

Severe Asthma Index Expansion Report

Table of contents

EXECUTIVE SUMMARY	3
SEVERE ASTHMA CALLS TO ACTION	4
PREVENTION AND EARLY INTERVENTION	4
COHERENT LONG-TERM STRATEGIES	5
STANDARDISED SEVERE ASTHMA REPORTING	6
PATIENT EMPOWERMENT AND EDUCATION	8
DISCLOSURES	9
ACKNOWLEDGEMENTS	9
ANNEX: COUNTRY PROFILES	10
ARGENTINA – SEVERE ASTHMA COUNTRY PROFILE	11
BRAZIL – SEVERE ASTHMA COUNTRY PROFILE	16
CHILE – SEVERE ASTHMA COUNTRY PROFILE	22
CHINA – SEVERE ASTHMA COUNTRY PROFILE	27
COLOMBIA – SEVERE ASTHMA COUNTRY PROFILE	32
COSTA RICA – SEVERE ASTHMA COUNTRY PROFILE	37
EGYPT – SEVERE ASTHMA COUNTRY PROFILE	42
INDIA – SEVERE ASTHMA COUNTRY PROFILE	47
ISRAEL – SEVERE ASTHMA COUNTRY PROFILE	52
THE KINGDOM OF SAUDI ARABIA – SEVERE ASTHMA COUNTRY PROFILE	58
MEXICO – SEVERE ASTHMA COUNTRY PROFILE	63
PERU – SEVERE ASTHMA COUNTRY PROFILE	68
SOUTH AFRICA - SEVERE ASTHMA COUNTRY PROFILE	73
UNITED ARAB EMIRATES – SEVERE ASTHMA COUNTRY PROFILE	79

Executive Summary

Severe asthma remains an under-recognised and under-measured public health challenge, despite its outsized impact on lives, health systems, and long-term outcomes. In response, the Copenhagen Institute for Futures Studies (CIFS) developed the *Severe Asthma Index*, a comparative tool designed to assess how countries prevent, diagnose, and manage severe asthma.

On World Asthma Day 2025, CIFS announces a major expansion of the Index, expanding coverage from 29 to 43 countries. The 14 newly added countries are: **Argentina, Brazil, Chile, China, Colombia, Costa Rica, Egypt, India, Israel, Mexico, Peru, South Africa, United Arab Emirates, and the Kingdom of Saudi Arabia**. Their inclusion significantly enhances the global understanding of severe asthma readiness, particularly in countries and regions where data has previously been sparse or fragmented.

The Index now consists of 3139 data points with 1000 additional data points added across five categories: Policy Context, Access and Care Coverage, Health System Characteristics, Disease Burden, and Environmental Factors. To address persistent gaps in public data, especially in low- and middle-income countries, CIFS collaborated closely with national clinical and policy experts. Their insights were instrumental in validating, contextualising, and, where necessary, supplementing national-level indicators to reflect real-world implementation, informal care structures, and health system disparities. The updated findings highlight substantial differences in how severe asthma is defined, prioritised, and addressed. While some countries demonstrate encouraging alignment with guidelines or access to biologics, others continue to lack national strategies, diagnostic infrastructure, or equitable service delivery.

The report concludes with four strategic calls to action to support countries in translating knowledge into practice: **improving prevention and early intervention, strengthening long-term and regionally aligned strategies, enhancing data collection and standardised reporting, and empowering patients through education and support**. As asthma continues to cause hundreds of thousands of preventable deaths each year, severe asthma must be recognised as a systemic priority across health, environmental, and policy agendas.

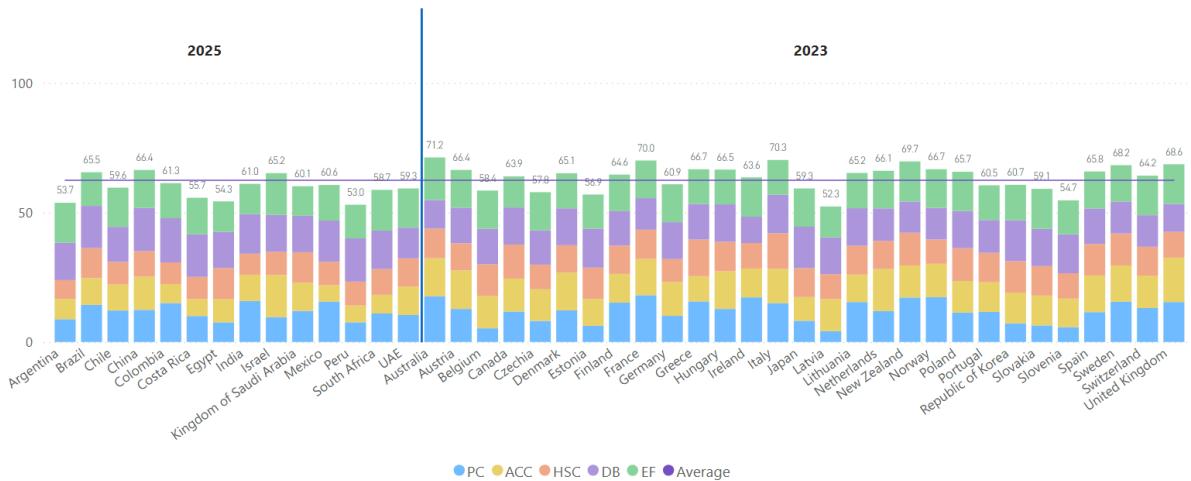


Figure 1 -Overview of Severe Asthma Index Country Expansion

Severe Asthma Calls to Action



Prevention and Early Intervention

Preventing severe asthma, and reducing its lifelong burden, requires early, integrated, and multisector action. The following areas are critical to stopping progression, reducing exacerbations, and improving outcomes for people at risk of or living with severe asthma:

- **Access to Early Diagnosis and Care**

Strengthen early identification of uncontrolled asthma and ensure timely access to appropriate care. This includes investing in primary care training and improving routine symptom screening, particularly for high-risk groups. Access to diagnostic tools like spirometry, FeNO, and specialist consultation is critical for timely diagnosis and referral - especially in underserved regions.

