

Shaping the Future of Respiratory Care



A Look Into the Next Decade and Strategic Recommendations by the European Forum for Research and Education in Allergy and Airways Diseases

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Chronic respiratory diseases (CRDs) remain 1 of the leading causes of preventable morbidity and disability worldwide, affecting up to one-third of the total Western population in 2025. Recognizing the substantial burden of inflammatory airway diseases such as asthma, COPD, chronic rhinosinusitis, and respiratory allergy, the European Forum for Research and Education in Allergy and Airway Diseases (EUFORA) organized the symposium “Shaping the Future of Respiratory Care” in April 2025 in Brussels, Belgium, at the occasion of the 10-year jubilee. Featuring keynote speakers from the World Health Organization and EUFORA, this initiative had the following aims: (1) promoting dialogue on translating innovations into daily clinical practice; (2) encouraging collaboration between the different stakeholders in the respiratory field; and (3) defining strategic priorities to transform respiratory care and arrest the CRD epidemic over the next decade. The symposium highlighted the importance of moving toward predictive, preventive, and patient-centered medicine, while supporting value-based health care systems to improve long-term patient outcomes. This report summarizes the main insights and strategic directions discussed at the meeting. CHEST 2026; 169(6):1641-1652

KEY WORDS: action plan; chronic respiratory diseases; EUFORA; global health; respiratory care

Chronic inflammatory respiratory diseases (CRDs), including asthma, COPD, chronic rhinitis, and chronic rhinosinusitis (CRS), represent a major and underrecognized global public health challenge, reaching epidemic proportions.^{1,2} These conditions affect approximately one-third of the world's population, with increasing prevalence allied to health care expenditure

and losses in economic productivity.³ In Europe, the annual economic cost of lower airway diseases is estimated at €380 billion, even without accounting for the impact of upper airway diseases.⁴ Despite this, CRDs receive only a small portion (0.1%) of the 2021-2027 EU4Health budget,⁵ indicating a vast gap between the high prevalence and the limited resources allocated.

The European Forum for Research and Education in Allergy and Airway diseases (EUFOREA) symposium entitled “Shaping the Future of Respiratory Care” was

held on April 23, 2025, in Brussels, Belgium, to address the urgent need for action. By bringing together diverse perspectives from experts in respiratory medicine,

ABBREVIATIONS: ADAP³T = Airways Disease Action Plan for Personalised and Preventive Treatment; AI = artificial intelligence; CRD = chronic respiratory disease; CRS = chronic rhinosinusitis; CRSwNP = chronic rhinosinusitis with nasal polyps; EUFOREA = European Forum for Research and Education in Allergy and Airways diseases; NCD = noncommunicable diseases

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patient advocacy, and public health policy, the goal was to develop practical strategies for improving respiratory health care and fostering innovation in Europe and beyond, building further on the political advocacy symposia organized by EUFOREA in the European Parliament.^{3,6,7} The current report details the ambitions and strategic priorities for better care and prevention of CRDs. Ethics committee or institutional review board approval and/or informed consent were not applicable for this work.

Current Shortcomings of Respiratory Care

Current approaches to respiratory health care reveal major shortcomings that hinder optimal patient care from a medical, societal, and preventive perspective.

A key unmet need remains the early and accurate diagnosis of CRDs. Diagnostic delays, often lasting several years, are common across CRDs, often due to low awareness⁸ and the absence of appropriate diagnostic workup.⁹ In primary care, there are multiple obstacles to overcome. These range from misdiagnosis of asthma^{10,11} to failure to refer.¹² However, given that some 25% to 30% of patients attending tertiary level severe asthma clinics do not have asthma (having been already seen by respiratory specialists in secondary care),¹³ this is not a problem isolated to primary care. There is a clear need to identify those with COPD sooner to implement early management, especially smoking cessation. Unfortunately, screening programs are resource intensive, especially in terms of time with a low yield. This is further complicated by the use of different screening techniques, variability of diagnostic criteria applied, availability of appropriate technology, and lack of incentivization.¹⁴ For asthma and COPD, the limited use of spirometry and other disease prioritization further result in significant diagnostic delays.¹⁵

