risk: RR 1.15 [95% CI 1.10-1.22]). Multimorbidity was also associated with higher maintenance in the low (88% vs 84%) and intermediate (90% vs 86%) risk groups (both p<0.001) and was high, irrespective of multimorbidity, in high risk (89% vs 88%; p=0.415).

Conclusion: Patients with multimorbidity were more likely than others to be commenced on and maintain CVD prevention. However, while dispensing increased with increasing CVD risk, a large evidence-practice gap in dual therapy remained for those at high CVD risk.

Keywords: Cardiovascular disease < Clinical (physical); Epidemiology < Research methods; General practice; Multimorbidity; Cardiovascular preventive medication.; Prescribing < Clinical (general).

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5

Practice Guideline

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. 2026 May 5:502572.

doi: 10.1016/j.rceng.2026.502572. Online ahead of print.

Executive summary of the 2026 consensus document. Planning the future of Internal Medicine: A position statement of the International Forum of Internal Medicine (FIMI)

P Valdez [1], L Cámera [2], H L Puello Galarcio [3], D Manfellotto [4], A Fadhil Hlaihel [5], F Benmediouni [6], D Johnson [7], G Dalekos [8], E Casariego-Vales [9]; en nombre del Grupo de trabajo Futuro de la Medicina Interna (FIMI)

Affiliations Expand

- **PMID: 42097366**

- **DOI: 10.1016/j.rceng.2026.502572**

Abstract

The International Forum of Internal Medicine (FIMI) presents a position paper that analyzes the current state and projects the future of Internal Medicine in a global context marked by population aging, multimorbidity, fragmentation of health systems, and rapid technological transformation. The document emerged from a collaborative process involving 52 scientific societies from 43 countries, with representation from all five continents. Drawing on Ibero-American research and the consensus of international leaders, it describes the central role of the internist in

comprehensive, longitudinal, and person-centered care for adults, particularly those with complex conditions. Key strengths are identified, including integrative clinical reasoning and interdisciplinary coordination, alongside persistent weaknesses such as heterogeneity in training, adverse working conditions, and professional burnout. The challenges and opportunities posed by telemedicine, point-of-care ultrasound, and artificial intelligence are also examined. Finally, a structured Improvement Plan is proposed, encompassing clinical care, education, research, management, and professional well-being.

Keywords: Atención centrada en el paciente; Competencias profesionales; Cooperación internacional; Internal Medicine; International cooperation; Medicina Interna; Multimorbidity; Multimorbilidad; Patient-centered care; Professional competencies; Scientific societies; Sociedades científicas.

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Conflict of interest statement

Declaration of competing interest The authors declare no conflict of interest.

Supplementary info

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J Gerontol A Biol Sci Med Sci

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. 2026 May 7:glag117.

doi: 10.1093/gerona/glag117. Online ahead of print.

A pragmatic Three-Component Clinical Score for Cognitive Risk Stratification in Older Adults with Multimorbidity and Frailty

Nusrat E Mozid [1], Imran Hossain Monju [2], Shakila Sharmin [2], Sanjana Binte Ahmed [2]

Affiliations Expand

- PMID: 42097303

- DOI: 10.1093/gerona/glag117

Abstract

Background: Simple, scalable clinical tools are needed to identify older adults with prevalent cognitive impairment in low-resource settings, yet whether parsimonious approaches can match complex phenotyping methods remains unclear. This study developed a three-component clinical score and compared its discriminative performance with latent class analysis (LCA)-derived multimorbidity phenotypes.

Methods: This cross-sectional study was conducted in two districts of Bangladesh included 504 community-dwelling adults aged ≥65 years with at least one chronic disease. Frailty was assessed using the Fried phenotype, and multimorbidity was self-reported and coded using ICD-10. An additive score (0-5 points) incorporating age ≥80 years, ≥3 chronic conditions, and frailty classified participants into low (0-1), moderate (2-3), or high (4-5) risk. Outcomes included global cognition and cognitive impairment (MMSE < 25).

Results: The three-component score showed acceptable discrimination for cognitive impairment (AUC = 0.72) and explained 33% of MMSE variance. LCA-derived phenotypes demonstrated poor discrimination (AUC = 0.44; difference = 0.28, p < 0.001). A monotonic gradient was observed across risk categories, impairment prevalence increased across risk categories (59%, 83%, and 96%), corresponding to a 12.8-point MMSE difference across the score range. A frailty-augmented LCA (in which frailty was added to the original disease-only LCA) combined with age yielded a modestly higher AUC (0.764), though at substantially greater analytical complexity.

Conclusions: A parsimonious clinical score combining age, multimorbidity, and frailty demonstrated acceptable cross-sectional discrimination for prevalent cognitive impairment and substantially outperformed disease-only multimorbidity phenotyping. Given the cross-sectional design, conclusions pertain to prevalence-based risk stratification rather than prediction of incident cognitive decline. Subject to prospective validation, this pragmatic tool may support case-finding and cognitive risk stratification in resource-limited settings.

Keywords: Cognitive impairment; Frailty; Multimorbidity; Risk stratification.

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7

Review

Curr Diab Rep

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. 2026 May 7;26(1):12.

doi: 10.1007/s11892-026-01625-6.

Type 2 Diabetes and the Lung - Cause and Consequence

Dinah Foer [1 2 3], Tianshi David Wu [4], Juan C Celedón [5], M Furkan Burak [6 7 8], Vanita R Aroda [9 7]

Affiliations Expand

- **PMID: 42095998**

- **DOI: 10.1007/s11892-026-01625-6**

Abstract

Purpose of review: The purpose of this review is to synthesize literature investigating the relationship between type 2 diabetes (T2D) and obstructive airway diseases and to identify implications for clinical care.

Recent findings: Type 2 diabetes is a common and challenging comorbidity in patients with asthma and chronic obstructive pulmonary disease (COPD). Basic, translational and clinical studies support a bidirectional association between T2D and the lung. In animal models and human studies, insulin resistance and hyperglycemia are associated with pulmonary inflammation, respiratory exacerbation risk and disease severity. Corticosteroids are a mainstay for respiratory disease control and exacerbation treatment but promote ongoing metabolic dysregulation. Randomized, placebo-controlled trials of glucose-lowering medications for asthma are actively ongoing. Additional studies addressing clinical pathways to co-manage respiratory and metabolic risk are needed. Patients with comorbid T2D and asthma or COPD are at risk for worse outcomes. There are opportunities to improve cross-disciplinary care, potentially reducing risk and multimorbidity associated with both conditions.

Keywords: Asthma; Chronic obstructive pulmonary disease; Glucagon-like peptide 1 receptor agonists; Hyperglycemia; Hyperinsulinemia.

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Conflict of interest statement

Declarations. Human and Animal Rights and Informed Consent: All reported studies/experiments with human or animal subjects performed by the authors were performed in accordance with all applicable ethical standards including the Helsinki declaration and its amendments, institutional/national research committee standards, and international/national/institutional guidelines. Conflict of interests: TDW, MFB, JC declare no potential conflicts with for-profit entities. DF: Advisory board: Eli Lilly & Co.; institutional contract: Eli Lilly & Co. (site PI NCT07219173). VRA: Institutional contracts with Amgen, Applied Therapeutics, AstraZeneca, Biomea, Boerhinger Ingelheim, Corcept, Fractyl, Eli Lilly, Novo Nordisk, Pfizer, Recordati, Rhythm, Sanofi, Servier; Consultant: Sanofi, Mediflix.

- **108 references**

Supplementary info

Publication types, MeSH termsExpand

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BMC Prim Care

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. 2026 May 6.

doi: 10.1186/s12875-026-03313-6. Online ahead of print.

Training needs and curricular priorities for managing multimorbidity in Spanish primary care: findings from a national exploratory online survey

Francisca Leiva-Fernández [#1,2,3], Alba González-Hevilla [#4,5,6], Marcos Castillo-Jimena [1,2,7,8], Aida Moreno-Juste [2,9,10], Juan Antonio López-Rodríguez [2,11,12,13], Paula Ara-Bardají [2,9], Isabel Del Cura-González [#2,12,13,14,15], Antonio Gimeno-Miguel [#2,9]; MULTIPAP Group

Collaborators, Affiliations Expand

- **PMID: 42092785**

- **DOI: 10.1186/s12875-026-03313-6**

Abstract

Background: Multimorbidity is highly prevalent and poses clinical and organisational challenges, yet the training of doctors and nurses continues to focus mainly on single conditions. In recent years, training interventions for healthcare professionals on multimorbidity have emerged, but evidence of their effectiveness remains limited. Understanding the learning needs of professionals is essential for guiding educational programmes. This study aimed to identify the perceived training needs of primary care physicians and nurses in the management of multimorbidity and to contribute to a proposal of updated curriculum content.

Methods: Exploratory cross-sectional study using an online survey of doctors and nurses in primary care and out-of-hospital emergency services in Spain. The questionnaire was developed based on the literature, existing curriculum frameworks and previous findings from the MULTIPAP study, and collected sociodemographic, professional and educational data, as well as perceptions about resources, difficulties and training needs in multimorbidity. Descriptive, bivariate, and multivariable analyses were conducted, and open-ended responses were analysed using thematic content analysis.

Results: The main difficulties and training needs concerned medicines management and diagnostic and therapeutic challenges, followed by communication and time management. Participants valued patient-caregiver-centred care, medicines management, and care coordination. An online format with videos was preferred. Differences were observed by profession, gender, field of work, trainee status, and prior participation in the MULTIPAP study. The proposed curriculum comprised eight competency groups, including professionalism and social sciences along with other key issues, especially clinical, communication, and management skills.

Conclusion: Professionals share many training needs, obstacles, and resources related to multimorbidity care, with some differences between subgroups. These findings informed a proposal for an updated curriculum content.

Keywords: Curriculum; Education; Multimorbidity; Primary Health Care; Surveys and Questionnaires.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study protocol was approved by the Provincial Research Ethics Committee of Málaga on 31 October 2019. This study was conducted in accordance with the principles of the Declaration of Helsinki and in compliance with applicable European and Spanish data protection regulations, including the General Data Protection Regulation (EU) 2016/679 and Spanish Organic Law 3/2018 on the Protection of Personal Data and Guarantee of Digital Rights. Participation was voluntary, and informed consent was obtained electronically via the introductory page of the online questionnaire. Data were collected anonymously. Competing interests: The authors declare no competing interests.

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Review

Eur Geriatr Med

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. 2026 May 7.

doi: 10.1007/s41999-026-01491-1. Online ahead of print.

Multimorbidity, polypharmacy and frailty in critically ill older adults

Lorène Zerah [1], Lorenz Van der Linden [2 3], James D van Oppen [3 4]

Affiliations Expand

- PMID: 42091783

- DOI: 10.1007/s41999-026-01491-1

Abstract

Purpose: Population ageing has transformed intensive care unit (ICU) populations, with older adults increasingly presenting with multimorbidity, polypharmacy, and frailty. This review aims to examine how these interrelated constructs shape vulnerability to critical illness and influence clinical decision-making and outcomes in geriatric critical care.

Methods: We conducted a narrative review of the literature focussing on the interactions between multimorbidity, polypharmacy, and frailty in critically ill older adults, and their implications for medication-related harm and care delivery across the ICU trajectory.

Results: Multimorbidity drives clinical complexity and prescribing burden, contributing to high rates of polypharmacy. Polypharmacy is associated with adverse drug events, functional decline, and mortality. Frailty modifies risk through altered pharmacokinetics, heightened susceptibility to treatment-related harm, and the depletion of adaptive capacity that characterises the syndrome. These factors interact dynamically during critical illness, particularly at transitions of care, where medication-related harm is most likely to occur.