Several countries score low on FeNO access and have low or uneven access to specialist care due to regional inconsistencies, high out-of-pocket payments, and long waiting times. Many also score low on access to biologics, despite showing strong overall policy engagement. Without early intervention, patients may face preventable deterioration, higher risk of hospitalisation, and greater long-term health and economic burden.

- **Environmental Triggers**

Improve indoor and outdoor air quality to prevent disease progression and reduce exacerbation risk in people with asthma, especially those with severe or poorly controlled symptoms. This

includes mitigating exposure to mould, damp, urban pollution, and wildfire smoke - as well as preparing for climate-driven risks like thunderstorm asthma and extended pollen seasons. Some countries in the Severe Asthma index have extremely high PM2.5 levels or poor indoor housing conditions, placing populations at high risk for poor asthma control and progression to severe asthma. Other high-income countries show sharp temperature increases which may intensify climate-driven risks. Overall, many countries face overlapping environmental risks that directly affect asthma severity and population-level burden.

- **Prevention of smoke exposure**

Reduce the risk of early-onset and severe asthma by addressing tobacco and e-cigarette use. Actions could include banning flavoured products, regulating marketing, and making prescription-only nicotine products to limit access and prevent respiratory harm. High use of different tobacco and nicotine products evidenced in the Severe Asthma Index continues to negatively impact disease burden and patient outcomes.

- **Public Awareness and Risk Communication**

Raise awareness of severe asthma's invisible burden, including the experience of breathlessness, limitations in daily life, and risks of hospitalisation. Use targeted campaigns with strong emotional and visual elements to shift perceptions and increase urgency. The Severe Asthma Index findings suggest that in certain settings, reported disease burden may be underestimated due to gaps in symptom recognition, diagnostic accuracy, and awareness among both patients and clinicians.

- **Social Determinants of Respiratory Health**

Address the upstream conditions that increase the risk and severity of asthma, such as sub-standard housing, energy insecurity, and poverty. Focus on interventions that reduce exposure to environmental triggers and support individuals already living with severe asthma through improved housing, insulation, and clean indoor air. Poor indoor air quality and substandard housing are key contributors to severe asthma, particularly in low-income and high-vulnerability settings. However, data on these conditions is often lacking outside the EU. In several countries, index values are based on local registries, expert approximations or proxy indicators due to limited availability of standardised data. This gap in data risks underestimating the burden of severe asthma linked to housing and highlights the need for better integration of environmental and social determinants into health monitoring systems.



Coherent Long-Term Strategies

Safeguarding future generations from severe asthma and other chronic respiratory conditions requires strategic coherence, cross-sector collaboration, and a forward-looking mindset. Effective action must extend beyond isolated health interventions to engage structural, social, and global dynamics. In addition, key national stakeholders should work to not only implement national guidelines that are built on international best practices (such as the GINA guidelines) but also ensure that the guidelines are used in practice. Key areas for action include:

- **Intersectoral Collaboration**

Promote whole-of-society approaches that align public health goals with broader policy agendas through collaboration across sectors, including finance, education and housing construction, to embed respiratory health within their long-term development strategies. Index findings show that strong clinical guidelines alone are not enough. While some regions align with best practices in severe asthma care, gaps remain in equity, environmental conditions, and access. Conversely, even high-income settings may lack national asthma strategies or fail in implementation, underscoring the need for broader, context-specific approaches that go beyond clinical care to address structural and environmental risks.

- **Global and Regional Coordination**

Design flexible strategies that reflect regional variations in smoking culture, illicit markets, enforcement capacity, and healthcare system structure. Address barriers such as weak regulation, corruption, and differing societal norms around tobacco and respiratory risk. Countries with similar severe asthma burden levels reveal that regional dynamics such as tobacco use and cultural norms around smoking play a major role in respiratory risk and must be addressed through tailored policies. These disparities highlight the importance of regional coordination and policy adaptability rather than one-size-fits-all interventions. At the same time, regional and global coordination is necessary to tackle environmental impacts, ensure cross-border learning and prevent some countries to fall behind in global progress.

- **Youth and Intergenerational Protection**

Prevent the future burden of severe asthma and respiratory diseases — including COPD — by acting early. Integrate respiratory health education and tobacco harm awareness into schools to empower young people to make informed health decisions. Some countries score well on asthma strategies and access to care yet could improve in tobacco use rates, and tobacco control regulations suggesting that youth remain vulnerable to becoming future smokers or dual users, especially without early prevention or behavioural interventions. Strong healthcare systems do not automatically protect younger populations; school-based prevention and youth-targeted programmes are essential to create long-term improvements.