Upper airway diseases such as CRS and chronic rhinitis are frequently misdiagnosed or under-recognized,⁹ leading to prolonged patient suffering and increased risk of disease worsening.¹⁶ However, this is a barrier to care in both primary and secondary care.¹⁷ A previous EUFOREA initiative showed that most patients with CRS have their first diagnosis with nasal endoscopy after > 5 years of symptom development.¹⁸ This is despite compelling data showing the utility of proactive diagnosis and treatment, with preventive potential of early diagnosis.^{19,20}

Rhinitis, both allergic and nonallergic, has not been prioritized as a research area by ear, nose, and throat specialists,²¹ making it difficult to know where to refer

patients, especially for areas such as immunotherapy or occupational rhinitis, both specialist areas. Patients trust their pharmacists and general practitioners for information and advice on rhinitis.²² However, general practitioners self-assess a large need for further knowledge and skills in the management of rhinitis,²³ and studies in a pharmacy setting have revealed issues such as suboptimal treatment choices, poor adherence, and faulty administration technique.^{24,25} These observations call for coordinated efforts across all levels of care to enhance patient outcomes.

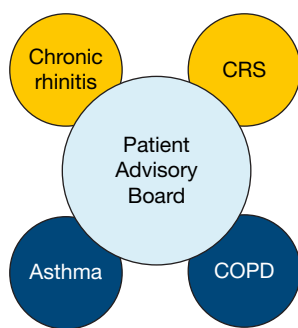
A further significant gap is the lack of a systematic multidisciplinary approach to care.²⁶ The (historical) separation between upper and lower airway disease management has resulted in siloed treatment pathways and missed opportunities for integrated care of “global” airways. In this context, the pocket guides of asthma, CRS, and allergic rhinitis by EUFOREA highlight the importance of multidisciplinary approaches in these (often overlapping) chronic conditions.²⁷⁻³⁰ Fragmented referral systems and ambiguous referral criteria, alongside poor communication between primary and specialist care, further contribute to delays and suboptimal management.³¹

Many of these poor outcomes are multifactorial in nature. They arise from a lack of sufficient communication between patients and health care providers (eg, due to increasing administrative burden and limited consultation time), lack of point-of-care tools (eg, screening and referral tools), and inadequate resources to sustainably support multidisciplinary care and structured patient follow-up.^{31,32}

The EUFOREA Patient Advisory Board, with 75 patients living with CRDs, corroborates these shortcomings of care (Fig 1). Their (anecdotal) experiences point to unmet needs such as limited patient education tools, limited collaboration between different medical specialties, unnecessary exposure to systemic corticosteroids, and restricted access to advanced therapies such as biologic agents for severe asthma and CRS with nasal polyps (CRSwNP). These deficiencies result in inefficient care and overall suboptimal health outcomes.^{33,34}

Predictive and Preventive Respiratory Medicine

A key theme of the symposium was the necessity of moving toward patient-centered, preventive, predictive, and personalized respiratory care (Fig 2, Table 1).



1. Long time until proper diagnosis
2. Lack of patient education
3. Lack of primary care education
4. Long time until referral
5. Unavailability of drugs
6. Lack of reimbursement of drugs
7. Lack of a multidisciplinary approach between otorhinolaryngology and pneumology
8. Lack of layman terms (eg, disease name)
9. Neglect of psychological impact
10. Unnecessary exposure to SCS

Figure 1 – Ten most frequent shortcomings of care expressed by the EUFORA Patient Advisory Board. CRS = chronic rhinosinusitis; EUFORA = European Forum for Research and Education in Allergy and Airways diseases; SCS = systemic corticosteroids.

