The Health Policy Partnership

A breath of fresh air

Addressing missed opportunities in severe asthma care

About this report

This report was written by Angel Gonzalez de la Fuente and Suzanne Wait at The Health Policy Partnership.

We would like to thank the following experts who contributed their insights:

- Professor Job van Boven, Associate Professor of Respiratory Health Economics and Drug Outcomes Research, Groningen Research Institute for Asthma and COPD (GRIAC), University Medical Center Groningen, the Netherlands
- Professor Giorgio Walter Canonica, Professor of Respiratory Medicine and Director of the Personalised Medicine, Asthma and Allergy Centre, Humanitas Research Hospital IRCCS, Milan, Italy
- Henry Gregg, Director of External Affairs, Asthma + Lung UK, and Chair of Taskforce for Lung Health
- Dr Steve Holmes, family physician and Somerset and NHS England (South West) Clinical Respiratory Lead, UK
- Laura Williamson, Policy and Public Affairs Officer, Asthma + Lung UK, Taskforce for Lung Health, UK
- Tonya Winders, President and CEO, Global Allergy & Airways Patient Platform

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Executive summary

Most people think of asthma as a relatively mild condition, but it causes 1,000 deaths every day around the world.[1,2] The majority of people with asthma are able to control and manage their condition through inhaled treatment, but 3–10% of people with asthma have severe asthma,[3] in which they experience repeated, life-threatening asthma attacks (or exacerbations) that they are unable to control despite using appropriate inhaler treatment correctly.[4,5] Severe asthma is a distinct condition that requires assessment and ongoing care from a specialist in severe asthma to ensure people are offered effective treatments that can help them reduce the risk of asthma attacks and improve their quality of life.[6,7]

> **'Current inhalers and medications often fall short for people with severe asthma. It's essential to identify and provide them with appropriate treatments to prevent overuse of emergency services and ineffective disease management.'**
>
> Tonya Winders, Global Allergy & Airways Patient Platform

Severe asthma significantly disrupts people's lives. Having frequent, unpredictable episodes of struggling to breathe can have a detrimental impact on a person's quality of life,[8,9] impacting their productivity[10] and ability to lead a normal life.[11] This in turn translates into significant costs for society in terms of lost productivity, premature disability and high healthcare resource use:[1,10-12] data from a Canadian study suggest the cost of managing severe asthma is ten times that of managing mild asthma.[13]

Much of this burden could be reduced by applying existing guidelines and quality standards.[14,15] Yet significant deficits in care persist: up to 57% of people with severe asthma have uncontrolled disease.[16] At the root of the problem is that severe asthma is often not recognised as a distinct condition that requires a comprehensive care pathway, and people often wait years before being referred to an asthma specialist and being offered effective treatment.[17] Access to treatment is highly variable, notably for biologics which, in eligible patients, have been shown to reduce the frequency of asthma attacks and improve patients' quality of life.[18,19] Overreliance on repeated, long-term use of high-dose oral corticosteroids to treat asthma attacks is still very common,[20,21] despite recent guidelines calling for limiting their long-term use as this can lead to significant side effects.[21,22] And inequities in outcomes of care persist, with women and people from racial and ethnic minorities particularly affected.[23]

Optimising the management of severe asthma will have more than just clinical benefits. Fewer asthma attacks will mean fewer emergency room visits and hospital admissions, alleviating pressures on already stretched health systems and enhancing social prosperity by reducing productivity losses.[11] Better management of severe asthma can also help reduce the carbon footprint linked to asthma care from overuse of inhalers and hospitalisations linked to asthma attacks.[24-26] And addressing existing disparities in severe asthma care can help improve the overall equity of care, as poor outcomes are more common among many socially disadvantaged groups.[27]

Health outcomes for severe asthma have too long lagged behind those of many other inflammatory conditions.[28] Policymakers and health system leaders have an opportunity and a duty of care to ensure every person with severe asthma is able to live a life free from the debilitating impact of asthma attacks and loss of lung function. This will require governments to:

