

Community care and Management of longer-term Conditions

(LCHS7003)

Topic Name: Asthma

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Management

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Asthma

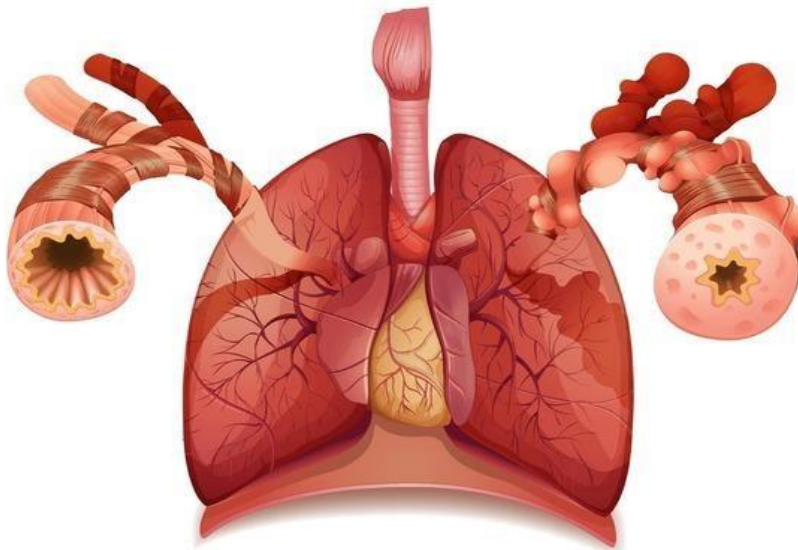


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Aim and Definition

Asthma is a chronic inflammatory lung disorder of the respiratory system of human individuals that impacts human beings of every age and status. It is a disease that is characterised by reversible airway obstruction, chronic inflammation of the bronchi and bronchial hyperresponsiveness (Chung *et al.*, 2022). Asthma is treated as one of the prevalent chronic conditions in UK healthcare. It impacts on the quality and life expectancy in case it is not well controlled (López-Tiro *et al.*, 2022). Health and care professionals are significant in the diagnosis at an early stage, management planning and patient education. It is a way where individuals who have asthma get the best results by having evidence based and coordinated care. This handout describes an overview of asthma such as definition, prevalence, causes and risk factors. It critically reviews the effects of the condition on physical, psychological and social health by describing evidence-based treatment procedures that are available in the UK. It also addresses the major theoretical concepts that guide the current treatment of asthma. It stresses the significance of prevention, early intervention and long-lasting patient engagement on the healthcare systems.

Asthma is a chronic respiratory disease which is non-communicable. It provides symptoms by stages of wheezing, breathlessness, chest tightness and coughing, often occurring at nighttime or early in the morning (Wagh *et al.*, 2022). The underlying pathophysiology involves airflow inflammation, mucus overproduction and bronchial muscle contraction which leads to narrowing of the airways. The condition is variable and reversible that distinct it from other chronic obstructive pulmonary diseases or COPD where obstruction is largely irreversible. Asthma can be classified into several subtypes such as allergic asthma (extrinsic), non-allergic asthma (intrinsic), occupational asthma, exercise-induced asthma and severe refractory asthma (Qaid and Long, 2025). These categories reflect differences in triggers, pathogenesis and response to the treatment. Although symptoms of the disease may subside, the chronic nature of asthma makes the health condition persistent throughout life. It requires ongoing health monitoring and management according to it.