Research shows that many CRDs share biological pathways, often involving type 2 inflammation (eg, asthma, CRSwNP, allergic rhinitis, a subgroup of COPD), with characteristic markers such as increased expression of the type 2 cytokines IL-4, IL-5, and IL-13, as well as alarmins, eosinophilia, and elevated IgE.^{35,36} Biomarkers such as blood/sputum eosinophil counts, fractional exhaled nitric oxide, serum periostin, serum total IgE, and nasal polyp tissue eosinophilia are proving to be helpful in secondary/tertiary care clinics

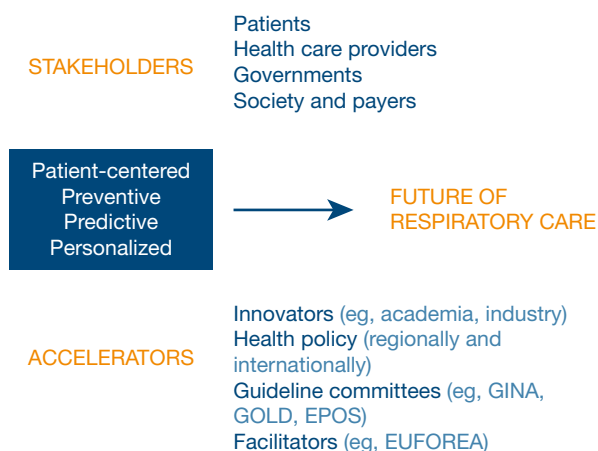


Figure 2 – Shaping the future of respiratory care by different stakeholders and accelerators. EPOS = European Position Paper on Rhinosinusitis and Nasal Polyps; EUFORA = European Forum for Research and Education in Allergy and Airways diseases; GINA = Global Initiative for Asthma; GOLD = Global Initiative for Chronic Obstructive Lung Disease.

to guide treatment in a personalized and predictive way, leading to better outcomes of care.³⁷⁻³⁹

However, state-of-the-art guidelines still consider a stepwise escalation of treatment based on phenotypic worsening of the disease and clinical symptoms, with little attention given to biology-informed and biomarker-guided treatment decisions.⁴⁰ This is a reflection of the current practices in most clinical centers worldwide, while emerging evidence supports new possibilities to optimize the patient journey, with more personalization of care.⁴¹ Through a better understanding of pathophysiological mechanisms, patient's identified needs and concerns, and associated disease biomarkers, disease development might be halted early or attenuated over time.^{3,6,40,42,43}

A paradigm shift will be needed in the decade to come with a focus on the primary prevention of CRDs in healthy individuals, while targeting remission in patients through disease modification.⁴⁴ The ambition of remission and even cure requires further acceleration of basic and translational research with appropriate and personalized predictive implementation plans.^{35,44-46} Indeed, personalized treatment plans based on biology have been largely unexplored and still show high potential for improving outcomes and reducing the use of health care resources.⁴¹ Given the high costs of novel therapeutic approaches with disease-modifying and preventive potential, the need for *precision medicine* has become urgent and in high demand.

Advances in multi-omics profiling could help predict/select patients who are most likely to develop severe and/or irreversible CRDs and who might benefit from (early) targeted therapies.⁴⁷ Identifying genetic and epigenetic markers of CRDs has also proved useful for streamlining drug development and repurposing, and might offer new possibilities for personalized regimens in the future.⁴⁸ Putting these into practice requires prioritization of said research through sustainable funding, educational efforts to train health care providers with the latest innovations, and adaptive reimbursement policies to reflect and expedite these changes in clinical practice.

During this new era of respiratory care, the application of digital health tools (eg, digital twins and artificial intelligence [AI]-driven support systems) is expected to be a key part of patient management.⁴⁹ Indeed, telemonitoring and mobile applications can support adherence, self-management, and earlier diagnosis.⁵⁰ There are already good frameworks in place,⁵¹ but there