- **commit to comprehensive national respiratory strategies** that include specific goals for the prevention, early diagnosis and treatment of severe asthma, and reliable data collection to evaluate progress and drive system improvements over time
- **engage in intersectoral preventive efforts** to reduce air pollution and address the underlying causes of climate change
- **configure health systems to ensure all people with suspected severe asthma have access to equitable, timely, evidence-based, specialist respiratory care as part of comprehensive care pathways**
- **ensure that care is multidisciplinary and holistic** to address severe asthma in all its complexity, and engage people in their care to optimise the chances of treatment success and improve their quality of life
- **drive proactive, targeted interventions to address existing disparities in access to and quality of care,** ensuring they are co-developed with the communities affected
- **support a move away from overreliance on oral corticosteroid therapy for repeated treatment of asthma attacks** by providing all relevant physicians appropriate training on their appropriate role in the management of severe asthma and on the risks and side effects associated with repeated, long-term use.

With growing pressures on health systems and social prosperity, investing in comprehensive severe asthma care is an investment in a healthier, more productive future. The cost of not doing so is simply too great, not just in terms of individual health and quality of life, but also in terms of costs to society as a whole.[11 29-31]

01

The scale of the issue

Asthma: a global presence and burden

Asthma is a common chronic respiratory condition that has a significant public health impact around the world. In 2019, up to 262 million people were living with asthma and it caused 461,000 deaths per year[1] – the equivalent of 1,000 people dying from asthma every day.[2] Multiple factors can cause asthma (*Box 1*).[32] Although it is often thought of as a childhood condition, at least half of cases begin in adulthood, and they tend to be more severe than childhood-onset asthma.[33]

Box 1. What is asthma and what causes it?

Asthma is a major non-communicable disease and is the most common chronic disease among children.[34] Symptoms are caused by inflammation and narrowing of the small airways in the lungs, and can include any combination of coughing, wheezing, shortness of breath and tightening of the chest.[5] Two types of medication, known as reliever and maintenance therapy, are used to treat asthma. Maintenance therapy should be taken regularly to address the underlying inflammation and try to prevent asthma attacks over time. Reliever medication works quickly and is used to treat acute symptoms when they occur.[35] When inflammation cannot be controlled through medication, people become at an increased risk of asthma attacks (also referred to as exacerbations).

Many factors can cause asthma and trigger symptoms. Air pollution is a recognised cause of asthma. In 2018, it was cited as an independent cause of death in a landmark case in the UK, in which a nine-year-old girl died after repeated emergency hospital admissions for severe asthma attacks.[36] The high presence of allergens and extreme temperatures linked to climate change,[32 37] traffic-related pollution and living close to a major road[38] can also trigger asthma symptoms. Other risk factors include exposure to smoking in utero and during childhood, low birth weight,[33] childhood respiratory infections[39] and lower socioeconomic position.[33]

Severe asthma: a disproportionate impact on morbidity and costs

Although most people can control asthma through appropriately used inhaled medication, a minority of people have severe asthma, which is a very serious condition. Around 3–10% of people with asthma have severe asthma,[3 4] a distinct condition in which people experience repeated, life-threatening asthma attacks (or exacerbations) that they are unable to control despite correctly using the appropriate inhaler treatment.[4] Severe asthma requires specialist input to confirm diagnosis and assess for other factors that could be causing uncontrolled attacks, such as poor adherence to treatment or incorrect inhaler technique.[40 41] Specialist input is also needed to evaluate people's eligibility for certain add-on treatments and prescribe them as appropriate to help reduce the person's risk of asthma attacks and improve their quality of life.[6 7]

Although it only accounts for a minority of cases, severe asthma contributes disproportionately to levels of illness and death, and to the costs of asthma.[1 11 12] Having uncontrolled asthma attacks can be terrifying and tremendously disruptive to everyday life,[8] and may lead to irreversible decline in lung function.[42] People with severe asthma often face significant distress exploring treatments and managing side effects before they are able to access an asthma specialist.[6] This in turn translates into significant costs for society in terms of lost productivity, premature disability and high healthcare resource use:[1 10-12] at least 50% of the total costs of asthma are due to severe asthma,[11] and data from a Canadian study suggest the cost of managing severe asthma is ten times that of managing mild asthma.[13]

'Severe asthma is unique and different from other forms of asthma and accounts for at least 50% of total costs of asthma.'