Conclusion: In older ICU patients, multimorbidity, polypharmacy, and frailty interconnect and interact to shape both risk and recovery. Recognising frailty

supports more nuanced, patient-centred decision-making beyond survival alone. Integrating medication stewardship strategies, including reconciliation, deprescribing, and multidisciplinary review, offers a practical approach to reducing harm and improving outcomes that matter to older patients.

Keywords: Frailty; Multimorbidity; Polypharmacy.

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Conflict of interest statement

Declarations. Conflict of Interest: The authors declare that they have no conflicts of interest. Ethical aproval: Not applicable. This study is a narrative review and does not involve human participants or primarydata collection. Informed consent: Not applicable. No patient data were used in this study.

- 65 references

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Mech Ageing Dev

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. 2026 May 3:231:112187.

doi: 10.1016/j.mad.2026.112187. Online ahead of print.

The need to increase support for healthy ageing and longevity research in the EU by establishing a Coordination and Support Programme on Healthy Ageing and Longevity

Ilia Stambler [1], Alexander Tietz-Latza [2], Björn Schumacher [3], Hartmut Geiger [4], Helen Morrison [5], Oliver Tüscher [6], Georg Fuellen [7], Roland Meisel [8], Andreas Simm [9], Andreas Pfeiffer [10], Axel Steinhage [11], Aurel Popa-Wagner [12], Wolfgang Wagner [13], Oliver Cornely [14], Mario Krause [15], Georgios Mitrou [16], Marios Kyriazis [17], Morten Scheibye-Knudsen [18], Suresh Rattan [19], Richard Siow [20], David Weinkove [21], Shuvarthi Bhattacharjee [22], Didier Coeurnelle [23], Niccolò Invidia [24], Nicola Marino [25], Maddalena Illario [26], Calogero Caruso [27], Ennio

Tasciotti [28], Federico Schena [29], Francesca Cesaroni [30], Salvatore De Rosa [31], Francesco Neri [32], Dmitry Bulavin [33], John Rowell [33], Bruno Vellas [34], Edouard Debonneuil [35], Lilia Lens-Pechakova [36], José Luis Cordeiro [37], Eduardo Díaz-Rubio [38], María Cordón Muro [39], Mayca Marín [40], Cayetano Santana Gil [41], Sergio Guillen [42], Dolores Corella [43], Pedro Barata [44], Amelia Pilar Rauter [45], Mónica Sousa [46], Linus Petersson [47], Brun Ulfhake [48], Valdis Pīrāgs [49], Svjatoslavs Kistkins [50], Emīls Sjundjukovs [51], Dmitrijs Bliznuks [52], Leonas Valius [53], Silvija Valdonė Alšauskė [54], Maria Teresa Arredondo [55], Marek Postula [56], Igors Berkovics [57], Karol Kaminski [58], Antonella Santuccione Chadha [59], Evelyne Bischof [60], Alessandro Puiatti [61], Raluca Prodan [62], Ionel Blănculescu [63], Lacramioara Frasineanu [64], Anca Andreea Sandu [64], Milena Georgieva [65], Angel Marchev Sr [66], Angel Marchev Jr [67], Alexander Tchernev [68], Martin Lipovšek [69], Dóra Horváth [70], Harald Sourij [71], Hana Vankova [72], Marjolein Visser [73], Kinga Matuła [74], Oleh Lushchak [75], Zoia Dikhtiarenko [76], Abraham Kebede [77], Rada Sandic-Spaho [78], Michelle Adams [79], Efstathios S Gonos [80]

Affiliations Expand

- PMID: 42086114

- DOI: 10.1016/j.mad.2026.112187

Free article

Abstract

Europe faces rapidly accelerating population ageing, driving multimorbidity and unsustainable healthcare costs. This paper calls for the establishment of an EU Coordination and Support Programme on Healthy Ageing and Longevity to integrate research, innovation, regulation, and capacity-building across Member States.

Keywords: Ageing; Geroscience; Health policy; Healthy longevity; Longevity dividend.

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Conflict of interest statement

Conflict of Interest The authors state no conflict of interest. Given his role as an editor, Efstathios S. Gonos had no involvement in the peer review of this article and had no access to information regarding its peer review. Full responsibility for the editorial process for this article was delegated to another journal editor. Other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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PLoS Med

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. 2026 May 5;23(5):e1005087.

doi: 10.1371/journal.pmed.1005087. Online ahead of print.

Multimorbidity, health service use, and health insurance by socioeconomic groups in 31 countries: A multi-cohort study

Yanshang Wang [1 2 3 4], Chang Cai [3], Zhenyu Shi [1 2 5], Qian Gao [3 6], Alex Bottle [3], Mansour Taghavi Azar Sharabiani [3], Joshua Stott [7], Benedict Hayhoe [3], Ping He [2 8 9 10]

Affiliations Expand

- PMID: 42085482

- DOI: 10.1371/journal.pmed.1005087

Free article

Abstract

Background: The prevalence of physical, psychological, and cognitive multimorbidity is characterised by marked socioeconomic status (SES) inequalities. However, the relationships between multimorbidity patterns-particularly those involving cognitive conditions-and healthcare utilisation, as well as the role of health insurance, remain poorly understood. This study aims to explore healthcare-seeking behaviour among individuals with multimorbidity and assess whether these associations vary by SES and health insurance coverage.

Methods and findings: This multicohort study analysed harmonised data from six longitudinal studies across 31 countries, including participants aged 50 years and older. Multimorbidity was defined as the coexistence of two or more disorders across physical, psychological, or cognitive disorders. Outpatient and inpatient healthcare utilisation were measured. Random-effects logistic regression models were used to estimate associations with healthcare utilisation, and random-effects negative binomial models were applied to analyse visit frequencies. All models were adjusted for age, gender, educational attainment, work status, marital status, and SES, as well as lifestyle factors. Country-specific estimates were pooled using multinational meta-analysis to generate overall effect sizes. Compared with individuals without any conditions, those with the most complex multimorbidity pattern (physical-psychological-cognitive multimorbidity) were more likely to use outpatient care (OR 3.21, 95% CI [2.39, 4.03]; p < 0.001) but not as high as those with physical-psychological multimorbidity (OR 7.84, 95% CI [6.59, 9.10]; p < 0.001). Additionally, the association varied across socioeconomic groups, individuals of

lower SES experiencing more pronounced disparities in healthcare use. For inpatient care, adding a cognitive disorder to an existing physical or psychological condition was not associated with increased inpatient utilisation. Among individuals with health insurance coverage, the association between multimorbidity and outpatient care utilisation was generally attenuated. This was especially evident for those with physical-psychological-cognitive multimorbidity: insured individuals had an OR of 6.22 (95% CI [5.33, 7.25]; p < 0.001), compared with 3.40 (95% CI [3.03, 3.82]; p < 0.001) among uninsured individuals. A limitation of this study is that healthcare utilisation measures differed across cohorts and were harmonised retrospectively.

Conclusions: Cognitive disorders further complicate the relationship between multimorbidity and health service use, indicating potential unmet healthcare needs, especially among individuals with lower SES. Our study highlights the potential role of health insurance in reducing socioeconomic disparities in healthcare utilisation associated with multimorbidity.

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Conflict of interest statement

The authors have declared that no competing interests exist.

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Observational Study

J Am Heart Assoc

. 2026 May 5;15(9):e046820.

doi: 10.1161/JAHA.125.046820. Epub 2026 Apr 27.

Comorbidity Clusters in Acute Heart Failure: Insights From the AMERICCAASS Registry

Juan Pablo Arango-Ibanez [# 1 2], Sebastián Seni-Molina [# 1], Juan Andrés Muñoz-Ordoñez [1 2], Valeria Azcárate-Rodríguez [1 2], Andrea Valencia-Orozco [1 2], Mario Miguel Barbosa Rengifo [1 2], Luis Eduardo Echeverría Correa [3], Adrián Lescano [4 5], Juan Pablo Allende [6], Tessa Negrín Valdés [7], Maikel Santos Medina [8], Miguel Angel Quintana Da Silva [9], José Jesús Marval [10], Paola Oliver Rengifo [11], Harold Segundo Cedeño Macias [12], Luis Pérez-Plata [13], Alexander Romero-Guerra [14], Eduardo R Perna [15], Víctor Rossel [16 17], Daniel Quesada-Chaves [18], Mario Speranza [19], Mark H Drazner [20], Walter Alarco [21], Carolyn S P Lam [22 23], Juan Esteban Gómez-Mesa [1 2 24]; AMERICCAASS Research Group ‡

Collaborators, Affiliations Expand

- PMID: 42037456

- DOI: 10.1161/JAHA.125.046820

Free article

Abstract

Background: Acute heart failure (HF) frequently coexists with multimorbidity. Comorbidity clusters have been associated with distinct clinical outcomes, but data from the Americas remain limited. We aimed to identify comorbidity clusters in patients with acute HF and assess their association with in-hospital outcomes.

Methods: This cohort study applied latent class analysis to patients from the AMERICCAASS Registry (Registro Americano de Insuficiencia Cardiaca Ambulatoria o Agudamente descompensada). Adjusted Poisson regression assessed in-hospital mortality and intensive care unit (ICU) admission, and multivariable analysis identified independent predictors of ICU admission.

Results: Among 1638 patients, 60.6% were men and the median age was 67.2 years. Hypertension (69.4%), smoking (40.3%), and coronary artery disease (33.8%) were common comorbidities. Cluster 1 (Young, n=828) included the youngest patients (median age 63.2 years) with the fewest comorbidities. Cluster 2 (Cardio-Kidney-Metabolic, n=512) represented the oldest group (median age 71.8 years) with the highest median body mass index (27.7 kg/m^2), the greatest proportion of HF with mildly reduced or preserved ejection fraction (44.7%), and a high comorbidity burden. Cluster 3 ("Ischemic," n=298) was characterized by older patients (median age 70.2 years) with an exceptionally high prevalence of coronary artery disease (96.3%) and the greatest proportion of HF with reduced ejection fraction (61.4%). ICU admission risk was higher in Cluster 2 (adjusted risk ratio [aRR], 1.15 [95% CI, 1.03-1.27]; *P*=0.009) and Cluster 3 (aRR, 1.25 [95% CI, 1.12-1.39]; *P*<0.001), compared with Cluster 1. Severe valvular insufficiency, peripheral artery disease, dyslipidemia, cancer, acute coronary syndrome, anemia, and cardiogenic shock were associated with higher ICU admission risk.

Conclusions: Patients with acute HF in the Americas exhibit distinct comorbidity patterns associated with different clinical profiles and ICU admission rates, which may inform risk stratification and management strategies.

Registration: URL: https://www.clinicaltrials.gov; Unique Identifier: NCT05295641.

Keywords: Americas; acute heart failure; clusters; comorbidity; heart failure; multimorbidity.

Supplementary info

Publication types, MeSH terms, Associated dataExpand

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13

Multicenter Study

Eur J Heart Fail

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. 2026 May 2;28(1):58-69.

doi: 10.1093/ejhf/xuaf026.

Magnitude of and outcome associated with inappropriate prescribing in heart failure with reduced ejection fraction: an analysis of 50 348 patients from the Swedish Heart Failure Registry

Seif El-Hadidi [1], Felix Lindberg [2], Lina Benson [2], Alicia Uijl [2 3], Davide Stolfo [2 4], Peter G M Mol [5], Raffaele Scorza [2], Carin Corovic Cabrera [2], Amr Abdin [6], Giuseppe M C Rosano [7 8], Gianluigi Savarese [2]

Affiliations Expand

- **PMID: 41771119**

- **DOI: 10.1093/ejhf/xuaf026**

Abstract

Aims: Patients with heart failure and reduced ejection fraction (HFrEF) are frequently exposed to polypharmacy, placing them at risk of potentially inappropriate prescribing (PIP)-defined as use of drugs that may worsen HF prognosis, counteract guideline-directed medical therapies (GDMTs), or increase harmful interactions. The prevalence, predictors, and prognostic impact of PIP in

HFrEF remain unclear. Therefore, the aim was to investigate the prevalence, predictors, and outcomes of PIP in a large, real-world HFrEF population.