Standardised Severe Asthma Reporting

Robust, consistent, and inclusive data systems are essential to improve care, allocate resources, and reduce inequities in severe asthma. Current reporting varies widely across countries, limiting comparability, policy impact, and access to advanced treatment. The following priorities are reinforced by evidence from the Severe Asthma Index:

- **Definition Harmonisation**

Ensure consistent clinical and operational definitions of severe asthma across care settings to reduce misdiagnosis and improve continuity of care. There is significant variation across countries in how asthma subtypes (including severe asthma) are defined, with some health systems not formally recognising severe asthma as a distinct category. This contributes to challenges in accurate diagnosis, care continuity, and access to appropriate treatment. Without harmonised definitions embedded across care levels, even guideline-rich systems risk inconsistent diagnosis, patients being misclassified, and poor referral pathways between primary care and specialist centres, ultimately delaying access to appropriate treatment.

- **Integrated Electronic Health Records (EHRs)**

Improve reporting and quality of care through the implementation of EHR systems that flag severe asthma patterns and support clinician decision-making. Many countries show gaps in national registries related to severe asthma data, suggesting significant gaps in digital tracking and longitudinal data capture. Even high-income health systems with otherwise strong care guidelines often lack routine data integration, meaning that severe asthma patients are often managed episodically rather than through continuous, coordinated care models. These gaps highlight that without integrated EHRs, health systems face limited ability to accurately track severity progression, identify candidates for biologics, or facilitate national and international reporting efforts.

- **Data for Action**

Use registries to improve equity, access to biologics, and targeted health system investments. Countries participating in global registries such as ISAR often demonstrate greater availability of data on health system characteristics. Among non-participating countries, some maintain strong national or regional registries; however, differing methodologies hinder data comparability, reflecting broader fragmentation in reporting systems. In several non-reporting countries there is a high severe asthma burden, or biologic access need, while many that report to registries demonstrate high scores in care access — suggesting a positive feedback loop where data guides better treatment access. The lack of registry participation limits policymaker visibility, particularly in lower-resource or rural areas where data is needed to argue for equity in advanced care.

- **Socioeconomic and Environmental Data**

Integrate variables such as housing quality, air quality, and mould exposure to enrich severe asthma data with upstream risk factors. The Indoor Air Quality and Particulate Matter Exposure indicators are often incomplete or absent in low- and middle-income countries and several non-EU countries, despite likely high environmental risk. In addition, many countries in the index collect patient-reported outcomes, but do not include linked socioeconomic variables such as income, or housing status — limiting the ability to identify disparities or tailor interventions to vulnerable groups. Without incorporating environmental and socioeconomic data into asthma surveillance, registries remain clinically focused and blind to the root causes of disease progression. This undermines prevention, deepens inequities, and hinders efforts to design effective, targeted interventions.



Patient Empowerment and Education

Empowering individuals with asthma requires more than clinical care - it means ensuring people can understand, access, and act on information about their condition. This involves supportive communication, practical tools, structural access, and inclusive education. However, data from the Severe Asthma Index show that many countries lack the policies, systems, and equity foundations needed to make this vision a reality.

- **Practical Tools, Personalised Care, and Self-Management**

Visual tools (e.g. “lung age”), symptom trackers, and personalised asthma action plans could help patients understand their condition and make daily health decisions. Significant gaps are seen in personalised asthma care or lifestyle-oriented asthma care, especially as inclusion in guidelines does not guarantee successful implementation. Digital therapeutics, such as apps or remote monitoring, are available in a handful of countries, but missing entirely in others, suggesting fragmented access to self-management support, but also the extent of accessibility of existing services or levels of digital literacy needed for use.

- **Equity and Reach of Educational Interventions**

Educational efforts should extend beyond clinics to reach communities affected by poverty, distance, and marginalisation. School-based health education, community outreach, and free public campaigns can help reduce disparities in knowledge and care-seeking. Significant gaps in equitable access to quality care are reflected in high unmet healthcare need percentages in several regions, suggesting that structural barriers limit not only access to services but also to health education. However, some of the cross-country variation in this indicator may also be influenced by limited data availability and inconsistent measurement methodologies outside of the EU. Index data on telemedicine and digital access also show limited infrastructure in many countries, especially those with the highest equity gaps.

- **Supportive Communication and Youth Engagement**

Patients, especially young people and those who smoke, must be met with compassion, not blame. Framing smoking as addiction, addressing stigma, and including youth as co-creators in campaigns builds trust and drive engagement. Peer-led messages and emotionally resonant storytelling (e.g. around breathlessness) could help shift behaviour. While the Index includes tobacco control regulations for smoking places, it does not assess behavioural support or stigma-sensitive communication. Although youth engagement is not captured, countries with high equity gaps likely reach youth populations unevenly through conventional systems. Empowerment strategies should be culturally responsive, youth-inclusive, and built around dignity and trust.

Disclosures

Sanofi and Regeneron commissioned the creation of the Severe Asthma Index. However, the Copenhagen Institute for Futures Studies independently researched and subsequently developed all the insights and recommendations contained within the Index. Financial support was provided by Sanofi and Regeneron.