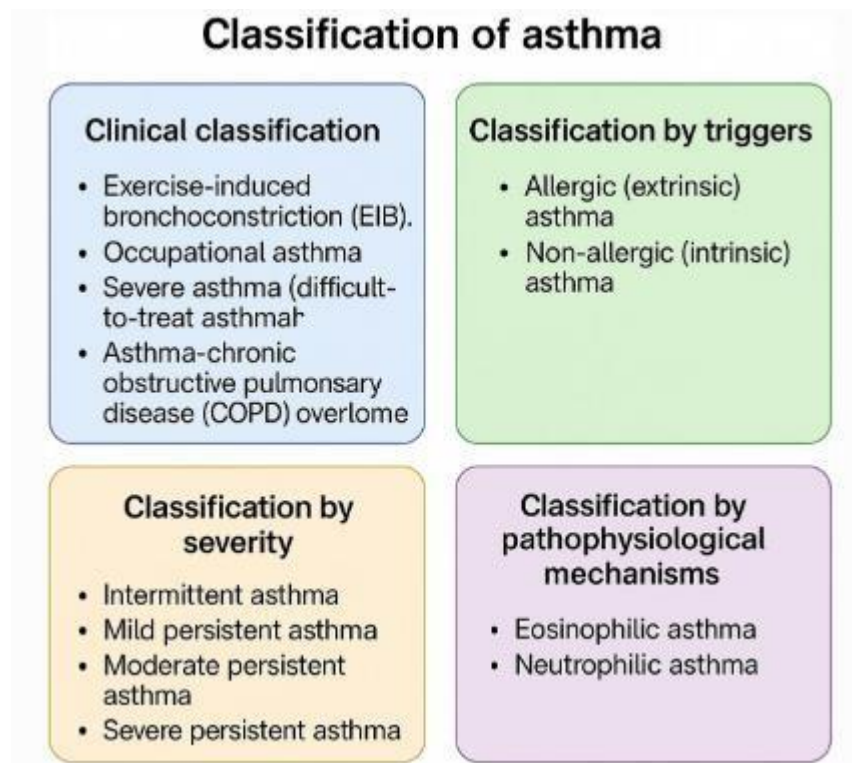


Figure 1: Classification of Asthma

(Source: Qaid and Long, 2025)

Burden and prevalence

Asthma affects more than 260 million people globally and the disease is also responsible for approximately half a million deaths each year (Song *et al.*, 2022). In the United Kingdom, asthma is one of the most prevalent long-term conditions. It affects around 5.4 million people including 1.1 million children and 4.3 million adults. This reveals that one in every 12 adults and one in every 11 children is affected and receiving asthma treatment in the UK. The disease accounts for thousands of emergency admissions annually and exerts significant pressure on NHS resources, both in direct healthcare costs and productivity loss due to absenteeism. The mortality rates from asthma in the UK have declined over recent decades due to improvements in diagnosis, medication and education (Samannodi *et al.*, 2023). However, studies explored that a significant proportion of these deaths results from inadequate management plans, underuse of preventative inhalers or lack of timely clinical review. The burden is not equally distributed as the people of deprived areas and ethnic minority communities experience higher rates of hospitalisation and death which reflects persistent health inequalities.

Aetiology and risk factors

Asthma arises from a complex interplay of genetic, environmental and lifestyle factors. A family with a history of asthma or atopy such as eczema or allergic rhinitis increases susceptibility and suggests a genetic predisposition that involves immune-regulatory genes. The environmental factors include the exposure to allergens such as dust mites, pollen, pet dander or mould, air pollution, tobacco smoke etc (Wu *et al.*, 2021). Occupational irritants such as chemicals, wood dust or metal fumes cause chronic asthma (Lindström *et al.*, 2021). Respiratory infections in early life can alter airway development by increasing vulnerability. The other factors that are identified as contributing factors to the disease are obesity, sedentary lifestyle and stress. Recent research highlights the role of the gut and airway microbiome in influencing immune response. Climate change is also emerging as a global concern as warmer temperatures extend pollen seasons and worsen air quality.

Impact of Asthma

Psychological Impact

A chronic and unpredictable condition exerts significant psychological pressure to the person. Experience of an asthma attack, particularly in public or during sleep causes anxiety which is common. Some people develop panic symptoms that can worsen his or her breathing difficulties (Crook *et al.*, 2021). Children may feel different or excluded from peers due to activity restrictions. Whereas adults may experience frustration or numbness when these symptoms create barriers to their productivity. The fear of dependence on inhalers or side effects from the steroid medications can contribute to non-adherence, perpetuating a cycle of poor control and worsening symptoms (Clarke *et al.*, 2022). The need to address mental well-being of the patient is part of holistic asthma management. It is recognised by the healthcare professionals as psychological distress is both a consequence and a trigger of asthma exacerbations.