Methods: Patients with HFrEF enrolled in the Swedish HF Registry (2005-20) were included. The European Society of Cardiology position statement of PIP-HFrEF was used to retrieve PIP from the National Prescribed Drugs Register. Associations between PIP and outcomes were assessed using Cox proportional hazards and negative binomial regression for recurrent events.

Results: Among 50 348 patients (median age 75 years, 29% female), 23 583 (47%) were prescribed ≥1 PIP. The most frequent agents were neuroleptics (29%), systemic steroids (10%), and NSAIDs (6%). Independent predictors included rheumatoid arthritis [odds ratio (OR) 3.39; 95% CI, 2.92-3.94], depression (OR 3.06; 95% CI, 2.74-3.42), chronic obstructive pulmonary disease (OR 1.86; 95% CI, 1.76-1.98), and gout (OR 1.48; 95% CI, 1.35-1.62). Patients on PIP were less likely to receive GDMT. Presence of ≥1 PIP was independently associated with increased 3-year risk of HF death (HR, 1.13; 95% CI, 1.04-1.23), all-cause and cardiovascular death, first and recurrent HF hospitalizations.

Conclusion: Nearly half of HFrEF patients received PIP medications, particularly those with multimorbidity, which was independently associated with worse outcomes and less GDMT use. Our data underscore the need for targeted strategies to reduce inappropriate prescribing in HFrEF.

Keywords: Heart failure; Inappropriate prescribing; Morbidity; Mortality; Real-world data; Reduced ejection fraction.

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Supplementary info

Publication types, MeSH terms, Grants and fundingExpand

"asthma"[MeSH Terms] OR asthma[Text Word]

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Chest

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. 2026 May 7:S0012-3692(26)00613-6.

doi: 10.1016/j.chest.2026.04.040. Online ahead of print.

Clinical response progression to benralizumab using computed tomography: Prognostic BenraliScan study

Arnaud Bourdin [1], Marie Felicia Beclin [2], Pascal Chanez [3], Isabelle Vachier [4], Laurie Pahus [5], Erika Nogue [6], Sarah Skinner [6], David Galeazzi [6], Myriam Boulhais [7], Zakaria Lahmar [8], Mathilde Volpato [7], Joana Pissarra [6], Pierre Lafaye de Micheaux [9], Sebastien Bommart [10], Nicolas Molinari [11]

Affiliations Expand

- PMID: 42106061

- DOI: 10.1016/j.chest.2026.04.040

Abstract

Background: Benralizumab reduces eosinophilia and improves outcomes in most, but not all, asthma patients. We evaluated whether baseline computed tomography (CT)-derived metrics assist in clinical response prognosis after 52 weeks.

Research question: Are CT-derived measures prognostic of benralizumab response, assessed by exacerbation reduction, lung function, and symptom control at 52 weeks?

Study design and methods: two-center prospective, open-label study included anti-IL5Ra eligible patients initiating benralizumab alongside high-dose background therapy for severe eosinophilic asthma (SEA) (>300/mm^3). Baseline variables included CT-derived metrics (PRM^{SAD}, UCSF-mucus plugging, Lund-Mackay sinus score) and other potential biomarkers (blood eosinophil levels, lung function). The primary outcome was ≥50% reduction in exacerbation rates. The secondary outcome was a composite clinical score achieving ≥2 of response criteria: ≥50% exacerbation reduction, FEV_1 increase >300mL, and ACQ-5 improvement >0.5.

Results: Of 59 enrolled patients, 47 (60% female; median age 54) completed the study with high-quality, paired inspiratory/expiratory spirometrically-gated CT-scans. 42/47 patients achieved ≥50% exacerbation reduction, for which no prognostic factor could be identified. 35/47 patients achieved the secondary outcome. ROC analyses indicated PRM^{SAD} (AUC=0.693; 95%CI:0.513-0.873) and sinus score (AUC=0.714; 95%CI:0.501-0.928) were robust prognostic factors of responder status, both outperforming blood eosinophil count (AUC=0.630; 95%CI:0.428-0.832).

Interpretation: CT-derived metrics, PRM^{SAD} and sinus score, were associated with benralizumab response as defined by a composite clinical endpoint, and could be valuable biomarkers for response prognosis in SEA patients. The high rate of exacerbation reduction limited discrimination of the primary endpoint. These findings support incorporating CT phenotyping into precision management of SEA and warrant validation in larger cohorts.

Clinical trial registration: NCT03976310.

Keywords: Area Under Curve; Asthma; Benralizumab; Biomarkers; Eosinophilia; Humans; List: Antibodies; Lung; Monoclonal; Mucus; Prospective Studies; ROC Curve; Tomography; biologic therapy; eosinophils.

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Paediatr Perinat Epidemiol

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. 2026 May 8.

doi: 10.1111/ppe.70150. Online ahead of print.

RSV and Childhood Asthma: Cause, Consequence or a Question of Design?

Anthony J Gilding [1 2], Cristina Longo [1 2]

Affiliations Expand

- PMID: 42104566

- DOI: 10.1111/ppe.70150

No abstract available

- 10 references

Full text links

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Cite

3

Thorax

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. 2026 May 8:thorax-2025-224234.

doi: 10.1136/thorax-2025-224234. Online ahead of print.

Never say die: making a death from asthma a never event

Dominick Shaw [1], Katie Pink [2], P Jane McDowell [3 4], Tom Fardon [5]

Affiliations Expand

- PMID: 42103471

- DOI: 10.1136/thorax-2025-224234

No abstract available

Keywords: Asthma; Asthma Epidemiology; Asthma in primary care; Paediatric asthma.

Conflict of interest statement

Competing interests: None declared.

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Eur Respir J

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. 2026 May 7:2502441.

doi: 10.1183/13993003.02441-2025. Online ahead of print.

Azithromycin enhances epithelial antiviral immunity in uncontrolled asthma: results from the AZIMUNE randomized controlled trial

Muzhda Ghanizada [1], Sofia Malm Tillgren [2], Mandy Menzel [2], Louis Praeger-Jahnsen [3], Nihaya Mahmoud Said [4], Sisse Ditlev [3], Asger Sverrild [4 5], Celeste Porsbjerg [4], Lena Uller [2 6], Therese Lapperre [4 3 7 6]; AZIMUNE Study Group

Affiliations Expand

- **PMID: 42097684**

- **DOI: [10.1183/13993003.02441-2025](https://doi.org/10.1183/13993003.02441-2025)**

Abstract

Background: Viral respiratory infections are the leading trigger of asthma exacerbations and impaired epithelial type I and III interferon responses may contribute to more severe exacerbations. Azithromycin reduces exacerbations clinically, but its effects on epithelial antiviral immunity remain unclear. This study investigated whether azithromycin treatment enhances airway epithelial antiviral responses and modulates alarmin concentration in patients with uncontrolled asthma.

Methods: In the investigator-initiated, double-blind, placebo-controlled AZIMUNE trial, 40 adults with uncontrolled asthma were randomized (1:1) to azithromycin (500 mg, three times/week) or placebo (500 mg/week) for 12 weeks. Bronchial epithelial cells were obtained *via* bronchoscopy at baseline and after week 12, and cultured and infected ex vivo with rhinovirus. Protein levels of IFN-β, IFN-λ, alarmins (IL-33 and thymic stromal lymphopoietin (TSLP)), and proinflammatory cytokines were quantified.

Results: Azithromycin significantly increased rhinovirus-induced concentration of IFN-β (p=0.047) and IFN-λ (p=0.013) in azithromycin group (n=16) compared with baseline, whereas no change was seen in the placebo group (n=16). Azithromycin treatment also reduced IL-33 concentration (p=0.001), while TSLP levels were unaffected. Clinical outcomes improved numerically in the azithromycin group, but differences *versus* placebo were not statistically significant.

Conclusions: Azithromycin enhances epithelial antiviral immunity and attenuates IL-33 concentration in response to rhinoviral infection in asthma. The dual immunomodulatory effect of azithromycin supports its role as adjunctive therapy to prevent virus-induced exacerbations.

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Review

Curr Diab Rep

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. 2026 May 7;26(1):12.

doi: 10.1007/s11892-026-01625-6.

Type 2 Diabetes and the Lung - Cause and Consequence

Dinah Foer [1 2 3], Tianshi David Wu [4], Juan C Celedón [5], M Furkan Burak [6 7 8], Vanita R Aroda [9 7]

Affiliations Expand

- PMID: 42095998

- DOI: 10.1007/s11892-026-01625-6

Abstract

Purpose of review: The purpose of this review is to synthesize literature investigating the relationship between type 2 diabetes (T2D) and obstructive airway diseases and to identify implications for clinical care.

Recent findings: Type 2 diabetes is a common and challenging comorbidity in patients with asthma and chronic obstructive pulmonary disease (COPD). Basic, translational and clinical studies support a bidirectional association between T2D and the lung. In animal models and human studies, insulin resistance and hyperglycemia are associated with pulmonary inflammation, respiratory exacerbation risk and disease severity. Corticosteroids are a mainstay for respiratory disease control and exacerbation treatment but promote ongoing metabolic dysregulation. Randomized, placebo-controlled trials of glucose-lowering medications for asthma are actively ongoing. Additional studies addressing clinical pathways to co-manage respiratory and metabolic risk are needed. Patients with comorbid T2D and asthma or COPD are at risk for worse outcomes. There are opportunities to improve cross-disciplinary care, potentially reducing risk and multimorbidity associated with both conditions.

Keywords: Asthma; Chronic obstructive pulmonary disease; Glucagon-like peptide 1 receptor agonists; Hyperglycemia; Hyperinsulinemia.

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Conflict of interest statement

Declarations. Human and Animal Rights and Informed Consent: All reported studies/experiments with human or animal subjects performed by the authors were performed in accordance with all applicable ethical standards including the Helsinki declaration and its amendments, institutional/national research committee standards, and international/national/institutional guidelines. Conflict of interests: TDW, MFB, JC declare no potential conflicts with for-profit entities. DF: Advisory board: Eli Lilly & Co.; institutional contract: Eli Lilly & Co. (site PI NCT07219173).

VRA: Institutional contracts with Amgen, Applied Therapeutics, AstraZeneca, Biomea, Boerhinger Ingelheim, Corcept, Fractyl, Eli Lilly, Novo Nordisk, Pfizer, Recordati, Rhythm, Sanofi, Servier; Consultant: Sanofi, Mediflix.

- 108 references

Supplementary info

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6

Review

Allergy

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. 2026 May 6.

doi: 10.1111/all.70382. Online ahead of print.

Cost-Effectiveness of Allergen Immunotherapy for Allergic Rhinitis: A Systematic Review

Joshua Jacob [1 2 3], Andrew Fong [1 3 4 5], Caroline Joyce [1], Melanie Lloyd [3 6 7], Adrian Lowe [3 7 8], Constance Katelaris [1 2 3]

Affiliations Expand

- PMID: 42093212

- DOI: 10.1111/all.70382

Abstract

Allergic rhinitis imposes a substantial clinical and socioeconomic burden globally. While symptomatic pharmacotherapy such as oral antihistamines and intranasal corticosteroids offers temporary relief, allergen immunotherapy provides disease-modifying benefits but requires higher upfront costs. This systematic review synthesises cost-effectiveness evaluations of subcutaneous (SCIT) and sublingual

immunotherapy (SLIT) compared to symptomatic pharmacotherapy (SP). A systematic search of electronic databases was undertaken, identifying 35 eligible economic evaluations. Due to methodological heterogeneity, a narrative synthesis was performed. Thirty-two evaluations (91%) concluded that allergen immunotherapy represents a cost-effective intervention, with incremental cost-effectiveness ratios predominantly falling below jurisdictional willingness-to-pay thresholds. Both SCIT and SLIT demonstrated economic value, particularly in patients with co-morbid asthma and when models incorporated sustained post-treatment benefits. Future clinical research should prioritise endpoints that facilitate direct estimation of health utility. Despite diverse healthcare settings and modelling approaches, the evidence supports allergen immunotherapy (AIT) as an economically rational investment. Policymakers should utilise these findings to inform reimbursement decisions. Trial Registration: PROSPERO registration number: CRD42024530911.