Acknowledgements

The Severe Asthma Index project team would like to thank the following members of the Respiratory Health Initiative for the contribution of their insights, guidance, and professional support in the expansion of the Severe Asthma Index and this report:

Dr Anders Løkke Ottesen
Eric Sutherland
José Luis Castro
Dr. Min Zhang

Dr. Ricardo Baptista Leite
Siân Williams
Tonya Winders
Dr. William Checkley

The Severe Asthma Index project team would also like to thank all the experts who contributed to the expansion of the index:

Amir Bar-Shai, Andrea Bustamante, Dr. Andrea Bustamante, Andre van Niekerk, Angela Honda de Souza, Ashraf Hatem, Bassam Mahboub, Clifford Smith, Dr. Ana Stok, Dr. Antonio Bernabe-Ortiz, Dr. Carlos Mario Boccia, Dr. Diana Jimena Cano Rosales, Dr. Felicia Montero, Dr. Gonzalo Gianella, Dr. Guillermo Roma, Dr. Hossam Hosny, Dr. Javier Iván Lasso Apráez, Dr. Laura Mendoza, Dr. Martin Sivori, Dr. Olga Milena Garcia, Dr. Sergio Arias, Dr. Viviana Moya, Emilio Pizzichini, Gustavo Falbo Wandalsen, Ori Wand, Pedro Giavina Bianchi, Refiloe Masekela, Richard van Zyl Smit, Riyad Al-Lehebi, Viviana Moyano

Annex: Country Profiles



Argentina – Severe Asthma Country Profile

Aggregate Score (Unweighted): 53.7/100

Country Overview

Argentina scores below average in **Policy Context**, with limited progress on severe asthma-specific guidelines and no integrated national strategy. While tobacco control efforts have made headway, implementation is inconsistent.

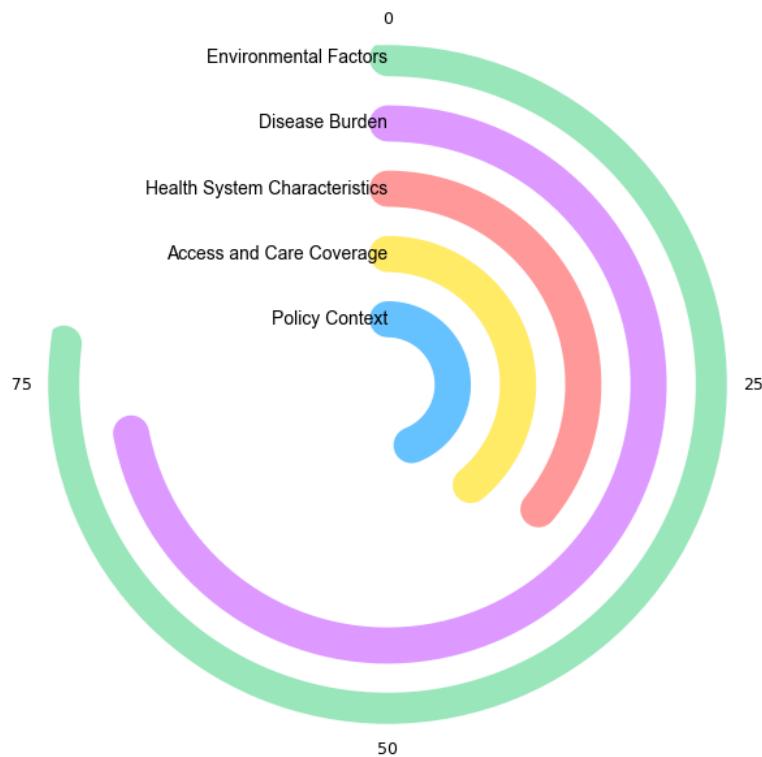
In terms of **Access and Care Coverage**, Argentina scores

under the average. Basic diagnostic services are available in urban areas, but access to specialised testing like FeNO is very limited. Specialist availability is highly concentrated in large cities, while **biologics and preventive therapies remain extremely restricted**, especially in the public health system.

The **Health System Characteristics** score reflects major structural issues, including **fragmentation across public, private, and social security subsystems**, a lack of integrated electronic medical records, and a **shortage of respiratory specialists outside metropolitan centres**.

Argentina scores above the average for **Disease Burden**, but slightly lower than the rest of the countries in the region. It has a low mortality rate, but comparatively higher tobacco uses and obesity rates for the region.

Environmental factors score above the average, with **air pollution levels varying widely by region**, worsening in urban centres. **Smoking rates remain significant despite reductions**, and occupational exposure in industrial and agricultural sectors remains a persistent issue.



Key Takeaways

1. Fragmented Policy and Uneven Implementation Undermine National Cohesion

Argentina has formal clinical guidelines and acknowledges asthma as a public health issue but lacks a national asthma strategy. The fragmented health system (public, social security, and private sectors) leads to significant inequities in diagnosis and treatment, particularly in underserved provinces.

2. Severe Resource Gaps in Diagnostics and Specialist Coverage

Access to advanced diagnostics like FeNO and biologics is extremely limited, especially within the public sector. Specialist distribution is heavily skewed toward large urban centres, and poor adoption of electronic health records hinders patient monitoring and coordination.

3. Limited Adoption of Personalised, Multidisciplinary Care

While some reference centres deliver guideline-based care, most of the system still relies heavily on pharmacological treatment, with minimal non-pharmacological or multidisciplinary support. Personalised plans are inconsistently applied, and structured patient education and comorbidity management are largely absent.

Best Practices

- Clinical guidelines exist and are recognised at the national level, offering a policy foundation to build upon.
- Centres of excellence are implementing best practices with access to advanced treatments and multidisciplinary teams.
- Potential for telemedicine and digital health expansion can help redistribute care to underserved regions.
- Existing occupational exposure regulations offer a legal framework that can be strengthened with better enforcement and oversight.
- Growing awareness of the need for clinical pathways that integrate pharmacological and non-pharmacological care creates momentum for reform.