Physical Impact

Asthma imposes different levels of physical limitation depending on severity. Mild asthma can be treated well with medication but moderate to severe forms can cause persistent breathlessness, fatigue and sleep disturbances. Exacerbation or 'asthma attacks' can be life-threatening if not managed promptly. Poorly or neglectfully controlled inflammation can lead to airflow modelling over time and it reduces lung elasticity and worsen long-term results (Bezerra *et al.*, 2023). The

treatment and management got complicated by the coexistence of the comorbidities such as allergic rhinitis, sinusitis, gastroesophageal reflux disease and anxiety disorders (Canonica, 2022). For children, recurrent symptoms can interfere with physical development and participation in sports, while the condition can restrict the occupational opportunities and everyday mobility in adults.

Socio-economic and Healthcare Impact

NHS, the publicly funded healthcare system in England, is cost with billions annually in medication, hospital admissions and lost working days for asthma. If asthma is left uncontrolled, it leads to frequent exacerbations, emergency visits and prolonged treatment costs (Pollack *et al.*, 2022). The condition can disrupt schooling, employment, and daily activities at a community level and it contributes to emotional distress and reduced social participation. Socially, asthma can influence educational attendance, career choices and participation in a common lifestyle of a person (Tseng and Wu, 2025). The condition may also lead to financial burden as it is curing in terms of financial strains in attending the appointments, childcare or fewer working times. This underlines the importance of prevention, early intervention and sustained patient engagement for healthcare systems.

Family and Care Provision

Not only the individuals are affected by asthma, but also their family and caregivers. The anxiety and lack of sleep and emotional exhaustion are frequent in the parents of an asthmatic child because of their continuous watch over the possible triggers. The families might have to adjust their home environments like not having pets or switching heating systems that will limit exposure of the allergens. The family of the affected individual is also usually a part of the medication process during the periods when he has to keep track of the symptoms, control medication adherence, and control the environmental factors at home. In adult patients with asthma, the partners or relatives are also expected to exhibit high levels of responsibility through care in case the case develops severe or uncontrolled asthma (Wei *et al.*, 2025). Feelings of helplessness and stress in the acute attacks are common among caregivers and that explains the necessity of lacking knowledge and support network (Wu *et al.*, 2025). Medical workers ought to strategically develop systems of managing asthma by providing guidance with effective communication and care givers involvement in the planning. Supporting families through education, counselling and

respite opportunities not only strengthens coping capacity but also improves long-term results and adherence to treatment.

Evidence-based Management and Treatment

Overview of NHS Treatment Pathways

Outlined by National Institute for Health and Care Excellence or NICE and the British Thoracic Society, the management of asthma allows evidence-based protocols. The main goal of the plan is to achieve proper symptom control, prevent exacerbations and maintain normal activity levels (Ioannides *et al.*, 2024). The treatment procedure involves a stepwise approach which is adjusted according to severity and patient response. First-line management involves short-acting betacorticosteroids or ICS as preventer therapy to reduce airway inflammation. Long-acting betaagonists or LABA may be added for people with persistent symptoms, followed by leukotriene receptor antagonists or LTRA or biologic therapies such as monoclonal antibodies targeting specific inflammatory pathways (Fukuda *et al.*, 2023).

Personalised Action Plans and advanced therapies

All the asthmatic patients should receive a personalised action plan, co-created with healthcare professionals according to the respective condition for asthma. These plans empower patients to show that personalized plans significantly reduce hospital admissions and improve selfmanagement confidence. Some biologic drugs such as omalizumab, mepolizumab and benralizumab have shown substantial improvement and reduced exacerbations by targeting eosinophilic inflammation for severe patients (Fieldes *et al.*, 2021). Specialist centres across the UK offer multidisciplinary support for patients eligible for these advanced interventions.