Keywords: allergen immunotherapy; allergic rhinitis; cost-effectiveness; economic evaluation; health economics.

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- 64 references

Supplementary info

Publication types, Grants and fundingExpand

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7

Eur Arch Otorhinolaryngol

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. 2026 May 5.

doi: 10.1007/s00405-026-10298-6. Online ahead of print.

Switching to dupilumab from other biologic therapies in chronic rhinosinusitis with nasal polyps (CRSWNP): a comparison with biologic-naïve patients

Daniela Lucidi [1], Veronica Seccia [2], Rodolfo Mastrapasqua [3], Virginia Dallari [4 5], Matteo Alicandri-Ciufelli [6], Ignacio Javier Fernandez [4], Carlotta Pipolo [7], Gianluca Fadda [8], Massimiliano Garzaro [9], Valeria Dell'Era [9], Lorenzo

Carriera [10], Ilaria Puxeddu [11], Francesco Menzella [12], Valeria Gambacorta [13], Giampietro Ricci [13], Eugenio De Corso [13 14]

Affiliations Expand

- PMID: 42087001

- DOI: 10.1007/s00405-026-10298-6

Abstract

Purpose: Data on the impact of previous biologic treatment on the effectiveness of dupilumab in patients with chronic rhinosinusitis with nasal polyps (CRSwNP) and asthma are still limited. This study aimed to compare clinical outcomes of dupilumab in patients previously treated with asthma-targeted biologics who switched to dupilumab due to inadequate disease control, versus biologic-naïve patients.

Methods: This study was designed as a retrospective matched case-control study within the Italian DUPIREAL network, including patients with severe CRSwNP and severe asthma, all treated with dupilumab. Among these, we identified 44 consecutive patients with severe uncontrolled CRSwNP and asthma who initiated dupilumab after asthma-targeted biologics (Group A) and compared them with biologic-naïve CRSwNP and asthma patients receiving dupilumab as their first biologic treatment (Group B, n = 44), matched 1:1 at baseline based on asthma severity (according to GINA classification). Clinical, endoscopic, olfactory, asthma-related, and laboratory parameters were assessed at baseline and during a 24-month follow-up.

Results: Baseline clinical characteristics were comparable between groups. Dupilumab treatment led to a marked and sustained improvement in all the analyzed outcomes in both groups without any significant differences in clinical outcomes at any follow-up timepoint. Among patients who switched to dupilumab, those with well-controlled asthma at baseline did not experience any deterioration in asthma control, whereas patients with uncontrolled asthma showed a significant improvement in asthma control during dupilumab therapy. Although blood eosinophil counts increased more frequently in the switching group from 12 months onward, no negative impact on clinical outcomes, safety, or treatment discontinuation was observed, with comparable adverse event rates between groups.

Conclusions: Dupilumab was equally effective in patients with CRSwNP and asthma regardless of previous biologic treatment. Switching from other asthma-targeted biologics did not lead to loss of asthma control, and switchers more frequently developed eosinophilia without an associated increase in adverse events or treatment discontinuation.

Keywords: Biological therapy; CRSwNP; Chronic rhinosinusitis with nasal polyps; Dupilumab; Monoclonal antibodies.

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- 39 references

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8

Review

Otolaryngol Clin North Am

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. 2026 May 4:S0030-6665(26)00039-3.

doi: 10.1016/j.otc.2026.03.013. Online ahead of print.

Acute and Chronic Cough in Children

Douglas Kempthorne [1], Yann-Fuu Kou [2]

Affiliations Expand

- PMID: 42086429

- DOI: 10.1016/j.otc.2026.03.013

Abstract

Cough is one of the most common symptoms among children. While most acute cough episodes are viral and resolve within 4 weeks, chronic cough persisting beyond 4 weeks warrants further evaluation. Pediatric-specific cough guidelines emphasizing algorithmic evaluation assist in early and accurate diagnosis for preventing long-term pulmonary complications. This article reviews evidence-based approaches to evaluating and managing acute and chronic cough in children, highlighting key diagnostic strategies and targeted treatment options.

Keywords: Acute cough; Asthma; Chronic cough; Protracted bacterial bronchitis; Upper airway cough syndrome.

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Conflict of interest statement

Disclosure The authors have no financial conflicts of interest.

Supplementary info

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Cite

9

BMJ

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. 2026 May 5:393:s867.

doi: 10.1136/bmj.s867.

Asthma: Blue inhaler use falls as over a million now use combination treatment

[Gareth Iacobucci] [1]

Affiliations Expand

- **PMID: 42086301**

- **DOI: [10.1136/bmj.s867]**

No abstract available

Full text links

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Cite

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J Investig Allergol Clin Immunol

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. 2026 May 5:0.

doi: 10.18176/jiaci.1181. Online ahead of print.

A Retrospective Multicenter Cohort Study on the Effectiveness of Triple Inhaled Therapy in Severe Asthma

David Dacal Rivas [1 2], Nagore Blanco Cid [1 2], Daniel Pérez Ortiz [1], Mar Mosteiro Añon [3], Coral Gonzalez Fernández [4], Jose M Alvarez Torres [4], Abel Pallares Sanmartin [4], Abraham Ali-Munive [5], Carlos A Torres-Duque [5], Raquel Ruiz Ferreras [6], Andrés Blanco Hortas [7], Carmen Vidal [2 8], Luis Pérez de Llano [1 2]

Affiliations Expand

- PMID: 42084598

- DOI: 10.18176/jiaci.1181

Free article

Abstract

Background and objectives: Triple therapy (TT) is effective for asthma patients whose disease remains uncontrolled with dual therapy. However, relevant questions remain unanswered. Objectives: To evaluate the long-term effectiveness of TT in a real-world setting; to determine the extent to which it prevents escalation to oral corticosteroids (OCS), azithromycin, or biologics; and to identify factors related to failure.

Methods: Retrospective multicenter cohort study. Data were collected at baseline, 16-24 weeks, 52 weeks, and at the last visit. Follow-up extended to treatment escalation or the last visit. Effectiveness of TT was defined as no treatment escalation plus asthma control (Asthma Control Test [ACT] ≥20 and no severe exacerbations in the preceding 12 months).

Results: A total of 390 patients were analyzed (median follow-up 40.0 months). Of these, 83 (22.5%) escalated treatment; TT was effective in 54% at the last visit. Complete remission (control plus FEV1 ≥80%) was achieved in 20.6%. Severe exacerbations, OCS load, symptoms, and FEV1 improved significantly. The factors associated with failure of TT in the previous year were smoking history (HR 1.84), lack of asthma control at 16-24 weeks (HR 3.41), bronchiectasis (HR 1.91), baseline ACT ≤15 (HR 1.81), ≥2 severe exacerbations in the previous year (HR 2.01), and low eosinophil count (HR 2.58). FEV1 declined >30 mL/year in 25.3% of patients in whom TT was effective.

Conclusions: TT achieved sustained control in a significant proportion of patients whose disease was not controlled with dual therapy. Bronchiectasis, smoking history, greater clinical severity at initiation of TT, and lack of control at 16-24 weeks predicted poorer outcome.

Keywords: Asthma control; Asthma treatment effectiveness; Long-acting muscarinic antagonist; Real-world study; Severe asthma; Treatment escalation; Triple inhaled therapy.

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Qual Life Res

. 2026 May 3;35(6):151.

doi: 10.1007/s11136-026-04262-4.

Quality of life among women of reproductive age during the accumulation of multiple chronic conditions

Mohammad R Baneshi [1], Annette Dobson [2], Gita D Mishra [2]

Affiliations Expand

- PMID: 42070208
- PMCID: PMC13136207
- DOI: 10.1007/s11136-026-04262-4

Abstract

Purpose: We examined the temporal association between the number of chronic conditions and health-related quality of life (HRQOL) among women of reproductive age and assessed how individual conditions affected specific HRQOL dimensions.

Methods: Data from 9323 women born between 1973 and 1978 who participated in the Australian Longitudinal Study on Women's Health and had no chronic health condition at the baseline survey were analysed. Linear mixed-effects models examined the temporal association between the number of conditions and SF-36 HRQOL and also compared HRQOL between women with and without six conditions: musculoskeletal disorders, diabetes, asthma, endometriosis, uterine fibroids, and cancer.

Results: Women who remained free of conditions during ages 18 to 49 maintained stable physical component scores (PCS) and improved mental component scores (MCS). Accumulating conditions was associated with declining scores, more in PCS than MCS. The largest and smallest decline per an additional condition was

observed in role physical (6.5 points; 95% CI 6.0, 7.0) and mental health (1.2 points; 0.9, 1.5). Within-group analysis found that all conditions were associated with PCS decline. Effects on MCS varied by condition and outcome. Between-group comparisons revealed that women with musculoskeletal disorders, diabetes, or asthma had lower PCS and MCS scores than women without those conditions. Endometriosis, uterine fibroids, and cancer showed smaller and more dimension-specific reductions.

Conclusion: Women who did not develop chronic conditions maintained their PCS scores and had improvements in MCS scores. This underscores the value of preventing chronic conditions in early and mid-adulthood for maintaining physical and mental well-being.

Supplementary Information: The online version contains supplementary material available at 10.1007/s11136-026-04262-4.

Keywords: HRQOL; Longitudinal; Reproductive age; Temporal association.

Conflict of interest statement

Declarations. Conflict of interest: The authors declare that there are no competing interests.

- 55 references
- 5 figures

Full text links

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Cite

12

Thorax

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. 2026 May 7:thorax-2025-223725.

doi: 10.1136/thorax-2025-223725. Online ahead of print.

Determinants of declining lung function trajectories from childhood to adulthood after preterm birth

James T D Gibbons [1 2 3], Elizabeth F Smith [1 2], Andrew C Wilson [1 3], Shannon J Simpson [4 2]

Affiliations Expand

- **PMID: 42009575**

- **DOI: 10.1136/thorax-2025-223725**

Free article

Abstract

Background: Preterm birth is associated with lifelong respiratory sequelae, yet our understanding of lung function trajectories across the lifespan remains limited. We aimed to identify patterns of spirometry development from childhood to early adulthood in survivors of very preterm birth using novel data-driven methods.

Methods: In this longitudinal study, 116 individuals born ≤32 weeks' gestation and 39 term-born controls underwent spirometry testing at up to four timepoints between 4-23 years of age. Patterns (trajectories) of forced expiratory volume in 1 s (FEV_1), forced vital capacity (FVC) and FEV_1/FVC z-scores were derived using group-based trajectory modelling. Risk factors for declining trajectories were assessed using regression analysis.

Results: Preterm participants followed distinct trajectories including low-declining FEV_1 and very-low-declining FEV_1/FVC patterns. Term controls remained stable. Trajectory prevalence estimates require caution due to non-random attrition. Higher gestational age (OR 0.70, 95% CI 0.54 to 0.89) and early-childhood FEV_1 (OR 0.03, 95% CI 0.00 to 0.17) protected against low-declining FEV_1, while asthma diagnosis (OR 5.55, 95% CI 1.51 to 27.4) and chest CT abnormalities increased risk. For FEV_1/FVC decline, higher early-childhood FEV_1 was protective (OR 0.39, 95% CI 0.19 to 0.68), while bronchodilator responsiveness (OR 7.65, 95% CI 2.58 to 26.7), asthma diagnosis (OR 2.59, 95% CI 1.02 to 6.96) and CT abnormalities increased risk.