Tonya Winders, Global Allergy & Airways Patient Platform

02

Why change is needed

Significant disparities despite recognised standards of care

Clear and consistent guidelines exist to inform the management of severe asthma. Global guidance[5] and quality standards[15] clearly define key components of high-quality diagnosis and care that should be built into comprehensive care pathways. These standards have been translated into the Severe Asthma Patient Charter, which was developed by a coalition that included patient groups and professional societies, to convey the clear message that every person with severe asthma should be offered the treatment and care they need to allow them to live a normal life, free from the distressing impact of being unable to breathe (*Table 1*).[6]

'Three major concerns in severe asthma management need attention: the need for early diagnosis and swift intervention; the need to ensure appropriate access to treatments, including biologics, while removing systemic roadblocks; and the urgency to make people aware of the detrimental consequences of long-term, high-dose corticosteroid usage. Regrettably, these vital aspects aren't accorded the consideration they deserve within health systems.'

Henry Gregg, Asthma + Lung UK, Taskforce for Lung Health, UK

Table 1. Components of the Severe Asthma Patient Charter, and why they matter

'I deserve timely, comprehensive assessment of my asthma and its severity.'	Diagnosis should be confirmed by a respiratory physician who specialises in severe asthma.[41 43] Severity of asthma is assessed retrospectively based on the number of uncontrolled attacks and other factors.[5] Asthma control needs to be periodically reassessed over time.[15]
'I deserve timely, straightforward referral to an appropriate asthma specialist for my asthma when it is not well controlled.'	Referral to a respiratory physician who specialises in severe asthma is key to improve outcomes for people with severe asthma.[6 7] Most people first present with symptoms or asthma attacks in primary or emergency care, and the absence of clear referral criteria means they often wait for months, if not years, before seeing an asthma specialist, experiencing repeated attacks that can potentially cause irreversible lung damage.[40 41]
'I deserve to understand what makes my asthma worse.'	Diverse triggers can cause symptoms and inflammation, so empowering people to understand their triggers and risk factors can enhance their self-management and encourage greater adherence to treatment, ultimately leading to improved control of their condition.[6]
'I deserve access to treatment and care that reduces the impact of asthma on my daily life.'	Severe asthma is often associated with other, coexisting conditions and requires a holistic approach that can help improve people's quality of life. Multidisciplinary care is needed to ensure that the complexity of the condition, including associated mental health issues, is appropriately assessed and addressed using a person-centred approach.[44]
'I deserve not to be reliant on systemic corticosteroids.'	Recent guidelines advocate moving away from overrelying on oral corticosteroids for repeated management of asthma attacks as their long-term use can cause serious illnesses and side effects that exacerbate the impact of severe asthma itself.[45] Each person's eligibility for other effective treatments should be evaluated.[46]
'I deserve to be involved in decisions about my treatment and care.'	As in other chronic conditions, engagement of patients is key to achieve better health for people with severe asthma. The use of educational approaches such as teaching proper inhaler technique, personalised asthma management plans and shared decision-making is key to improving care.[6 47]

Despite this comprehensive guidance, significant disparities in access to care persist. Globally, approximately 57% of people with severe asthma have poorly controlled disease.[16] At the root of the problem is the fact that severe asthma is often not recognised as a distinct condition that requires urgent referral to specialist care for ongoing monitoring and care. People can wait for months, if not years, before being referred to an asthma specialist, trapped in a cycle of inadequate care and enduring recurrent attacks that severely impair their quality of life.[17] Data from the UK, for example, suggest that up to 72% of people with potentially severe asthma had not seen an asthma specialist in the past year.[48] Access to effective treatments is also highly variable. For example, too few people are assessed for their eligibility for biologics, which have been shown to reduce asthma attacks in certain types of severe asthma and do not have the same side effects as oral corticosteroids.[5 19]

Another critical issue is overreliance on oral corticosteroid therapy for the repeated treatment of asthma attacks. Oral corticosteroids (OCS) play a role in providing acute relief from asthma attacks. However, recent guidelines suggest their repeated use should be limited as much as possible[5] as long-term use, particularly at high doses, leads to significant side effects including weight gain, diabetes, osteoporosis, cataracts, hypertension, depression and anxiety.[46 49 50] Yet overreliance on OCS is still very common, as evidenced by studies around the world.[20 51]

Missed opportunities to create benefits for individuals, health systems and society