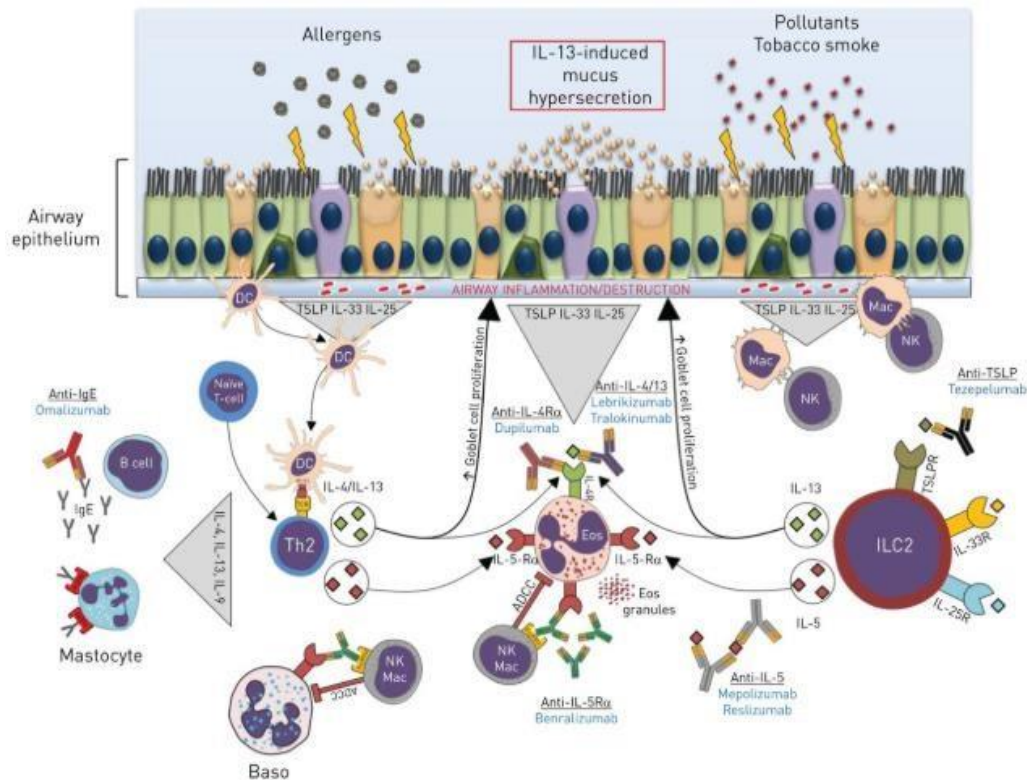


Figure 2: Simplified representation of the eosinophilic inflammation pattern in asthma and COPD

(Source: Fieldes *et al.*, 2021)

Non-Pharmacological Management

The information on the actual method of taking an inhaler is highly crucial since the failure of a treatment is caused by the incorrect approach to the device. Pulmonary rehabilitation is the complement, breathing exercises, and allergen avoidance practicing complement gall pharmacotherapy. The obese patients need to be suggested to use weight management and exercise initiatives due to the improvement of lung function, systemic inflammation and performance (Sharma and Cowan, 2021). Digital technologies (such as smart inhalers and mobile health applications) can be used to control the application of adherence and provide real-time feedback to patients and clinicians using data-based decision making.

Theoretical Perspectives and Models of Care

Theoretical Perspectives and Models of Care Asthma as a chronic disease cannot be reduced only to the need of medical treatment but also to the efficacy with which the healthcare systems fundamentally prevent this issue and ensure proper maintenance and help with patients.

Theoretical frameworks provide structured approaches to improve outcomes by aligning clinical practice with patient needs and health policy priorities. Two significant models that underpin asthma care are the UK-based House of Care Framework and the internationally recognised Chronic Care Model (CCM).