Conclusions: A substantial proportion of very preterm survivors demonstrate progressive airway obstruction between early childhood and young adulthood, highlighting preterm birth as a significant risk factor for early onset chronic obstructive pulmonary disease. Early lung function screening and identifying modifiable risk factors may provide opportunities for intervention before clinically significant airway obstruction develops.

Keywords: Bronchopulmonary Dysplasia; COPD Pathology; Paediatric Lung Disease; Pulmonary Disease, Chronic Obstructive.

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Conflict of interest statement

Competing interests: None declared.

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13

Review

Vaccine

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. 2026 May 10:81:128560.

doi: 10.1016/j.vaccine.2026.128560. Epub 2026 Apr 17.

Enhancing uptake of respiratory vaccinations in asthma and chronic obstructive pulmonary disease (COPD) patients: a systematic review

Radhika Rani Gulati [1], Fatima Yaqub [2], Anna L Goodman [3]

Affiliations Expand

- PMID: 42000586

- DOI: 10.1016/j.vaccine.2026.128560

Abstract

Introduction: Despite influenza, pneumococcal and COVID vaccines being widely recommended for patients with chronic respiratory disease, vaccination rates in this cohort remain low. The aim of this systematic review is to identify interventions which are effective in increasing respiratory vaccination rates in adults with chronic obstructive pulmonary disease (COPD) or asthma.

Methods: The inclusion and exclusion criteria for the study can be found in the PROSPERO protocol (PROSPERO registration no: CRD42025588565). A search was run across four databases (MEDLINE, Embase, CENTRAL and ClinicalTrials.gov) in February 2025, which returned 2537 studies. Eleven studies were deemed to meet the study inclusion/exclusion criteria and these were narratively synthesised: four randomised clinical trials (RCTs), six longitudinal studies and one observational cohort study. Risk of bias was assessed using the Cochrane's Risk of Bias (RoB-V2) and ROBIN-I-V2 tools. Studies were categorised according to the COM-B model of behaviour change.

Results: All 11 studies consisted of COPD populations, with four studies also including asthma patients. Interventions focused on patient education, with/without involvement of a healthcare professional (HCP). Nine of the eleven studies showed a statistically significant improvement in influenza and/or pneumococcal vaccination rate with an intervention. No studies assessing COVID vaccine uptake

in this population were suitable for inclusion. Most studies targeted patients' capability to get vaccinated through improving patients' and HCPs' knowledge. Fewer studies focused on social opportunity (e.g. support from other patients/HCPs) or automatic motivation (e.g. reminders).

Discussion: The published literature in this area is currently limited. Most studies are non-randomised and are at high-risk of bias, making meta-analysis not possible. Further research should assess the practicalities (physical opportunity) of vaccination, especially in low-income economies (where most respiratory patients reside) and standardising research methods to allow for future meta-analysis.

Other: There is no funding for this review.

Keywords: Asthma; Behavioural science; COPD; Health promotion; Influenza; Pneumococcal; Public health; Vaccine; Vaccine hesitancy.

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Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Oxford University has entered into a partnership with AstraZeneca for further development of ChAdOx1 nCoV-19. Anna Goodman is named as an inventor on a patent covering use of a particular promoter construct that is often used in ChAdOx1-vectored vaccines and is incorporated in the ChAdOx1 nCoV-19 vaccine. She has benefited from royalty income paid to the University of Oxford from sales of this vaccine by AstraZeneca and its licensees under the University's revenue sharing policy. She may benefit further in the future. The organisation and department in which we work has delivered vaccine trials for commercial sponsors including Jansen, AZ, Moderna, Novavax.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

"rhinitis"[MeSH Terms] OR rhinitis[Text Word]

1

Ann Otol Rhinol Laryngol

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. 2026 May 9:34894261449672.

doi: 10.1177/00034894261449672. Online ahead of print.

The Effect of Radiofrequency Ablation of Posterior Nasal Nerves on Inflammatory Cytokines, Peak Nasal Inspiratory Flow, and Subjective Symptom Scores in Chronic Rhinitis: A Prospective Clinical Trial

David Z Allen [1], Elena E Skaribas [2], Ashwini Bandi [2], Sameer Siddiqui [2], Panayiotis Kontoyiannis [2], Jerril Jacob [2], Ella Hawes [2], Sun Hua [3], Kunal Shetty [1], William Yao [1], Martin J Citardi [1], Amber U Luong [1]

Affiliations Expand

- PMID: 42105251

- DOI: 10.1177/00034894261449672

Abstract

Background: Chronic rhinitis (CR) is inflammation of the nasal mucosa, causing a multitude of symptoms. Temperature-controlled radiofrequency neurolysis (RFN) of the posterior nasal nerve (PNN) is a treatment for CR. In allergic rhinitis (AR), Type 2 cytokines are drivers of symptom severity. This study explores whether RFN's symptomatic improvements are linked to changes in nasal airflow and local cytokine levels.

Methods: This prospective, single-arm study was conducted at the Texas Sinus Institute at The University of Texas Health Science Center at Houston. Patients with ≥6 months of CR symptoms, a reflective total nasal symptom score (rTNSS) ≥6, and refractory to medical management were included. Follow-ups occurred at 4 and 12 weeks, with the primary endpoint at 12 weeks. Symptom improvement, peak nasal inspiratory flow (PNIF) and cytokine changes were assessed.

Results: Seventeen patients were enrolled with 15 patients undergoing the treatment. The procedure was well tolerated with no major adverse events. The rTNSS improved from a median of 7.5 to 4 at 12 weeks ($P < .01$). Median NOSE scores improved from 52.5 to 17.5 at week 12 ($P < .05$). Minimal clinically important differences (MCID) were achieved by 67% of patients for rTNSS and 50% for NOSE. There were no significant changes in PNIF. Patient-level change in IL-10 was significantly associated with improvement in NOSE score ($r = -.70$, $P = .011$).

Conclusions: RFN of the PNN is a safe, effective in-office treatment for CR. While PNIF and group-level cytokines were not consistent indicators of improvement, the correlation between IL-10 and symptom relief suggests a potential link between neural ablation and the local mucosal microenvironment. This investigation shows the feasibility of cytokine monitoring to further investigate the mechanisms of rhinitis treatment.

Keywords: chronic rhinitis; cytokines; posterior nasal nerve; radiofrequency ablation; rhinitis; rhinorrhea.

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OTO Open

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. 2026 May 5;10(2):e70219.

doi: 10.1002/oto2.70219. eCollection 2026 Apr-Jun.

Trends in Medicare Office-Based Procedures for Chronic Rhinitis and Nasal Obstruction

Seth S Jeong [1], Mark Arnold [1]

Affiliations Expand

- PMID: 42100611
- PMCID: PMC13144546
- DOI: 10.1002/oto2.70219

Abstract

Objective: To examine national trends in Medicare office-based procedures for chronic rhinitis and nasal obstruction, emphasizing minimally invasive interventions such as posterior nasal nerve (PNN) ablation and nasal valve repair with radiofrequency ablation.

Study design: Retrospective longitudinal analysis of Medicare physician and provider utilization data from 2017 to 2023.

Setting: Office-based procedural care across the United States.

Methods: Current Procedural Terminology (CPT) codes 30117 (destruction of intranasal lesion), 30140 (inferior turbinate submucous resection), 31295 (maxillary balloon dilation), and 30802 (radiofrequency inferior turbinate reduction) were analyzed, focusing on office-based procedures. CPT 30117 served as a surrogate for PNN ablation and nasal valve repair using radiofrequency ablation. Annual service counts, beneficiaries, Medicare payments, total spending, provider-level adoption, geographic distribution, and early adopter patterns were analyzed. Linear regression evaluated trends over time ($P < .05$).

Results: From 2017 to 2023, CPT 30117 services rose from 1009 to 11,409 (compound annual growth rate [CAGR] 49.8%), 30140 increased from 3218 to 5792 (CAGR 10.3%), 31295 slightly declined (10,3120 → 9180; CAGR -1.9%), and 30802 declined from 1353 to 863 (CAGR -7.2%). Spending grew sharply for 30117 ($0.41M → $5.08M; +1139%) and 31295 ($12.36M → $15.4M; +25%), modestly for 30140 ($0.89M → $1.05M; +18%), and declined for 30802 ($0.19M → $0.10M; -47%). Texas, Florida, and Arizona had concentrated utilization.

Conclusion: In-office use of CPT 30117 has grown rapidly, outpacing other nasal procedures, reflecting the adoption of new PNN ablation and nasal airway remodeling devices. These trends underscore the need for ongoing evidence development, with further clarification anticipated following new device and procedure-specific coding.

Keywords: Medicare; chronic rhinitis; nasal obstruction; office-based procedures; posterior nasal nerve.

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Conflict of interest statement

The authors declare no conflicts of interest.

- **20 references**
- **3 figures**

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3

Review

Allergy

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. 2026 May 6.

doi: 10.1111/all.70382. Online ahead of print.

Cost-Effectiveness of Allergen Immunotherapy for Allergic Rhinitis: A Systematic Review

Joshua Jacob [1 2 3], Andrew Fong [1 3 4 5], Caroline Joyce [1], Melanie Lloyd [3 6 7], Adrian Lowe [3 7 8], Constance Katelaris [1 2 3]

Affiliations Expand

- PMID: 42093212

- DOI: 10.1111/all.70382

Abstract

Allergic rhinitis imposes a substantial clinical and socioeconomic burden globally. While symptomatic pharmacotherapy such as oral antihistamines and intranasal corticosteroids offers temporary relief, allergen immunotherapy provides disease-modifying benefits but requires higher upfront costs. This systematic review synthesises cost-effectiveness evaluations of subcutaneous (SCIT) and sublingual immunotherapy (SLIT) compared to symptomatic pharmacotherapy (SP). A systematic search of electronic databases was undertaken, identifying 35 eligible economic evaluations. Due to methodological heterogeneity, a narrative synthesis was performed. Thirty-two evaluations (91%) concluded that allergen immunotherapy represents a cost-effective intervention, with incremental cost-effectiveness ratios predominantly falling below jurisdictional willingness-to-pay thresholds. Both SCIT and SLIT demonstrated economic value, particularly in patients with co-morbid asthma and when models incorporated sustained post-treatment benefits. Future clinical research should prioritise endpoints that facilitate direct estimation of health utility. Despite diverse healthcare settings and modelling approaches, the evidence supports allergen immunotherapy (AIT) as an economically rational investment. Policymakers should utilise these findings to inform reimbursement decisions. Trial Registration: PROSPERO registration number: CRD42024530911.

Keywords: allergen immunotherapy; allergic rhinitis; cost-effectiveness; economic evaluation; health economics.

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4

Clin Exp Allergy

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. 2026 May 6.

doi: 10.1111/cea.70335. Online ahead of print.

Comparison of Allergic Rhinitis Treatments on Utilities and Quality of Life: A MASK-air Study

Nuno Lourenço-Silva [1 2], Bernardo Sousa-Pinto [1 2], Antonio Bognanni [3], Ana Margarida Pereira [1 2 4], João Coutinho-Almeida [1 2], Rita Amaral [1 2 5 6], Luisa Brussino [7 8], Mattia Giovannini [9 10], Bilun Gemicioglu [11 12], Violeta Kvedariene [13 14], Desiree E Larenas-Linnemann [15], Manuel Marques-Cruz [1 2], Nikolaos G Papadopoulos [16], Nhân Pham-Thi [17 18 19 20], Frederico S Regateiro [21 22 23 24], Sanna K Toppila-Salmi [25 26], Boleslaw Samolinski [27], Joaquin Sastre [28], Luís Taborda-Barata [29 30], Arunas Valiulis [31 32], Leticia de Las Vecillas [33], Maria Teresa Ventura [34 35], Oliver Pfaar [36], João A Fonseca [1 2 4], Torsten Zuberbier [37 38], Ludger Klimek [39 40], Jean Bousquet [37 38 41 42], Rafael José Vieira [1 2]

Affiliations Expand

- PMID: 42087806

- DOI: 10.1111/cea.70335

Abstract

Background: Allergic rhinitis displays a relevant impact on quality of life. Medications used in the treatment of rhinitis have been assessed on their impact on rhinoconjunctivitis-related quality of life, but not on generic health-related quality of life metrics, such as utilities or EQ-5D visual analogue scale (VAS) levels. This study aimed to compare different medication classes and individual medications on utilities and EQ-5D VAS levels using data from a mobile app.