A significant shift is needed in our treatment approach to severe asthma. The goal of treatment should move from short-term symptom relief to long-term symptom reduction[19] – offering every person with severe asthma earlier diagnosis and intervention as well as ongoing monitoring to prevent asthma attacks and loss of lung function, and enhance their quality of life over time. This shift would not only have significant clinical benefits, but would also translate into broader societal benefits. Better management of severe asthma would lead to reduced healthcare costs, helping to preserve resources in already stretched health systems.[52] A reduction in asthma attacks would translate into productivity gains, benefiting society at large. Greater asthma control would help reduce the carbon footprint of asthma care by avoiding hospital admissions.[53] And addressing disparities in access to asthma care could translate into more equitable outcomes across the population, helping to advance broader health equity goals.[54 55]

Reducing costs for health systems

Improved management of severe asthma would translate into significant economic benefits for health systems. Asthma is one of the main contributors to increased healthcare expenditures,[56] and, according to data from a Canadian study, the healthcare costs of severe asthma are ten times those of mild asthma.[13] Data from the same study suggest that the management costs of severe uncontrolled asthma are higher than for many other conditions including chronic kidney disease, stroke and chronic obstructive pulmonary disease (COPD).[57]

Two important areas of cost savings would be reduced hospital admissions and reduced side effects resulting from overuse of OCS. Emergency room visits and unplanned hospital admissions for asthma attacks account for a large part of total costs of severe asthma,[29 58] so reducing their occurrence would help preserve resources and protect the sustainability of health systems.[52] This would also help relieve pressure on scheduled hospital services, as unplanned hospitalisation can disrupt the timetable, causing delays or cancellations to elective procedures.[12 41] Avoiding overreliance on OCS would also lead to significant cost savings by avoiding their side effects: an Italian study found that the cost of treating OCS-related side effects among people with severe asthma in Italy amounted to €243 million per year.[59]

Improving productivity and enabling people to lead a full life

The greatest economic toll of severe asthma is the lost productivity it causes. Unplanned hospital admissions and visits to the emergency room can be severely disruptive for people, limiting their ability to pursue their careers and ambitions and often leading to significant loss of productivity,[45] including missed school days for children and work days for adults.[11] Some people are even at risk of premature disability,[10 29] which can result in financial hardship for them and their families (*Box 2*).

Box 2. Productivity losses due to asthma and severe asthma*

Restricted ability to engage in work: severe asthma can lead to fewer working days or temporary leave for recovery from an attack.[11]

Absenteeism: the average number of work days lost for home-treated asthma attacks is 5.6 days, rising to 13 days if hospital admission is required.[11] One study conducted in Spain in 2013 estimated that adults missed 1.5 work days per month due to asthma symptoms and had reduced productivity for 4.9 days per month.[10]

Lower earnings for individuals: uncontrolled asthma is strongly associated with unemployment or lower earnings for people who are employed. A study in Spain found that approximately €285 per person with asthma was attributed to lost work days each month,[10] and this is particularly true in severe asthma.

Early retirement and permanent disability: asthma can lead to premature departure from the workforce or induce permanent disability retirement.[60] This extends beyond the individual, generating substantial economic implications via governmental disability benefits. This highlights the wide-ranging societal impact of asthma.

***Note:** data on productivity losses linked to severe asthma are difficult to find, and some of the figures cited here pertain to asthma in general. However, given that people with severe asthma are at a higher risk of uncontrolled disease and frequent attacks requiring hospitalisation, these data are of high relevance to them and may even underestimate the condition's toll on their lives.

Mitigating the environmental impact of uncontrolled asthma

Achieving better control of asthma would help reduce the carbon footprint of asthma care through reduced hospitalisations, delivering mutual benefits for health and the planet.[53] In a UK observational study of 206,000 people with asthma, it was noted that the overall carbon footprint of poorly controlled asthma was three times greater per person than that of well-managed asthma.[26] The overreliance on short-acting beta agonists (SABAs) as reliever medication[25 26] contributes significantly to increased carbon emissions, as they are often unable to control inflammation and lead to hospitalisations.