The House of Care Framework in the UK

In the UK, the House of Care Framework is an example that promotes person-centred, reciprocal care for managing long term conditions such as asthma. It promotes a collaborative relationship between patients and clinicians that centers on shared decision-making, proactive planning and regular review. With respect to asthma this is in keeping with national initiatives such as the NHS Right Care Asthma Toolkit, NICE guidance and British Thoracic Society asthma care standards (British Thoracic Society, 2025). Key aspects are tailored asthma action plans developed with patients to aid in monitoring of symptoms and for safe exacerbation management. Selfmanagement support is strengthened by patient activation interventions including education, technological tools and decision aids that enable patients to manage their condition independently with assurance (Pinnock *et al.*, 2023).

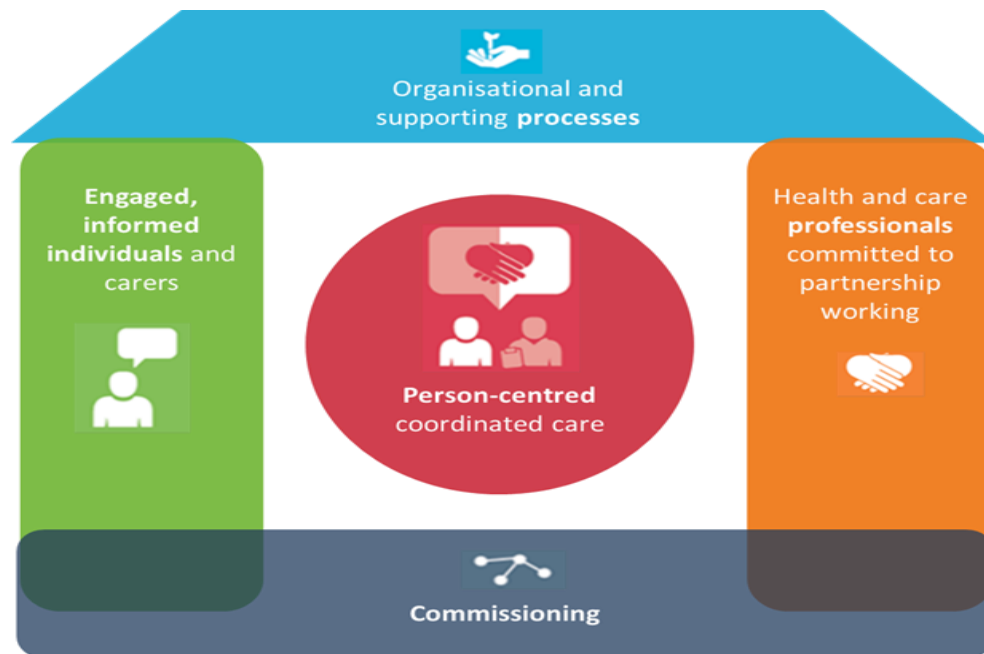


Figure 3: The House of Care Model

The model also takes into account smoking status, obesity, low adherence to medications and poor vaccine uptake and stresses targeted interventions to decrease the exacerbation rate and hospital admissions. Integrability of primary, emergency and specialized care is a further key element to ensure communication, coordination and timely referral in severe asthma (Homaira *et*

al., 2023). It is a comprehensive holistic or systemic approach that seeks to maximise treatment, improve quality of life, and minimise healthcare expenditure with the reduction of acute episodes. Overall, the House of Care Framework provides a foundation for effective asthma management in the UK which includes personalised and co-ordinated care that can follow the patient on their asthma journey.

The Chronic Care Model (CCM)

The CCM contributes to the redesign of asthma care through a comprehensive model for proactive, patient-centered treatment of this chronic disease. When asthma care follows the principles of the CCM, patients who are informed and active users of services are cared for by a well-coordinated, multidisciplinary team that provides comprehensive care of high quality. These six components of the model such as community resources, healthcare organization, selfmanagement support, decision support, delivery system design and clinical information system are collectively used to address the multifaceted nature of patient needs in asthma (Goh *et al.*, 2022). Self-management support encourages patients to track symptoms, avoid triggers, and take prescribed medications. Decision support ensures care is evidence-based and consistent with patient's wishes. The design of delivery systems also leads to the development and implementation of shared care plans including routine follow-up and emergencies (Azzellino *et al.*, 2025).