Methods: We conducted an observational study using direct patient data from the MASK-air mobile application, collected between May 2015 and December 2024. We compared rhinitis medication classes and individual medications on health utilities (computed from the EQ-5D-5L questionnaire) and the EQ-5D VAS. To account for confounding, we employed inverse probability treatment weighting based on propensity scores, adjusting for demographics, baseline symptom control, and asthma status.

Results: The study analysed 69,973 observations with EQ-5D VAS data and 842 observations with utility data. At the medication class level, fixed combinations of intranasal antihistamines and corticosteroids were associated with improvements in EQ-5D VAS (mean difference = 1.900; 95% CI = 1.316-2.484) and utilities (mean difference = 0.022; 95% CI = -0.015 to 0.059) compared with oral antihistamines

(OAH). Intranasal antihistamines were associated with lower EQ-5D VAS and utility scores than other intranasal treatments. For individual medications, mometasone was associated with a lower EQ-5D VAS than budesonide and fluticasone furoate, while fexofenadine and levocetirizine tended to be associated with lower VAS values than other OAH.

Conclusion: Fixed combinations of intranasal antihistamines and corticosteroids were associated with better quality-of-life than oral antihistamines and intranasal antihistamines. These findings could support future cost-effectiveness analyses.

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- 44 references

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5

Review

Otolaryngol Clin North Am

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. 2026 May 4:S0030-6665(26)00042-3.

doi: 10.1016/j.otc.2026.03.016. Online ahead of print.

Upper Airway Cough Syndrome

Nasser Lubega [1], Kareem Al-Mulki [1], Janalee Stokken [2]

Affiliations Expand

- PMID: 42086430

- DOI: 10.1016/j.otc.2026.03.016

Abstract

Upper airway cough syndrome (UACS), formerly known as postnasal drip syndrome, is one of the most common causes of chronic cough. It encompasses a

spectrum of upper airway disorders, including allergic rhinitis, nonallergic rhinitis, and chronic rhinosinusitis which stimulate cough through mucosal inflammation and upper airway hypersensitivity. This article reviews the pathophysiology, diagnostic evaluation, and management of UACS from an otolaryngologic perspective. The lack of a clear diagnostic test requires clinical differentiation from other causes of chronic cough. Evidence-based treatment strategies aim to resolve cough through targeted control of airway inflammation and mucus production.

Keywords: Chronic cough; Cough reflex hypersensitivity; Inflammation; Postnasal drip; Rhinitis; Rhinosinusitis; Upper airway cough syndrome.

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Conflict of interest statement

Disclosure The authors have nothing to disclose.

Supplementary info

Publication types

chronic cough

1

Observational Study

Lung

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. 2026 May 8;204(1):29.

doi: 10.1007/s00408-026-00892-0.

Burden of Chronic Cough and Refractory/Unexplained Chronic Cough in South Korea: A Multicenter, Observational Study (CHORUS)

Ji-Su Shim [1], Min-Hye Kim [1], Sung-Yoon Kang [2], Ji-Ho Lee [3], Eun-Jung Jo [4], Byung-Jae Lee [5], Sang-Heon Cho [6], JeeEun Jang [7], Woo-Jung Song [8]

Affiliations Expand

- PMID: 42101672

- DOI: 10.1007/s00408-026-00892-0

Abstract

Purpose: Refractory or unexplained chronic cough (RUCC) represents an unmet clinical need. This study aimed to explore the components constituting the disease burden in patients with RUCC by comparing clinical features, healthcare use, and patient-reported outcomes with those of chronic cough (CC) of recent onset (< 1 year).

Methods: A total of 200 individuals were prospectively enrolled from seven referral clinics in South Korea, including 100 with RUCC and 100 with CC of recent onset (< 1 year). Data were obtained through structured interviews and medical record reviews. Measures included general and cough-specific quality-of-life, mood, cough hypersensitivity symptoms, work productivity, and healthcare utilization.

Results: Individuals with RUCC were significantly older than those with CC (57.5 ± 15.1 vs. 48.9 ± 17.6 years) and had markedly longer cough duration (median 80 vs. 4 months). The RUCC group demonstrated higher out-of-pocket costs, more healthcare facility visits, and greater numbers of diagnostic tests and prescribed medications. However, cough-specific and general health-related quality of life scores showed no significant differences. Correlation analysis revealed comparable but stronger associations between cough-specific quality-of-life and general health outcomes in RUCC than in CC.

Conclusion: RUCC imposes a substantial and multidimensional burden that extends beyond symptom severity. Chronicity, healthcare complexity, and psychosocial impact appear to be central features. Future evaluation tools should incorporate time and lived experience to more accurately capture the true burden of chronic cough.

Keywords: Chronic cough; Disease burden; Refractory cough; Unexplained cough.

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Conflict of interest statement

Declarations. Conflict of interest: WJS declares grants from MSD, Daewoong Pharmaceutical, and AstraZeneca, consulting fees from Merck, Bellus, AstraZeneca, Shionogi, and GSK, and lecture fees from Thermo Fischer/Immunotek, Celltrion, Merck, AstraZeneca, GSK, Sanofi, and Novartis. Other authors have no potential conflicts of interest to disclose. Ethical Approval: The study was approved by the Institutional Review Board (IRB No. 2021-07-046) for each participating hospital and written informed consent forparticipation was obtained from all study subjects.

- **51 references**

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2

Comment

Eur Respir J

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. 2026 May 7;67(5):2600143.

doi: 10.1183/13993003.00143-2026. Print 2026 May.

Reply to: Is the role of eosinophils in refractory chronic cough truly dismissed? Mepolizumab reduced blood and sputum eosinophils, but not eosinophil-derived neurotoxin

Christiane Whetstone [1], Nermin Diab [2], Danica Brister [3], Elena Kum [1], Mustafaa Wahab [1], Wafa Hassan [1], Sue Beaudin [1], Catie Obminski [1], Jennifer Wattie [1], Lesley Wiltshire [1], Karen Howie [1], Kieran Killian [1], Kimberley Holt [4], Roma Sehmi [1 5], Jaclyn A Smith [4], Paul M O'Byrne [1 5], Imran Satia [6 4 5 7], Gail M Gauvreau [1 7]

Affiliations Expand

- PMID: 42097671

- PMCID: PMC13150355

- DOI: 10.1183/13993003.00143-2026

Abstract

Mepolizumab reduced blood and sputum eosinophils, but not eosinophil-derived neurotoxin https://bit.ly/4r8x9tb

Conflict of interest statement

Conflict of interest: N. Diab reports support for the present study from the Canadian Asthma, Allergy and Immunology Foundation, Sanofi Genzyme and the Canadian Lung Association-Canadian Institutes of Health Research Fellowship awards, and payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca. D. Brister reports consultancy fees from Khure Health, payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca, GSK and Sanofi-Regeneron, support for attending meetings from GSK, participation on a data safety monitoring board or advisory board with GSK and Sanofi, and a leadership role with the Chronic Cough Working

Group. R. Sehmi reports grants from AstraZeneca, Biohaven, Third Harmonics Bio and Jasper, consultancy fees from AstraZeneca and Areteia Therapeutics, and payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca and GSK. J.A. Smith reports grants from Merck, NIHR Biomedical Research Centre Funding, Wellcome, Medical Research Council, Natural Environmental Research Council and Vitalograph, consultancy fees from AstraZeneca, Axalbion, Algernon, Bellus Health, Boehringer Ingelheim, Cheisi, GSK, Merck, Nocion, Trevi Therapeutics and Vitalograph, payment or honoraria for lectures, presentations, manuscript writing or educational events from Merck and GSK, support for attending meetings from GSK, receipt of equipment, materials, drugs, medical writing, gifts or other services from Vitalograph, and the following financial (or non-financial) interests: the VitaloJAK algorithm has been licensed by Manchester University Foundation Trust (MFT) and the University of Manchester to Vitalograph Ltd and Vitalograph Ireland (Ltd); MFT receives royalties which may be shared with the clinical division in which J.A. Smith works. P.M. O'Byrne received grants from AstraZeneca, Merck, Biohaven and Jasper, consultancy fees from AstraZeneca, GSK, Sage, Teva, Covis and Affibody, payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca, GSK and Covis, and is a Section Editor for the European Respiratory Journal. I. Satia reports support for the present study from GSK, grants from the Canada Research Chair program, Merck, MITACS, GSK, Bellus, Trevi Therapeutics, Bayer and Genentech, payment or honoraria for lectures, presentations, manuscript writing or educational events from Merck, GSK, AstraZeneca and Sanofi-Regeneron, and consultancy fees from Merck, GSK, Bellus, Sanofi-Regeneron and Methapharm. G.M. Gavreau reports grants from AstraZeneca, Genentech, Third Harmonics Bio, Biohaven and Jasper, and consultancy fees from AstraZeneca, Third Harmonics Bio, Allakos, Biohaven, Jasper and Blueprint. The remaining authors have no potential conflicts of interest to disclose.

Comment on

- Mepolizumab for the treatment of refractory chronic cough in patients with eosinophilic airways disease (MUCOSA): a randomised, double-blind, parallel-group, placebo-controlled trial.

Diab N, Brister D, Kum E, Wahab M, Hassan W, Beaudin S, Obminski C, Wattie J, Wiltshire L, Howie K, Killian K, Holt K, Sehmi R, Gauvreau GM, Smith JA, O'Byrne PM, Satia I.Eur Respir J. 2026 Apr 2;67(4):2501573. doi: 10.1183/13993003.01573-2025. Print 2026 Apr.PMID: 41198391 Free PMC article. Clinical Trial.

- 12 references
- 1 figure

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. 2026 May 7;67(5):2502663.

doi: 10.1183/13993003.02663-2025. Print 2026 May.

On the interpretation of negative efficacy in the MUCOSA trial: is the role of eosinophils in refractory chronic cough truly dismissed?

Wenzhi Zhan [1], Jiaxing Xie [1], Wei Luo [1], Kefang Lai [2]

Affiliations Expand

- PMID: 42097669

- DOI: 10.1183/13993003.02663-2025

No abstract available

Conflict of interest statement

Conflict of interest: The authors have no potential conflicts of interest to disclose.

Comment on

- Mepolizumab for the treatment of refractory chronic cough in patients with eosinophilic airways disease (MUCOSA): a randomised, double-blind, parallel-group, placebo-controlled trial.

Diab N, Brister D, Kum E, Wahab M, Hassan W, Beaudin S, Obminski C, Wattie J, Wiltshire L, Howie K, Killian K, Holt K, Sehmi R, Gauvreau GM, Smith JA, O'Byrne PM, Satia I.Eur Respir J. 2026 Apr 2;67(4):2501573. doi: 10.1183/13993003.01573-2025. Print 2026 Apr.PMID: 41198391 Free PMC article. Clinical Trial.

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. 2026 May 7:14:e77295.

doi: 10.2196/77295.