Addressing underlying inequities to reduce disparities in outcomes

Data have consistently shown a troubling link between social inequalities and the prevalence, severity and outcomes of asthma in general.[23] Under-represented groups tend to have a higher burden of asthma, more severe disease and a higher presence of multiple other health conditions. This is confirmed by data from the UK which found that asthma-related health outcomes are worse among women[61] and people with a low socioeconomic position.[27] Lower socioeconomic position is highly correlated with higher exposure to poor air quality and overcrowded conditions, compounding people's vulnerabilities to ill health.[62 63]

Addressing existing deficits in access to severe asthma care may help reduce inequities in outcomes across the population, contributing to broader health equity goals. There are inequities in access to treatment based on sex, race, ethnicity and age,[23 64] which translate into poor outcomes in the affected groups.[54 55] Although few data are available on the equity of severe asthma specifically, studies have found that women with severe asthma in the US were less likely to receive biologics than men, and Black and Hispanic patients were less likely to receive biologics than White patients.[65] Research in asthma more broadly suggests that people from minority racial and ethnic groups have a history of facing disparities in care, leading to strained patient–provider relationships and lower satisfaction with asthma care.[23]

03

Driving meaningful change: what can be done?

Developing national respiratory strategies supported by comprehensive data collection

Governments need to commit to reducing the burden of severe asthma by formulating comprehensive respiratory disease strategies.[66] These should be built around attainable goals based on existing quality standards,[2 5] with accountability mechanisms to monitor progress.[11 29 67] They should include intersectoral preventive approaches to reduce risk factors such as air pollution; system changes to ensure equitable access to early diagnosis and specialist treatment and care; and targeted efforts to identify and address any existing inequities. Several countries, including Australia, Canada, Finland and Japan, have implemented specific national asthma plans that include severe asthma;[68 69] Finland is estimated to have saved as much as €128 million per year, and reduced hospital days by 54% (69% in relation to the number of people with asthma), since the plan's implementation.[2 70]

'Currently, we present individual case stories to policymakers and urge action, but we need to emphasise that these are not rare or isolated instances. They are pervasive, crossing national boundaries, occurring in your own backyard. It's far too easy to dismiss a single story as an anomaly. But these cases are common, and the call to action is urgent.'

Steve Holmes, NHS England, UK

Proactive collection of reliable data on severe asthma should be an integral part of national plans. Standardising and consistently reporting severe asthma data at a local level is an important starting point, as inconsistent data reporting and varying clinical definitions often hinder understanding of severe asthma's full impact.[71] Standardising the definition based on international guidelines and increasing data disaggregation can provide valuable insights to policymakers that can support more robust, data-driven approaches to reducing the burden of severe asthma.[71] An important source of data on severe asthma is the International Severe Asthma Registry (ISAR) (*Case study 1*).

Case study 1. The International Severe Asthma Registry (ISAR)

ISAR, the first global registry for severe adult asthma, collates standardised longitudinal data from more than 30 registries around the world. The registry has the statistical power to tackle various research questions, such as identifying new treatment targets, real-life treatment effectiveness, long-term safety across patient populations, and international comparisons.[72]

Optimising timely access to specialist diagnosis and care

Health systems should invest in suitable clinical decision-making tools and referral pathways to support early and accurate diagnosis. Clear referral pathways are vital to ensure all patients who present in primary or emergency care settings with suspected severe asthma can be rapidly referred to asthma specialists. However, some physicians may be unaware of symptoms to look for that warrant a referral. Automated systems using 'red flag' alerts based on frequent use of OCS and recognised symptoms can help clinicians assess people's asthma control levels and quickly identify individuals at risk of severe asthma who require a referral.[73] Specialist centres can also do targeted outreach to proactively identify people with potential severe asthma in primary care.[15] This may have the added advantage of reducing health inequalities by targeting communities who may face barriers in access to referrals to specialist centres.[40]

'In the Netherlands, we're fortunate to have clear, evidence-based primary care asthma guidelines... which offer primary care doctors a roadmap for asthma diagnosis and management, including medication selection, inhaler training, dosage adjustments and criteria for referral. In reality, however, referrals can be influenced by various factors, such as a practice's experience, the availability of specialist appointments, and physicians' confidence. These considerations can significantly affect the speed of referral to a specialist. Importantly, for referrals to be cost-effective, it should be ensured that the diagnosis is correct, comorbidities are addressed and that inhaler technique and adherence are optimised.'