TABLE 1] Strategic Recommendations for Transforming Respiratory Care

Domain	Current Gaps	Recommended Actions	Expected Outcomes
Health care systems	Diagnostic delays and fragmented care pathways	Implement evidence-based screening programs	Earlier diagnosis of at-risk patients and first-time-right treatment initiation
	Limited and unequal access to essential and innovative therapies (eg, biologic agents)	Establish integrated multidisciplinary care pathways across pulmonology, otorhinolaryngology, allergology, and primary care	Reduced hospitalizations and more efficient use of health care resources
	Poor referral coordination and transitions between primary, secondary, and tertiary care	Implement reimbursement policies ensuring equitable timely access to evidence-based therapies	Improved patient outcomes and quality of life, and greater health equity
Clinical guidelines		Deploy digital tools for systematic monitoring and follow-up	
	Reactive, symptom-based treatment paradigms	Prioritize remission end points and de-escalation protocols	Reduced systemic corticosteroid and SABA burden
	Lack of multimorbidity and global airway concepts	Define phenotypic and endotypic classification with validated biomarker thresholds across CRDs	Enhanced secondary and tertiary prevention
Research priorities	Suboptimal implementation of key guideline messages (eg, OCS and SABA-sparing strategies)	Shift toward biology-informed treatment algorithms	Accelerated time-to-remission through biomarker-guided management
	Underfunding of CRD research	Increase funding for prevention, early intervention, and translational research	Identification of predictive modifiable risk factors
	Limited understanding of life-long disease trajectories and precursor stages	Advance predictive biomarkers discovery for disease activity and therapeutic response (eg, omics-based profiling)	Evidence-based prevention strategies
	Limited real-world effectiveness data and head-to-head trials	Generate RWE on remission, disease modification, and long-term outcomes	Stronger support for personalized and predictive care models
	Uncertainty regarding optimal care pathways	Generate health economic evidence to support optimized research allocation	Health economic justification for earlier, more targeted interventions

CRD = chronic respiratory diseases; OCS = oral corticosteroid; SABA = short-acting beta-agonist; RWE = real-world evidence.

are many challenges ahead in terms of motivation and methodologies,⁵² not to mention the challenges of adequate governance. Patients will need to be involved in the design of any application alongside practicing clinicians to ensure that any app is fit for purpose in line with design principles.⁵³ A full roll-out in the future could also allow for more spatiotemporal (exposure) data collection, potentially enabling predictive analytics.⁵⁴ Thus, guideline development committees need to be prepared to capture and translate the increasing complexity and further individualization of care into clinical care pathways that allow for earlier treatment and proactive disease management.

AI holds significant promise to transform respiratory care by improving diagnostic accuracy, supporting personalized treatment decisions, and identifying patients at risk of deterioration.⁵⁵ AI-driven models can integrate imaging, biomarkers, and patient-reported outcomes to guide earlier and more precise interventions. To be clinically useful, however, such tools must be explainable, validated across diverse populations, and embedded into existing workflows without adding administrative burden.³² Used in this way, AI can enhance clinician decision-making and support more meaningful patient-provider interactions at point-of-care.

Building Collaborative and Patient-Centric Care

A key limiting factor is that effective respiratory care requires collaboration across different medical disciplines. The symposium strongly emphasized the need for more integrated, multidisciplinary care models across sub-specialties, including primary care, pulmonology, otorhinolaryngology, allergology, pediatrics, psychology, and rehabilitation services. Furthermore, smooth transitions and bidirectional communication between different levels of care (primary, secondary, and tertiary) are essential for optimizing outcomes and efficient use of finite resources.³¹ More initiatives aiming to facilitate this approach, such as the EUFOREA multidisciplinary pocket guides³⁰ and multidisciplinary training courses⁵⁶ uniting different specialists, are highly welcomed and adopted by centers worldwide. Other educational platforms, including the European Respiratory Society learning modules and Harmonised Education in Respiratory Medicine for European Specialists (HERMES) examinations, the American Academy of Allergy, Asthma and Immunology certifications, and

American College of Chest Physicians' recent exploration of a certification program for advanced practice providers in pulmonary medicine, show the growing ecosystem of respiratory education needed for an effective workforce.