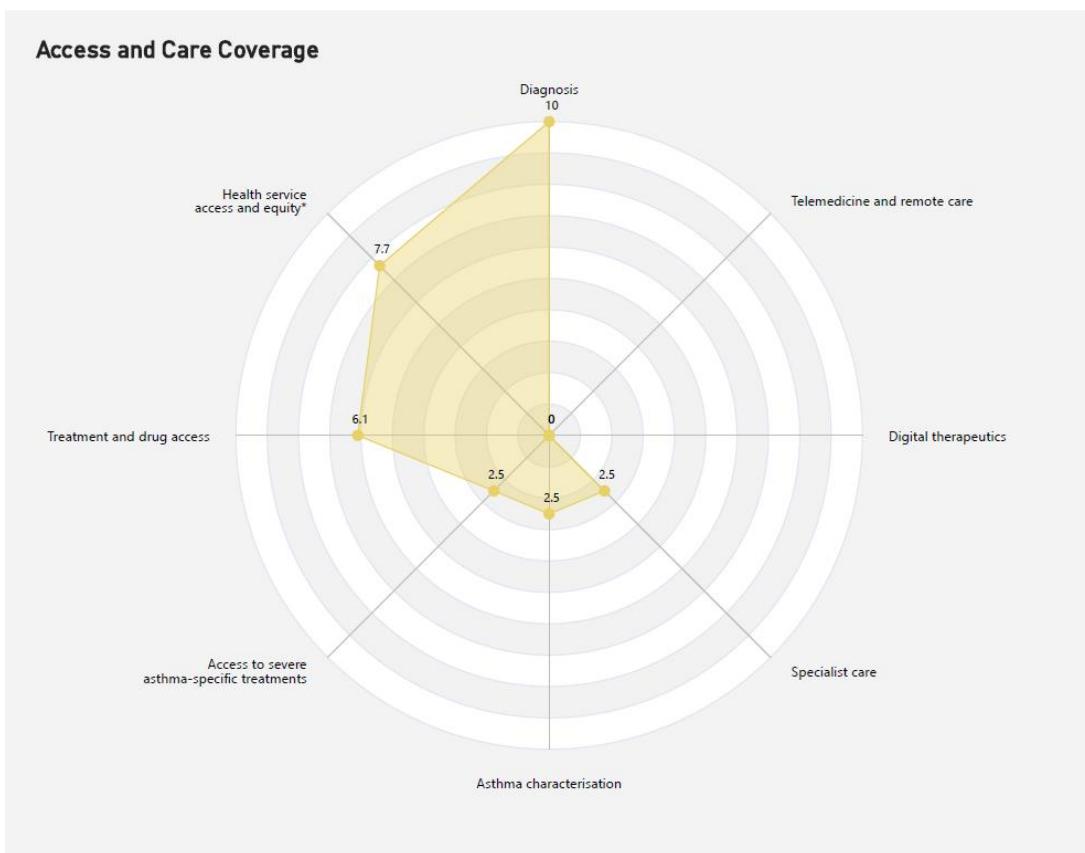
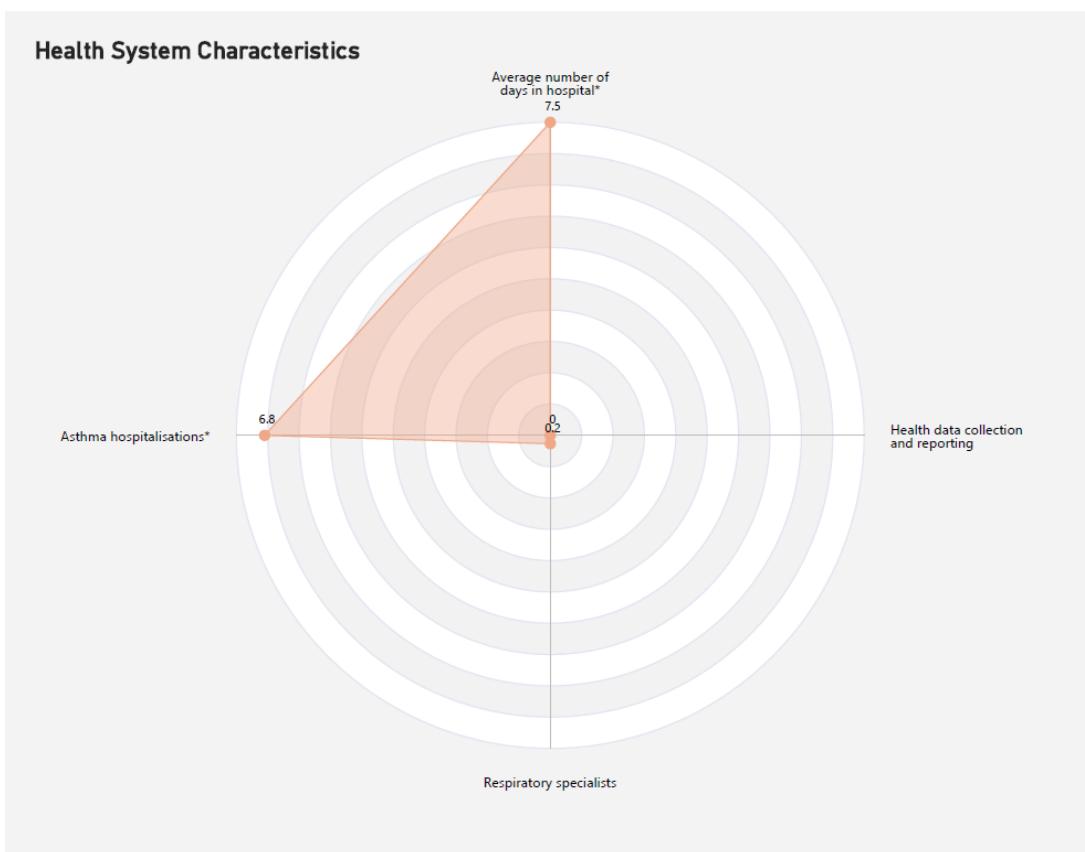
Challenges