Job van Boven, Groningen Research Institute for Asthma and COPD (GRIAC), University Medical Center Groningen, the Netherlands

Innovative models of care should be encouraged to broaden access to specialist care. Several countries have invested in severe asthma networks, which offer a multidisciplinary care approach for people with severe asthma[44 74-76] (*Case study 2*). However, centralising care into specialist units can cause barriers to access for people living in remote areas or those who may face difficulties in travelling to such centres for their ongoing care. Hub-and-spoke models of care, often powered by telemedicine and digital tools, can help connect specialist expertise to community-based services, enabling people to access the highest quality of care closer to home[74 77] (*Case study 3*).

Case study 2. Severe Asthma Networks in Italy (SANI)

SANI were established as an Italian national observatory supported by the Global Initiative for Asthma in Italy, leading professional societies and patient federations.[75 76] This network of accredited specialist centres cares for people with severe asthma and follows them over time. Findings from SANI data collection have identified a high prevalence of coexisting illnesses and late-onset asthma. They have helped understand the diversity of disease pathways (or phenotypes) in people with severe asthma as well as appropriate multidisciplinary strategies to manage them.[76]

Case study 3. A hub-and-spoke model of specialist severe asthma care

The Birmingham Regional Severe Asthma Service (BRSAS) in the UK established a hub-and-spoke model to bring severe asthma care closer to people's homes and alleviate backlogs in services stemming from the COVID-19 pandemic.[74] Designated regional severe asthma centres, or hubs, work with secondary care centres, or spokes, to orchestrate care within the region; each spoke in turn works with its own network of primary and community care providers.[74] People with severe asthma are triaged by a multidisciplinary team, then referred to secondary care centres for treatment, reducing referral-to-treatment and travel times.[74] Hub-and-spoke centres work together on an ongoing basis to formulate optimal disease management plans.[74]

Taking a multidisciplinary and person-centred approach to care

Asthma is a complex condition and requires a holistic, multidisciplinary approach to improve people's quality of life. People with severe asthma often present with other conditions, which are too often managed in siloes.[78] In particular, not enough attention is paid to the mental health issues (e.g. depression and anxiety) often associated with severe asthma.[79 80] Taking a multidisciplinary approach can help prioritise preventive measures that address the interconnectedness of these conditions rather than simply treating acute asthma symptoms.[44 81]

> **'There is a significant challenge with regard to treating individuals holistically, rather than focusing on a single organ. There is a general lack of effective handling of mental health issues, as well as insufficient proactive screening for cardiovascular and other issues that may coexist with conditions like severe asthma.'**
>
> Steve Holmes, NHS England, UK

Engaging people in their own care can also optimise the chances of treatment success. Educational efforts are needed to help people adopt proper inhaler technique, recognise potential symptoms, and understand triggers for their condition. Shared decision-making and taking a person-centred approach, where each person's expectations and values are integrated into care decisions, can help optimise not only physical control over asthma symptoms but people's overall wellbeing, encouraging their active participation in their care.[6 15 47]

Limiting overreliance on oral corticosteroids

Health systems need to integrate concrete approaches to decrease overuse of OCS for the repeated treatment of asthma attacks. Healthcare professionals need to receive appropriate training on the appropriate use of OCS and the risks and side effects associated with repeated use of OCS for patients with severe asthma. Careful monitoring of OCS use levels by pharmacists can help raise physicians' awareness of patients at risk of of repeated, long-term use of OCS.[18] These combined actions can help reverse long-held overreliance on OCS for repeated treatment of asthma attacks and encourage prompt referral to specialist care for evaluation of people's asthma characteristics, comorbidities, assessment of inhaler adherence, and their suitability for other potential treatments including biologics based on established eligibility criteria.[18]

'We found through our registry that almost two thirds of severe asthma patients in Italy are on oral corticosteroids – a daunting reality. Recent publications have revealed that these steroids don't just cause cataracts, hypertension, obesity, and more, they significantly increase the risk of death with increasing doses. Now, we must confront this alarming issue and patient organisations in Italy are actively tackling this problem, diligently working to make all patients aware of the grave risk.'