Furthermore, actively making the patient the center of their journey is equally important. Patients who are well informed about their condition and treatment tend to follow their therapeutic plans more closely and have better outcomes.⁵⁷⁻⁶⁰ A key approach is to empower patients by education and supported self-management⁶¹ to strengthen them in advocating for their own health. Indeed, better patient education can lead to better treatment adherence, fewer exacerbations, and improved quality of life.^{62,63} EUFOREA's Patient Advisory Board ensures that patient perspectives are being represented through advocacy efforts and are involved bottom-up in educational materials and research projects.^{33,34,45} Furthermore, particularly relating to translational health issues, patients need to be actively involved in the design of prospective trials.⁶⁴

Health Policy for Systemic Change

To help transform respiratory health care, including the aforementioned recommendations, strong political support and proactive public health policies are essential. Giving CRDs greater recognition within the public health agenda is necessary to secure adequate funding, effective prevention strategies, and rapid access to advanced treatments when clinically indicated. Access to both essential and advanced therapies continues to vary greatly across countries, further compromising health equity. The upcoming Fourth High-Level Meeting of the UN General Assembly on preventing and controlling noncommunicable diseases (NCDs)⁶⁵ is an important opportunity to encourage global action and include CRD management within broader NCD frameworks, building on initiatives such as the EU NCD initiative.⁶⁶ The need for prevention has been a key strategic focus area of EUFOREA since its foundation in 2015.^{3,7}

Historical measures, such as strengthening tobacco control, have shown a substantial positive impact on the burden of CRDs and public health more broadly.⁶⁷ Further real-world evidence on preventive and therapeutic interventions could help allocate resources more effectively. The opportunity cost of inaction is not only medically and morally unacceptable but also undermines the prosperity of societies in all regions.⁶⁸

Indeed, integrated public health strategies that combine preventive measures (eg, mitigating indoor and outdoor atmospheric pollution) with an optimization of current and future clinical care pathways, while safeguarding clinical autonomy for more personalized care, could reduce respiratory illness and related costs.⁶⁹

Furthermore, global collaboration and partnerships are vital. Disparities in care are still abundant in 2025 worldwide due to varying resources, infrastructure, and priorities.⁷⁰ EUFOREA's strategic priorities align with and complement ongoing initiatives by the World Health Organization and guideline committees (Global Initiative for Asthma, the Global Initiative for Chronic Obstructive Lung Disease, and the European Position Paper on Rhinosinusitis and Nasal Polyps, Allergic Rhinitis and Its Impact on Asthma). More specifically, EUFOREA's contribution is in bridging the latest scientific insights into clinical practice by providing clinically relevant guidance through multidisciplinary education and practical decision-support tools. Ongoing challenges in clinical management (eg, inappropriate use of [repeated] oral steroids and antibiotics, short-acting beta-agonists without inhaled corticosteroids in asthma, repeated polypectomies in CRSwNP) remain common and warrant a coordinated, global, and cross-disciplinary action. Having a highly ambitious framework (eg, targeting prevention and remission) will also help in identifying the lessons learned from leading and lagging health care systems.⁶

Moving toward value-based health care, which focuses on outcomes relative to costs for each stakeholder, might also increase the likelihood of long-term investment in CRD care.⁷¹ Strong real-world evidence and economic analyses are welcomed to corroborate and prioritize early diagnosis, optimized treatment, and prevention. Although this symposium focused on asthma, COPD, CRS, and allergic rhinitis, many of the systemic-level recommendations are broadly applicable across respiratory medicine. Specifically, the health care system reforms outlined in Table 1 (integrated multidisciplinary care pathways, evidence-based screening programs, and digital monitoring tools) represent infrastructure improvements that will also indirectly benefit patients with restrictive lung diseases, sleep-related breathing disorders, and other chronic respiratory conditions.

Although provider qualifications were not discussed during the symposium, they remain essential for implementing modern respiratory care. As diagnostics

and treatment pathways become more complex, harmonized and Continuing Medical Education-accredited training is critical to ensure a competent workforce across all levels of care. International alliances such as the Biomedical Alliance in Europe play a critical policy role in promoting consistent, high-quality educational standards.