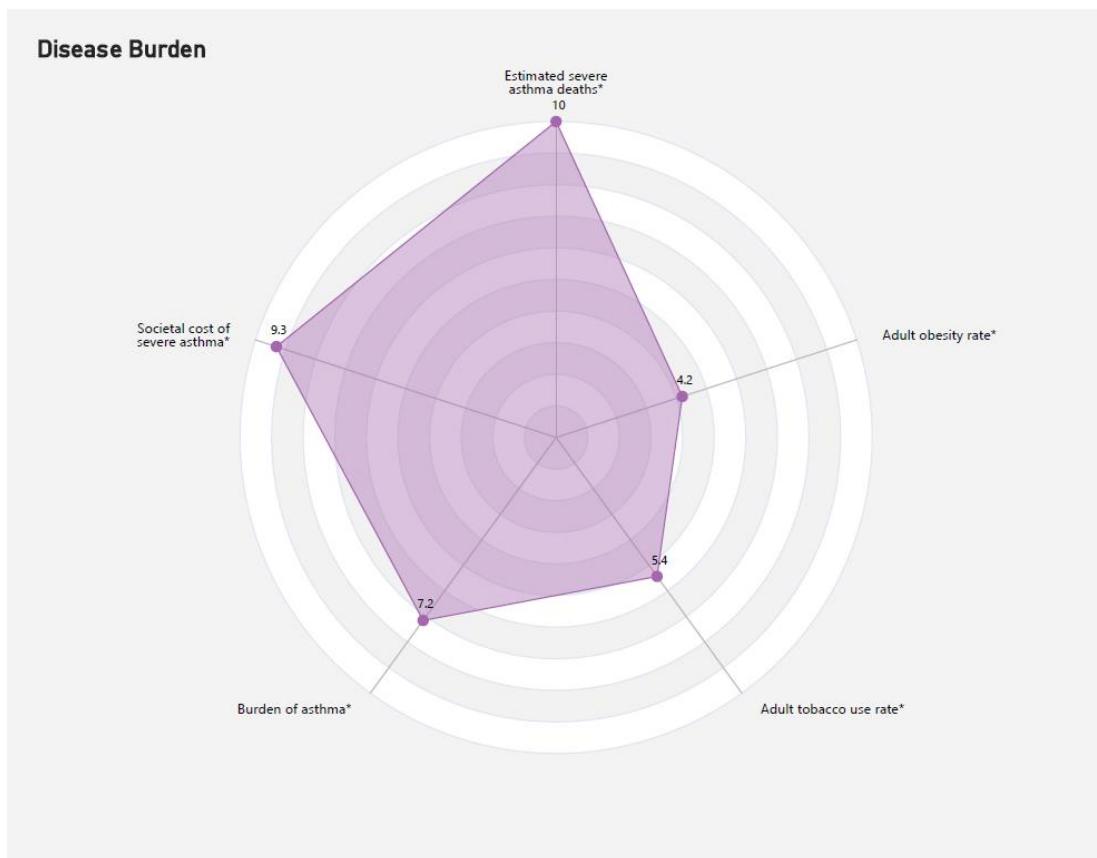
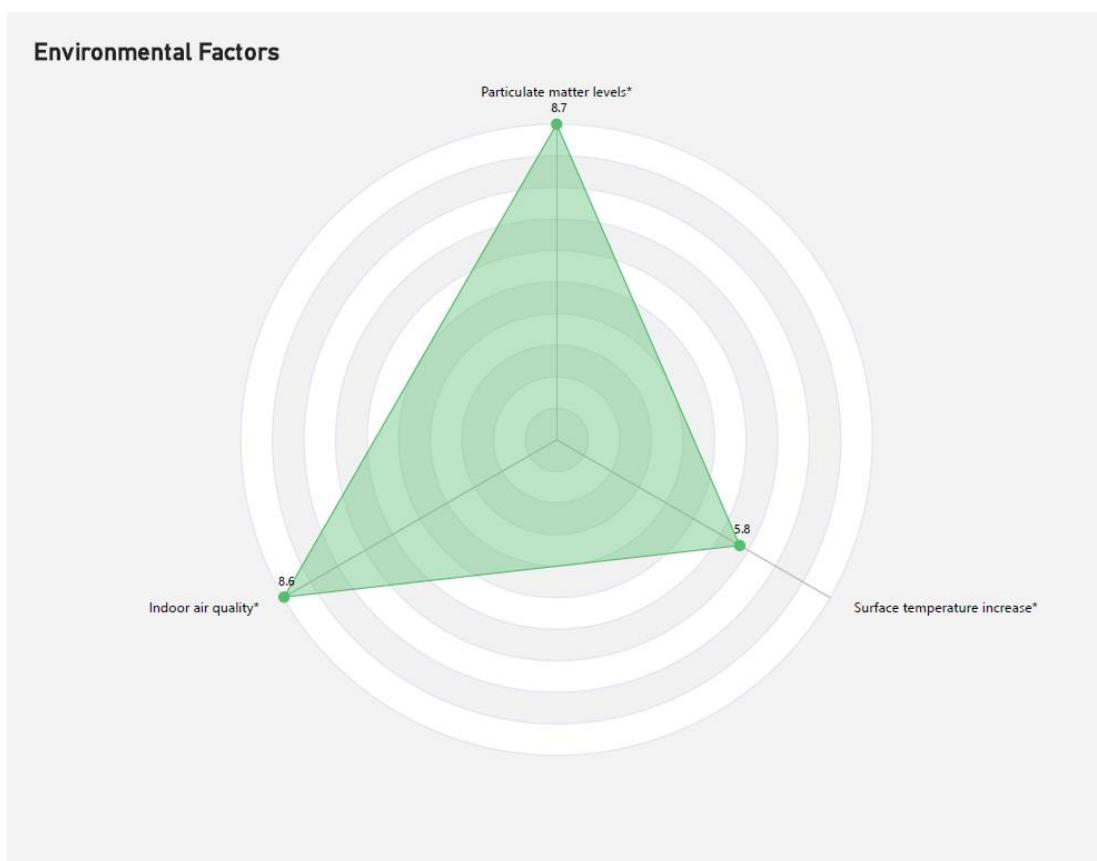
- No unified national asthma strategy, leading to inconsistent implementation of policies and practices across subsystems.
- Severe disparities in specialist availability, with rural and lower-income areas lacking access to pulmonologists and allergists.