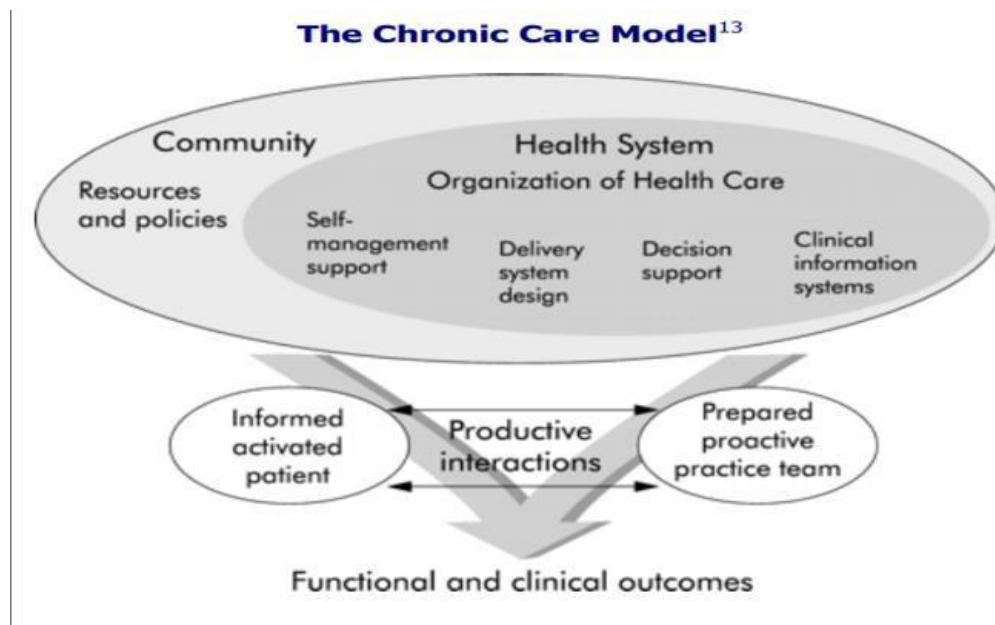


Figure 4: The Chronic Care Model

Policy and Political Context

The Parliament lays a complicated policy backdrop within which the management of Asthma in the United Kingdom exists. Sustained management of the long-term conditions means the necessity of alignment between evidence-based clinical practice, the activities of public health, and the agendas of the health and social care developed by the government. Over the past decade, the UK government and the NHS have implemented several frameworks to improve asthma outcomes, focusing on prevention, early intervention, and integrated service delivery.

Local and National Policy Frameworks

In the UK, asthma management operates within the wide context of the NHS long-term plan that prioritises prevention, early intervention and self-management for chronic conditions. The plan aims to reduce avoidable hospital admissions and enhance integrated community-based care. Further, NICE guidelines standardise diagnostic and therapeutic pathways that ensures consistency across primary and secondary care. There is a leading national charity called 'Asthma and Lung UK' that collaborates with NHS England and local authorities (Hui, 2025). It aims to drive awareness campaigns, reduce inequalities and improve access to respiratory services. Their advocacy has led to initiatives such as the National Asthma Audit Programme that monitors care quality and results across NHS trusts. The NHS Long Term Plan (2019) sets out a clear commitment to enhance care for patients suffering with long-term respiratory conditions as of asthma. It emphasises earlier diagnosis, patient education and the decreased hospital admissions through improved self-management and community-based care (Eusebio and Leary, 2025). The plan also supports digitalization of the tools as smart inhalers and remote monitoring systems. Clinical guidance from the National Institute for Health and Care Excellence (NICE), particularly guideline NG80 on asthma diagnosis, monitoring and chronic management provides standardised recommendations for practitioners across primary and secondary care (Simpson *et al.*, 2024).

Local Health and Social Care Implementation

Integrated Care Systems or ICSs at the local level bring NHS bodies, local councils and voluntary organisations together to deliver coordinated respiratory care. Community pharmacists and practice nurses play important roles in reviewing inhaler use, educating patients and supporting adherence. These decentralised efforts are essential for reaching underserved populations and addressing regional disparities.