EUFOREA's Action Plan

With remission now recognized⁴⁴ as a most ambitious treatment goal in CRSwNP and asthma, all stakeholders and their representatives must join forces to achieve remission in a substantial proportion of patients experiencing inflammatory CRDs.⁴⁰ EUFOREA's flagship project, the Airways Disease Action Plan for Personalised and Preventive Treatment (ADAP³T), is a multistakeholder and collaborative plan to help arrest the growing epidemic of CRDs through a digital companion for patients and clinicians, aiding in overcoming the current obstacles for the implementation of preventive strategies and optimal use of resources (Fig 3).

ADAP³T will encompass a digital companion through which patients are actively supported in reaching better outcomes of care through AI-driven support, based on big health data insights and guideline-based algorithms. It capitalizes on opportunities such as self-education and remote patient (self-) monitoring to facilitate optimal clinical pathways.^{18,49} Current technologies indeed allow for collecting real-time data and personalized notifications. However, specific tools addressing the most common CRDs are largely lacking

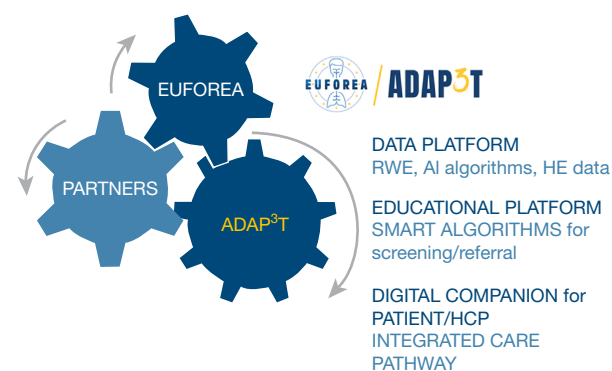


Figure 3 – Positioning of ADAP³T to facilitate multistakeholder collaboration and develop practical tools to address unmet needs by the different stakeholders. ADAP³T = Airways Disease Action Plan for Personalised and Preventive Treatment; AI = artificial intelligence, HCP = health care professional; HE = health economics; RWE = real-world evidence.

or inadequate. By taking into account the lessons learned from the last decade, there is a huge potential for these tools to reduce diagnostic delays, improving personalized, predictive, and preventive therapy, and making referrals more efficient. Particularly, in the context of primary care, in which the large majority of patients are being managed, tools that inform and enhance effective management are worthwhile and badly needed by clinicians and patients alike.⁷²

Digital health tools such as the planned ADAP³T framework should support the strategic pillars of predictive, preventive, personalized, and patient-centric care to enable practical implementation. In the ADAP³T concept, the predictive component would help flag patients at risk of uncontrolled disease; the preventive component would support earlier intervention through risk stratification; the personalized component would tailor recommendations to individual symptom patterns and biomarker profiles; and the patient-centric component would facilitate shared decision-making and self-management through educational tools of EUFOREA.

Tools that optimize and streamline the workflows of health care providers might also prove to be beneficial to improve evidence-based care,⁴¹ while integrating continuous medical education. Keeping up-to-date with evolving precursor stages of disease (eg, pre-COPD, pre-asthma),^{43,73} treatment goals (eg, control and remission),^{40,44} and innovative therapies (eg, biologic agents)^{37,74} is key to strengthening patient care. EUFOREA will support these efforts through the development of digital education platforms with interactive modules and decision support tools to reduce disparities in health equity and improve outcomes.⁷⁰

Conclusions

This EUFOREA jubilee symposium highlighted the urgent need to transform the management of CRDs with a focus on prevention, early diagnosis, and patient-centered care. Key strategies involve adopting predictive and preventive medicine, implementing integrated care, supporting policies and global collaboration, and embracing digital tools. The next decade requires efficient translation of latest innovations into tangible benefits for patients, working toward a future of proactive respiratory management and improved quality of life worldwide to meet the World Health Organization's NCD Prevention and Control targets of 2030 and beyond.⁷⁵

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