Giorgio Walter Canonica, Humanitas Research Hospital IRCCS, Milan, Italy

Reducing inequities in asthma outcomes

Further research and data analysis are needed to understand where inequities lie in severe asthma care. Longitudinal data that are disaggregated by sociodemographic factors can help us understand which groups are at a highest risk of severe asthma and its outcomes, allowing for development of targeted efforts to decrease existing disparities.[23] Mapping outcomes by locality, and overlaying this with socioeconomic data, can also point to where efforts are needed to reduce existing disparities in access to and quality of care (*Case study 4*). Further research is also needed to identify and understand structural or system-related factors that may contribute to any observed disparities.[23]

Targeted policies and interventions should build on insights from these data as well as input from affected communities. Participatory research, which engages groups who are at risk of being under-represented in research and experience barriers in access to care, is essential to learn from people's lived experience and develop targeted approaches based on these insights.[82] Any policies and interventions designed to address identified inequalities should be co-developed with the communities they are designed to support, to ensure they are appropriate, accessible and responsive to people's needs.

Case study 4. UK Atlas of Variation to understand disparities in asthma care

The Atlas of Variation,[83] a collaboration between Public Health England, NHS England, RightCare and others, aims to identify and scrutinise unwarranted disparities in different conditions. Specific to asthma, the atlas offers a comprehensive overview of variations in the delivery and outcomes of asthma care across the UK. It provides different visualisations of comparative data, an overview of the variation and trend data, and potential actions to address any disparities. It also includes a compilation of evidence-based resources to guide efforts to address any observed disparities.

Addressing the environmental triggers, and impact, of asthma

Asthma is an exemplar of where climate and health policies must intersect to benefit individual and planetary health. Intersectoral preventive approaches that reduce air pollution and improve air quality will have a significant impact on reducing the burden of severe asthma.[84] Governments should also encourage healthcare initiatives that foster health and environmental co-benefits in asthma, focusing for example on initiatives that reduce the use of treatments that cannot effectively control severe asthma and lead to increased use of healthcare resources and hospitalisations, and have a greater environmental impact[85 86] (*Case study 5*).

Case study 5. A SABA-free hospital to protect patients and the planet

In Santa Fe, Argentina, a hospital department decided to eliminate the use of SABA inhalers in their patients with asthma. The department has seen significantly reduced hospitalisations (from 9 in 1994 and 2004 to 1 in 2017 and 2018) and suggests SABA inhalers could successfully be replaced in asthma centres.[86 87] This initiative would also reduce the carbon footprint of hospitalisations associated with asthma attacks.[24 87]

04

The way forward

Asthma is often regarded as a generally mild condition and is, as a result, often unaccounted for in healthcare strategies and public health policies.[11 88] Yet severe asthma is a distinct, serious condition, which causes a substantial burden of ill health, reduced quality of life, lost productivity and premature disability and mortality among people of all ages.[11] Much of this burden could be prevented by embedding recognised standards of care into the architecture of each health system and building them into comprehensive care pathways. Preventive approaches are also essential to address risk factors such as air pollution, as are efforts to address inequities in access to and quality of care across the population.

'Despite significant progress made in severe asthma treatment over the past five years, the pace of advancement has been disappointingly slow. Regrettably, I still receive weekly calls and daily social media messages from patients who should have been on therapy and are struggling due to systemic barriers. Our priority must be to ensure the right treatment reaches the right patient at the right time, with as few obstacles as possible.'

Tonya Winders, Global Allergy & Airways Patient Platform

As governments try to strengthen our health systems and foster social prosperity, it is important that they pay due attention to persistent, yet often overlooked, health concerns such as asthma. Severe asthma is not just a personal health issue, but one that affects our society overall. Relieving people from the distressing impact of repeated asthma attacks can transform their quality of life and restore their ability to thrive. At a societal level, reducing the burden of severe asthma can lead to greater health system resilience and economic strength, help reduce the carbon footprint of asthma care, and make care more equitable.[11 53]

We must act decisively to mitigate the widespread suffering and burden associated with uncontrolled, severe asthma. Each moment of delay results not just in human suffering, but also in escalating healthcare costs and societal productivity losses – many of which could be prevented by making timely, equitable and high-quality care for people living with severe asthma an integral part of every health system. We know what to do, and failing to act represents a significant missed opportunity for all.

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