Cough Audio Recognition for Early Detection of Respiratory Diseases: Algorithm Development and Validation Study

Wensheng Sun [1], Jiahao Zou [1], Na Yin [1], Wenying Fang [2], Jimin Sun [3], Ziping Miao [3], Shigui Yang [4]

Affiliations Expand

- PMID: 42096594
- PMCID: PMC13152037
- DOI: 10.2196/77295

Abstract

Background: Coughing is a common clinical symptom and a protective respiratory reflex closely associated with various respiratory system diseases. The acoustic characteristics of cough sounds are influenced by underlying pathological factors, with distinct acoustic signatures corresponding to different etiologies. Through rigorous analysis of these sounds, rapid identification and preliminary diagnosis of related conditions may be achieved. This approach holds great potential for broad application in mobile health and ubiquitous health platforms.

Objective: This study aimed to explore the application of acoustic analysis of cough sounds in the diagnosis of respiratory diseases to enhance the diagnostic efficiency of health care professionals.

Methods: In this study, we conducted extensive data collection, including voluntary cough audio recordings from patients diagnosed with respiratory diseases (eg, chronic obstructive pulmonary disease, lung cancer, COVID-19, and pneumonia) and from healthy participants. A total of 2610 audio samples were collected. We incorporated a channel attention mechanism (CAM) into the final convolutional block of each residual block in the ResNet18 neural network, thereby constructing the CAM-ResNet18 neural network model. The recorded cough audio samples were

converted into spectrograms to form the input dataset for model training. The CAM-ResNet18 model was trained on the training set of this dataset, with iterative parameter adjustments until convergence was achieved. Finally, spectrograms from the test set were fed into the pretrained model for accurate classification of the cough-related conditions.

Results: Experimental results on the collected audio dataset demonstrate that the proposed CAM-ResNet18 model achieves an accuracy of 83.9% and an average F1-score of 82.52% in classifying 5 types of cough sounds. In comparison, the traditional ResNet18 model achieves an accuracy of 78.16% and an average F1-score of 78.29%, indicating a clear performance improvement with the integration of the CAM.

Conclusions: The experimental results validate the effectiveness of the proposed method, highlighting its significant potential for application in clinical diagnosis.

Keywords: ResNet18; associated diseases; attention mechanism; cough classification; deep learning.

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Conflict of interest statement

Conflicts of Interest: None declared.

- 35 references
- 9 figures

Supplementary info

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5

BMC Pulm Med

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. 2026 May 7.

doi: 10.1186/s12890-026-04331-x. Online ahead of print.

Somatic symptom disorder comorbidity in chronic cough: prevalence, clinical features, and neuroimaging characteristics

Tongyangzi Zhang [#1], Heng Wu [#2], Haodong Bai [#1], Yaxing Zhou [1], Yiqing Zhu [1], Wanzhen Li [1], Shengyuan Wang [1], Jashin In [2], Nadire Wubulikasimu [2], Xianghuai Xu [3], Li Yu [4]

Affiliations Expand

- PMID: 42092869

- DOI: 10.1186/s12890-026-04331-x

Free article

Abstract

Background: This study was aimed at exploring the prevalence of somatic symptom disorder (SSD) in patients with chronic cough and comparing SSD comorbid (SSD+) and non-comorbid (SSD-) groups, including sociodemographic, clinical, psychological, and neuroimaging characteristics.

Methods: A total of 463 patients with chronic cough were enrolled. The structured clinical interview from the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders was used for SSD diagnosis. Clinical features, cough-related assessment and psychological assessment were used to compare the SSD+ and SSD- groups, while functional magnetic resonance imaging (fMRI) was performed in 24 patients (12 SSD+ and 12 SSD-) for neuroimaging comparisons.

Results: SSD was diagnosed in 13.8% (64/463) of all enrolled patients. The prevalence of SSD was greater in patients with refractory chronic cough (27.7%) than those with non-refractory chronic cough (7.8%). The SSD+ group had higher levels of capsaicin cough sensitivity ($P = 0.016$), anxiety ($P < 0.001$), and depression ($P < 0.001$), and lower cough-related quality of life scores ($P < 0.001$), than the SSD- group. Binary logistic stepwise regression indicated that higher anxiety level, female sex, lower cough-related quality of life, and more doctor visits were predictors of SSD diagnosis. Notably, SSD- patients demonstrated enhanced regional neural activity synchronization in the right cerebellum and mid-cingulate cortex, whereas SSD+ patients exhibited diminished spontaneous neural activity in the lingual gyrus (voxel $P < 0.001$, cluster $P < 0.05$, FWE corrected).

Conclusion: SSD was identified in 13.8% of chronic cough patients and in approximately 28% of those with refractory chronic cough. Comprehensive evaluation of psychological in chronic cough patients is essential for early identification and management of SSD comorbidity. Interdisciplinary collaboration, including psychosomatic medicine, may enhance diagnostic accuracy and treatment outcomes in this population.

Trial registration: This study was registered in the Chinese Clinical Trials Register (http://www.chictr.org.cn/) (ChiCTR2400079808). Registration date: January 12, 2024.

Keywords: Brain imaging; Cough; Prevalence; Somatic symptom disorder.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. The study was approved by the Ethics Committee of Tongji Hospital (The ethics approval number is K-2023-027). The protocol was registered in the Chinese Clinical Trials Register (http://www.chictr.org.cn/) (ChiCTR2400079808). Written informed consent was obtained from all participants before enrollment. Consent for publication: Written informed consent for publication was obtained from all participants. Competing interests: The authors declare no competing interests.

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6

Review

Otolaryngol Clin North Am

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. 2026 May 5:S0030-6665(26)00041-1.

doi: 10.1016/j.otc.2026.03.015. Online ahead of print.

Laryngopharyngeal Reflux and Chronic Cough

Gabriela L Lilly [1], Thomas L Carroll [2]

Affiliations Expand

- **PMID: 42091418**

- **DOI: 10.1016/j.otc.2026.03.015**

Abstract

Laryngopharyngeal reflux (LPR) is one of the most common causes of cough. It may not respond to acid suppression trials because non-acidic and weakly acidic reflux are often the etiology in refractory cases. Hypopharyngeal-esophageal multichannel intraluminal impedance with dual pH testing is the gold standard to diagnose LPR and guide personalized treatment of individual patients. Treatments typically involve a combination of barrier agents such as sodium alginate-based agents, acid suppression (when indicated), and diet and lifestyle management.

Keywords: Chronic cough; Gastroesophageal reflux disease; Laryngopharyngeal reflux; Refractory chronic cough.

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Conflict of interest statement

Disclosures T.L. Carroll is a consultant for Pentax Medical and GSK. He has received stock options from and is on the scientific advisory board for Sofregen Medical and N-Zyme Biomedical. He receives royalties from Plural Publishing. G.L. Lilly has no disclosures.

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7

Review

Otolaryngol Clin North Am

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. 2026 May 5:S0030-6665(26)00043-5.

doi: 10.1016/j.otc.2026.03.017. Online ahead of print.

Behavioral Cough Suppression Therapy: The Speech-Language Pathologist's Role in Assessment and Treatment of Chronic Cough

Winston Cheng [1], Deanna Kawitzky [2]

Affiliations Expand

- PMID: 42091416

- DOI: 10.1016/j.otc.2026.03.017

Abstract

Chronic cough affects approximately 10% of adults. A substantial proportion experience persistent symptoms despite comprehensive medical management, significantly impacting quality of life. Behavioral cough suppression therapy (BCST) delivered by speech-language pathologists (SLP) has emerged as an effective, evidence-based intervention for refractory chronic cough (RCC). This review provides practical guidance regarding referral to an SLP, the SLP evaluation process, and the BCST protocol for RCC. Collaboration between the treating SLP and the medical team is essential for management of patients with chronic cough.

Keywords: Behavioral cough suppression therapy; Chronic cough; Laryngeal hypersensitivity; Refractory chronic cough; Speech-language pathology.

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Conflict of interest statement

Disclosure The authors have nothing to disclose.

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Review

Otolaryngol Clin North Am

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. 2026 May 4:S0030-6665(26)00042-3.

doi: 10.1016/j.otc.2026.03.016. Online ahead of print.

Upper Airway Cough Syndrome

Nasser Lubega [1], Kareem Al-Mulki [1], Janalee Stokken [2]

Affiliations Expand

- PMID: 42086430

- DOI: 10.1016/j.otc.2026.03.016

Abstract

Upper airway cough syndrome (UACS), formerly known as postnasal drip syndrome, is one of the most common causes of chronic cough. It encompasses a spectrum of upper airway disorders, including allergic rhinitis, nonallergic rhinitis, and chronic rhinosinusitis which stimulate cough through mucosal inflammation and upper airway hypersensitivity. This article reviews the pathophysiology, diagnostic evaluation, and management of UACS from an otolaryngologic perspective. The lack of a clear diagnostic test requires clinical differentiation from other causes of chronic cough. Evidence-based treatment strategies aim to resolve cough through targeted control of airway inflammation and mucus production.

Keywords: Chronic cough; Cough reflex hypersensitivity; Inflammation; Postnasal drip; Rhinitis; Rhinosinusitis; Upper airway cough syndrome.

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Conflict of interest statement

Disclosure The authors have nothing to disclose.

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9

Review

Otolaryngol Clin North Am

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. 2026 May 4:S0030-6665(26)00039-3.

doi: 10.1016/j.otc.2026.03.013. Online ahead of print.

Acute and Chronic Cough in Children

Douglas Kempthorne [1], Yann-Fuu Kou [2]

Affiliations Expand

- PMID: 42086429

- DOI: 10.1016/j.otc.2026.03.013

Abstract

Cough is one of the most common symptoms among children. While most acute cough episodes are viral and resolve within 4 weeks, chronic cough persisting beyond 4 weeks warrants further evaluation. Pediatric-specific cough guidelines emphasizing algorithmic evaluation assist in early and accurate diagnosis for preventing long-term pulmonary complications. This article reviews evidence-based approaches to evaluating and managing acute and chronic cough in children, highlighting key diagnostic strategies and targeted treatment options.

Keywords: Acute cough; Asthma; Chronic cough; Protracted bacterial bronchitis; Upper airway cough syndrome.

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Conflict of interest statement

Disclosure The authors have no financial conflicts of interest.

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Review

Otolaryngol Clin North Am

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. 2026 May 4:S0030-6665(26)00050-2.

doi: 10.1016/j.otc.2026.03.024. Online ahead of print.

Occupational, Environmental, and Irritant-induced Cough

Benjamin Wajsberg [1], Michael S Benninger [2]

Affiliations Expand

- PMID: 42086428

- DOI: 10.1016/j.otc.2026.03.024

Abstract

Occupational and environmental exposures contribute to a significant, yet often underrecognized, proportion of chronic cough cases. Airway irritants activate sensory neurons through transient receptor potential ion channels, inducing peripheral and central sensitization that persists beyond the exposure period. Common triggers include isocyanates, dusts, fumes, and air pollutants found across diverse industries. Despite recommendations for routine exposure assessment, systematic evaluation remains uncommon in clinical practice. Accurate recognition necessitates detailed exposure histories, temporal correlation with symptoms, and multidisciplinary collaboration, thereby enabling targeted interventions and workplace protections.

Keywords: Airway hypersensitivity; Environmental irritants; Neurogenic inflammation; Occupational cough; TRPV1.

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Conflict of interest statement

Disclosure The authors have nothing to disclose.

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Monaldi Arch Chest Dis

. 2026 May 7;96(2).

doi: 10.4081/monaldi.2026.3767. Epub 2026 Feb 12.