- Insufficient access to advanced diagnostics and biologics, particularly in the public system.
- Digital infrastructure is outdated, making it difficult to track patients or integrate care.
- Lack of structured, holistic care models, including coordinated multidisciplinary teams and lifestyle interventions.

 Policy Context – Score: 44/100



█ Access and Care Coverage – Score: 39/100

█ Health System Characteristics – Score: 36/100


 **Disease Burden – Score: 72/100**

 **Environmental Factors – Score: 77/100**


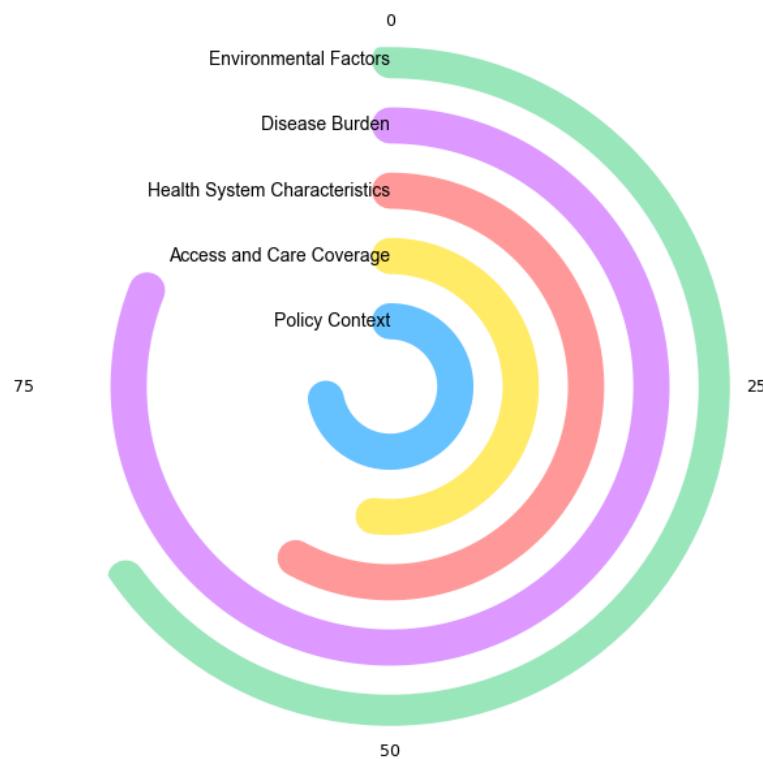


Brazil – Severe Asthma Country Profile

🌐 Aggregate Score (Unweighted): 65.5/100

Country Overview

In the **Policy Context** Brazil scores above average due to strong alignment with GINA guidelines and existing national protocols, complemented by effective tobacco control, while it could improve its score further by inclusion of lifestyle-oriented asthma care prescription practices.



Regarding Access and Care Coverage basic asthma drugs and some biologics are accessible via SUS (Sistema Único de Saúde), but tools like FeNO are largely confined to tertiary centres. **Telemedicine and digital health are widely available, yet Brazil suffers from one of the highest levels of unmet healthcare need, as reported by respiratory experts**, driven by financial, geographic, and structural barriers.

Regarding **Health System Characteristics** the Brazilian health system suffers from **above average hospitalisation rates and low respiratory specialist density**. A lack of cohesive referral systems and uneven quality across states undermines care continuity, especially for severe asthma.

Brazil scores strongly in **Disease Burden** due to one of the lowest rates of tobacco use globally, low societal cost of asthma, low mortality rate. However, **obesity is a growing challenge**, compounding asthma severity risks. As is the case for the rest of the region understanding societal cost, accuracy of diagnosis and data reporting gaps highlight the need for expanded tracking and more precise burden estimates.

Brazil's score in **Environmental Factors** falls slightly below the average, primarily due to low indoor air quality. Stronger regulation, access to clean energy, and integrated environmental-health monitoring are priorities.

Key Takeaways

1. Policy progress is notable, but broader system integration and education remain limited

Brazil scores above average in the **Policy Context** category due to strong alignment with GINA guidelines, existing national asthma protocols, and effective tobacco control laws. Best practices are visible in select centres of excellence, which follow evidence-based approaches, provide multidisciplinary care, and support patient education and adherence monitoring.