Political and Social influence

Asthma prevalence and severity is directly influenced by political commitment to air quality, tobacco control and climate policies. Efforts like the Clean Air Strategy and smokefree legislation in the UK have helped to minimize the exposure to the dangerous pollutants (Radó *et al.*, 2021). Nonetheless, there are still unresolved problems, especially the ones in urban cities where there are a lot of emissions due to traffic. Socioeconomic inequalities, housing quality and occupational exposure still influence the outcome of asthma, and it becomes the priority of the policy efforts to combine the strategies of public health, social care and environmental interventions to be sustainable.

Person-centred Care and Recommendations

Promotion of Self-management

The key to controlling the disease in the long term is to give people the capacity to control asthma on their own. Medical workers must offer systematic training in the areas of trigger recognition, inhaler, and adherence to action plans. The involvement and responsibility can be increased with the help of peer support groups and online platforms. Patient education on how to identify potential early warning signs of deterioration and the promotion of regular self-monitoring of peak flow rates using peak flow meters can serve to avoid severe attacks (Rhee and Katchamat, 2025). Consultations may be enhanced with the help of motivational interviewing to achieve adherence and promote behavioural change. The consideration of various experiences of asthma victims requires person-centred care. Health literacy, language barriers and cultural beliefs may influence compliance and attitude to illness. Fair care is possible due to customized communication, education materials that are culturally sensitive and delivery of services in an inclusive manner (Theodosopoulos *et al.*, 2024). Institutions of community activities collaborating with schools, acting as a housing authority, and health champions in localities can also fill such gaps in knowledge and access, particularly in poor or minority communities.

Integration of multidisciplinary and Technological Support

The healthcare of asthma patients presents the multidisciplinary team involvement of respiratory specialists, general practitioners, nurses, physiotherapists, psychologists and social workers. Telehealth teleconsultations and remote monitoring and smart inhalers are digital technologies that can be used in conjunction with clinical visits or continuous follow-up. In addition to this the

incorporation of eco-friendly inhaler alternatives is also consistent with the NHS carbon-cutting objectives that offers health and ecological advantages.

End-of-life decision-making

In a bad prognosis case, patient autonomy must be upheld and families engaged, and more comfort-based care provided through the person-centred approaches. Multidisciplinary palliative care including psychological counselling and symptom control can be used to add much to dignity and quality of life (Xu *et al.*, 2022). The issue of advanced care planning and end-of-life decision making are applicable to incurable severe type asthma patients.

Recommendations for practice

- Have an individual asthma action plan reviewed in all patients on an annual basis.
- Increased access to biologic therapies with hubs of specialists
- Promotion of housing and clean air practices to reduce triggers. • Remote asthma monitoring can be enhanced using digital infrastructure • Combine cultural competence and equality healthcare education.
- Expand the engagement and sustainment of care in cross-sector relationships across disciplines.

Conclusion

In the United Kingdom, asthma is one of the prevalent and most challenging chronic complications. Nevertheless, it is also among the most manageable ones offering it is addressed in a person-focused and integrated manner. The management of asthma should make note of the intricacy of the disease. The health and care professional inputs are highly important since it is upon them to ensure that early diagnosis is carried out effectively, assessment and offering of evidenced based interventions, which will enable the patient to be in control of his condition. The changes that occurred regarding the national level including NHS Long Term Plan, the guidelines given by NICE and the model that is part of it including the House of Care and the Chronic Care Model appear to offer the place of enhancing the results, reducing the unwarranted hospitalizations. Nevertheless, the permanent application of the program, continuous education of the patients, and access to care by all communities equally would lead to the success of the program in the long term. Self-management support, technological innovations, and culturally sensitive practices can enable the UK healthcare system to improve themselves with more holistic

and sustainable asthma treatment. In the end analysis, the realization is that good management does not just lead to an improved clinical outcome but also a better quality of life, autonomy and self-confidence of the patients living with asthma and their families.

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