Prevalence of urinary incontinence in patients with chronic cough: a systematic review

Ludovica Scotti [1], Simone Salvitti [2]

Affiliations Expand

- PMID: 41685508

- DOI: 10.4081/monaldi.2026.3767

Free article

Abstract

Chronic cough-related diseases increase the risk of urinary incontinence (UI) due to repeated intra-abdominal pressure affecting the pelvic floor. Existing studies focus on specific diseases rather than UI as a broader consequence. To determine the prevalence of UI in patients with chronic cough-related diseases and compare it with the prevalence in healthy populations. A systematic review was conducted using Medline, Embase, Cochrane, OVID, Scopus, ProQuest, PEDro, and EBSCO. Two independent reviewers screened studies using predefined criteria in a Microsoft Excel spreadsheet. Only prevalence studies were included. Data were extracted, synthesized, and assessed using the GRADE approach for evidence quality and the STROBE checklist for reporting quality. Prevalence estimates varied widely based on demographic characteristics. UI prevalence ranged from 2.2% to 45% in pediatric patients, 30.4% to 74% in adult women, and 2.4% to 39% in adult men. The quality of evidence was low, while reporting quality was acceptable. UI is a common complication in patients with chronic cough, with a higher prevalence than in healthy populations. Due to the stigma surrounding urogenital disorders, clinicians should actively inquire about UI during patient history-taking and refer affected individuals for appropriate treatment.

Keywords: Chronic cough; pelvic floor dysfunction; prevalence; urinary incontinence.

- 56 references

Supplementary info

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"bronchiectasis"[MeSH Terms] OR bronchiectasis[Text Word]

1

Monaldi Arch Chest Dis

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. 2026 May 7.

doi: 10.4081/monaldi.2026.3920. Online ahead of print.

Characterizing non-cystic fibrosis bronchiectasis: spirometry indices and disease burden by FACED score

Amna Irfan Ansari [1], Muhammad Tayyab Ihsan [1], Shayan Shahid [1], Akbar Shoukat Ali [2], Muhammad Irfan [2]

Affiliations Expand

- PMID: 42099256

- DOI: 10.4081/monaldi.2026.3920

Abstract

This study aimed to characterize the clinical, radiological, and severity profile by spirometry indices and evaluate the clinical and structural disease burden stratified by FACED [FEV1% predicted (F), age (A), chronic colonization by Pseudomonas aeruginosa (C), extension of the disease by radiological assessment (E), and dyspnea (D)] severity in patients with non-cystic fibrosis (CF) bronchiectasis. A retrospective review of 125 patients with non-CF bronchiectasis who underwent a pulmonary lung function test at the Aga Khan University Hospital (Karachi, Pakistan) was conducted. Spirometry patterns were normal, obstructive, restrictive, and mixed. FACED classifications were mild (0-2) and moderate-severe disease (≥3). Pseudomonas aeruginosa was found in 26.40%. Obstructive ventilatory disorder (54.40%) was the most frequent finding. Symptom duration of >10 years was relatively frequent in the obstructive group (34.69%; p=0.012). Moderate-to-severe disease (FACED≥3) was most prevalent in the obstructive pattern (60.29%; p=0.012). Patients with moderate-to-severe disease more frequently reported longer symptom duration compared with those with mild disease (p=0.015). Non-CF bronchiectasis patients with obstructive ventilatory disease may present with a longer duration of symptoms and disease severity. Patients with moderate-severe disease had longer symptom duration, with trends towards higher lung parenchymal injury (residual

fibrosis on high-resolution computed tomography) and hospitalization due to respiratory infection.

Keywords: Bronchiectasis; Pseudomonas aeruginosa; forced expiratory volume; lower middle-income country; lung function; spirometry.

- 35 references

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2

Review

Am J Case Rep

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. 2026 May 8:27:e952043.

doi: 10.12659/AJCR.952043.

Reversible Rituximab-Induced Bronchiectasis: A Pediatric Case Report and Literature Review

Nasser AlHarbi [1], Ahmed AlEidan [2], Masheal A AlZanbagi [2]

Affiliations Expand

- PMID: 42098995

- DOI: 10.12659/AJCR.952043

Abstract

BACKGROUND Rituximab (RTX) is a chimeric IgG monoclonal antibody directed against the CD20 antigen expressed on normal and malignant B cells. It is used for treating a variety of neoplastic, autoinflammatory, and autoimmune pathologies, including disorders occurring in the pediatric population. It has been proven that rituximab can induce pulmonary complications including interstitial lung disease, bronchiectasis and pulmonary toxicities, predominantly in adults. By describing this case, we aim to raise awareness among pediatricians given the limited literature on rituximab-induced bronchiectasis in pediatrics, aiding in early recognition for

better outcomes. CASE REPORT We present the case of a 12-year-old girl with relapsing steroid-dependent nephrotic syndrome who was diagnosed at age 6 years. When rituximab was introduced, remission was achieved. A year later, she developed a persistent wet cough. Initial imaging suggested pneumonia, and subsequent admissions revealed recurrent respiratory infections. Workup showed hypogammaglobulinemia, attributed to rituximab-induced humoral immunosuppression. High-resolution computed tomography (HRCT) revealed segmental atelectasis and bronchiectatic changes. Pulmonology testing diagnosed chronic suppurative lung disease, likely secondary to immunosuppression. Rituximab was discontinued, and the patient was started on azithromycin and airway clearance therapy. Intravenous immunoglobulin (IVIG) was initiated due to persistent hypogammaglobulinemia. Repeated HRCT showed complete resolution of bronchiectasis, with minimal residual scarring. CONCLUSIONS While it is a more common complication in adults, it is important to recognize rituximab as a culprit in pediatric patients with respiratory symptoms after prolonged use for various indications. Prompt recognition and intervention are crucial for mitigating further lung damage and perhaps full recovery. Pediatricians are encouraged to monitor for rituximab-induced pulmonary complications, particularly in naive lungs.

Supplementary info

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. 2026 May 5;12(3):00814-2025.

doi: 10.1183/23120541.00814-2025. eCollection 2026 May.

Validation of bronchial airway gene expression associated with bronchiectasis in nasal epithelium

Whitney Souery [1 2], Jason Wong [1 2], Alejandro A Diaz [3], Ke Xu [1], Xiaohui Xiao [1], Hanqiao Liu [1], Gang Liu [1], Adam C Gower [1], Yuriy O Alekseyev [4], Ehab Billatos [1], Marc E Lenburg [1]

Affiliations Expand

- PMID: 42094231

- PMCID: PMC13139922

- DOI: 10.1183/23120541.00814-2025

Abstract

Objectives: Examine the bronchial epithelium-derived gene expression signature of bronchiectasis (BE) in nasal epithelium.

Methods: We studied 220 participants from the Detection of Early Lung Cancer Among Military Personnel study with bulk RNA sequencing of nasal epithelium brushings. Gene set enrichment analysis (GSEA) examined whether genes previously identified as increased or decreased in the bronchial epithelium of individuals with radiologic BE are enriched among genes most altered in nasal epithelium. GSEA and cell-type specific signatures assessed changes in nasal epithelium cellular composition associated with radiologic BE.

Results: No genes were significantly differentially expressed in nasal epithelium between participants with and participants without widespread radiologic BE. However, genes previously found altered in bronchial epithelium are concordantly enriched among genes most increased or decreased in nasal epithelium ($p=3\times10^{-7}$, increased; $p=6\times10^{-8}$, decreased). GSEA using cell-type signatures shows that BE in nasal epithelium is associated with increased multiciliated and deuterosomal cell-related gene expression and decreased basal cell-related gene expression, consistent with bronchial findings.

Conclusion: This work validates our bronchial BE signature in an independent dataset and demonstrates that gene expression changes associated with radiologic BE in nasal epithelium are concordant but reduced in magnitude compared with bronchial epithelium. These findings support considering nasal brushings as a less invasive tool for BE screening and monitoring.

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Conflict of interest statement

Conflict of interest: W. Souery reports support for the present study from the National Institutes of Health (NIH) National Heart, Lung, and Blood Institute (NHLBI) (T32HL007035). J. Wong, K. Xu, X. Xiao, H. Liu, G. Liu, A.C. Gower and Y.O. Alekseyev have nothing to disclose. A.A. Diaz reports support for the present study from NHLBI (R01-HL149861, R01-HL164824 and R01-HL173017); payment or honoraria for lectures, presentations, manuscript writing or educational events from Zambon Pharmaceutical; participation in a data safety monitoring board or advisory board with Sanofi–Regeneron and Verona Pharma; a leadership role with Sanofi; and patents planned, issued or pending (USPTO patent number 11,946,928 B2 "Methods and compositions relating to airway dysfunction"). E. Billatos reports support for the present study from the Department of Defense (W81XWH-11-2-0161), the National Cancer Institute (U01CA196408), Johnson & Johnson Services, Inc., NIH/NHLBI (R01HL149861) and Novartis Biomedical Research; and grants from Janssen Research & Development, LLC, Johnson & Johnson Enterprise Innovation,

Inc. (project number: 1258521), the NIH National Cancer Institute (5U2CCA271898) and Veracyte (DHF 009-050P). M.E. Lenburg reports support for the present study from Johnson & Johnson, Novartis Biomedical Research, NIH (U01CA196408, U01HL146408 and R01HL122477) and the Department of Defense (W81XWH-11-2-0161); grants from AstraZeneca and NIH (U2CCA271898); and patents planned, issued or pending (Boston University – gene expression signature of bronchiectasis and gene expression signature of lung function decline).

- 35 references
- 3 figures

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J Investig Allergol Clin Immunol

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. 2026 May 5:0.

doi: 10.18176/jiaci.1181. Online ahead of print.

A Retrospective Multicenter Cohort Study on the Effectiveness of Triple Inhaled Therapy in Severe Asthma

David Dacal Rivas [1 2], Nagore Blanco Cid [1 2], Daniel Pérez Ortiz [1], Mar Mosteiro Añon [3], Coral Gonzalez Fernández [4], Jose M Alvarez Torres [4], Abel Pallares Sanmartin [4], Abraham Ali-Munive [5], Carlos A Torres-Duque [5], Raquel Ruiz Ferreras [6], Andrés Blanco Hortas [7], Carmen Vidal [2 8], Luis Pérez de Llano [1 2]

Affiliations Expand

- PMID: 42084598

- DOI: 10.18176/jiaci.1181

Free article

Abstract

Background and objectives: Triple therapy (TT) is effective for asthma patients whose disease remains uncontrolled with dual therapy. However, relevant questions remain unanswered. Objectives: To evaluate the long-term effectiveness of TT in a

real-world setting; to determine the extent to which it prevents escalation to oral corticosteroids (OCS), azithromycin, or biologics; and to identify factors related to failure.

Methods: Retrospective multicenter cohort study. Data were collected at baseline, 16-24 weeks, 52 weeks, and at the last visit. Follow-up extended to treatment escalation or the last visit. Effectiveness of TT was defined as no treatment escalation plus asthma control (Asthma Control Test [ACT] ≥20 and no severe exacerbations in the preceding 12 months).

Results: A total of 390 patients were analyzed (median follow-up 40.0 months). Of these, 83 (22.5%) escalated treatment; TT was effective in 54% at the last visit. Complete remission (control plus FEV1 ≥80%) was achieved in 20.6%. Severe exacerbations, OCS load, symptoms, and FEV1 improved significantly. The factors associated with failure of TT in the previous year were smoking history (HR 1.84), lack of asthma control at 16-24 weeks (HR 3.41), bronchiectasis (HR 1.91), baseline ACT ≤15 (HR 1.81), ≥2 severe exacerbations in the previous year (HR 2.01), and low eosinophil count (HR 2.58). FEV1 declined >30 mL/year in 25.3% of patients in whom TT was effective.

Conclusions: TT achieved sustained control in a significant proportion of patients whose disease was not controlled with dual therapy. Bronchiectasis, smoking history, greater clinical severity at initiation of TT, and lack of control at 16-24 weeks predicted poorer outcome.

Keywords: Asthma control; Asthma treatment effectiveness; Long-acting muscarinic antagonist; Real-world study; Severe asthma; Treatment escalation; Triple inhaled therapy.