However, these practices are not uniformly applied. There are no national requirements for lifestyle-oriented asthma care, and free access to systemic corticosteroids without prescription contributes to inappropriate medication use. Meanwhile, asthma education among primary care professionals remains limited, contributing to high rates of underdiagnosis and mismanagement, especially in mild and moderate cases that should be handled at this level.

To build on policy gains, Brazil should prioritise structured primary care training and expand national requirements for guideline-based education and medication safety.

2. Access to care is expanding, but high unmet need and delayed diagnosis persist

In the **Access and Care Coverage** category, Brazil performs moderately. Basic asthma drugs and some biologics are included in the SUS (public health system), and telemedicine is widely available. However, diagnostic tools such as FeNO and even spirometry are difficult to access in many settings. Experts highlight that **severe asthma patients often wait on the same referral list as those with mild and moderate asthma**, delaying access to specialists and appropriate treatment.

In remote and lower-resource areas, this is compounded by uneven distribution of services and a lack of integration across care levels. High unmet healthcare need, driven by financial, geographic, and system-level barriers, remains one of the most pressing challenges.

To improve outcomes, Brazil should scale models like **ProAR's collaborative care training** to empower primary care providers to manage mild and moderate asthma more effectively and free up specialist services for severe cases.

3. Health system and environmental pressures constrain equity and long-term control

Brazil scores low in **Health System Characteristics**, with above-average asthma hospitalisation rates and a low density of respiratory specialists. The absence of cohesive referral systems across states, coupled with inconsistent access to advanced therapies, weakens care continuity. Adherence and follow-up are also hampered by socioeconomic constraints and lack of patient support infrastructure.

Despite low asthma mortality and tobacco use rates contributing to a strong **Disease Burden** score, **obesity is rising**, and significant regional disparities remain in both outcomes and services. In the **Environmental Factors** category, Brazil scores slightly below average, with indoor air quality flagged as a concern and limited enforcement of clean air regulations in many urban areas.

To address these structural limitations, Brazil can expand the reach of multidisciplinary asthma care models beyond academic centres, improve registry data on medication use and outcomes, and invest in air quality monitoring and clean energy transition in vulnerable communities.

Best practices

- Strong alignment with **GINA guidelines** and presence of national asthma protocols
- Public health system covers **basic asthma drugs and some biologics**
- Existence of **centres of excellence** using evidence-based, multidisciplinary care
- Models like **ProAR's collaborative care training** for primary care integration
- Availability of telemedicine and hospital-based diagnostic infrastructure

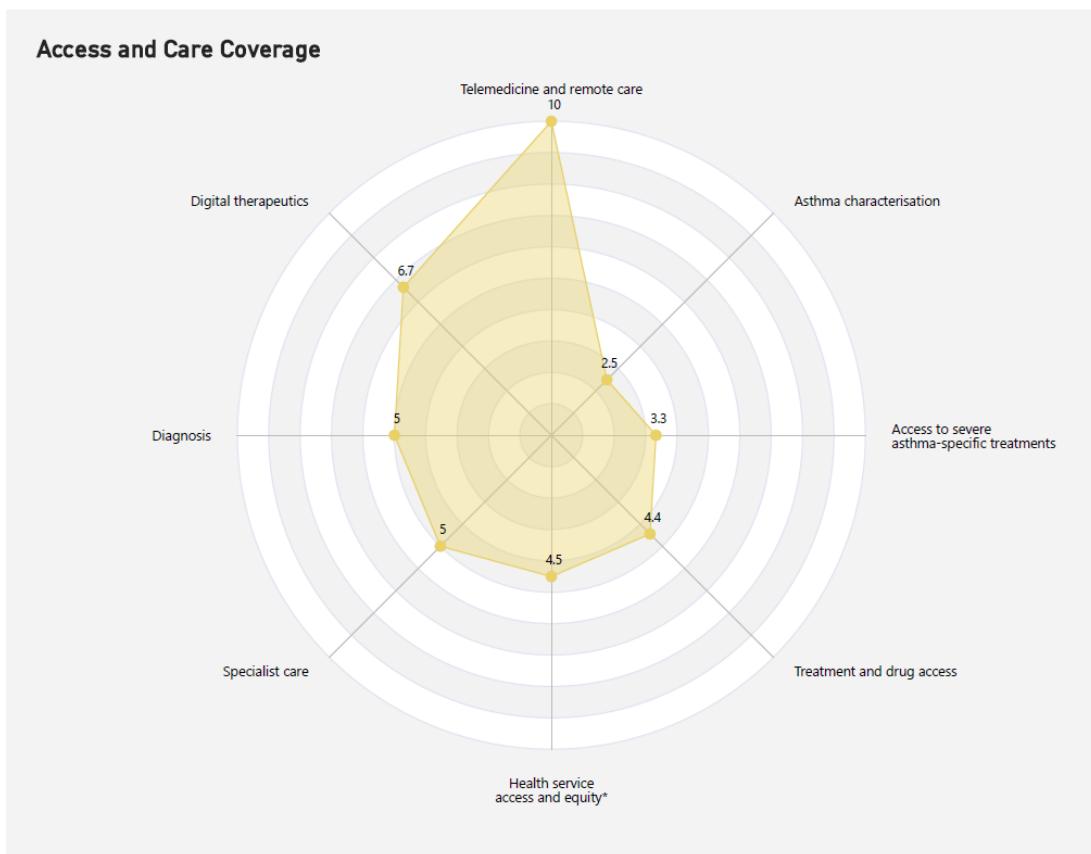
Challenges

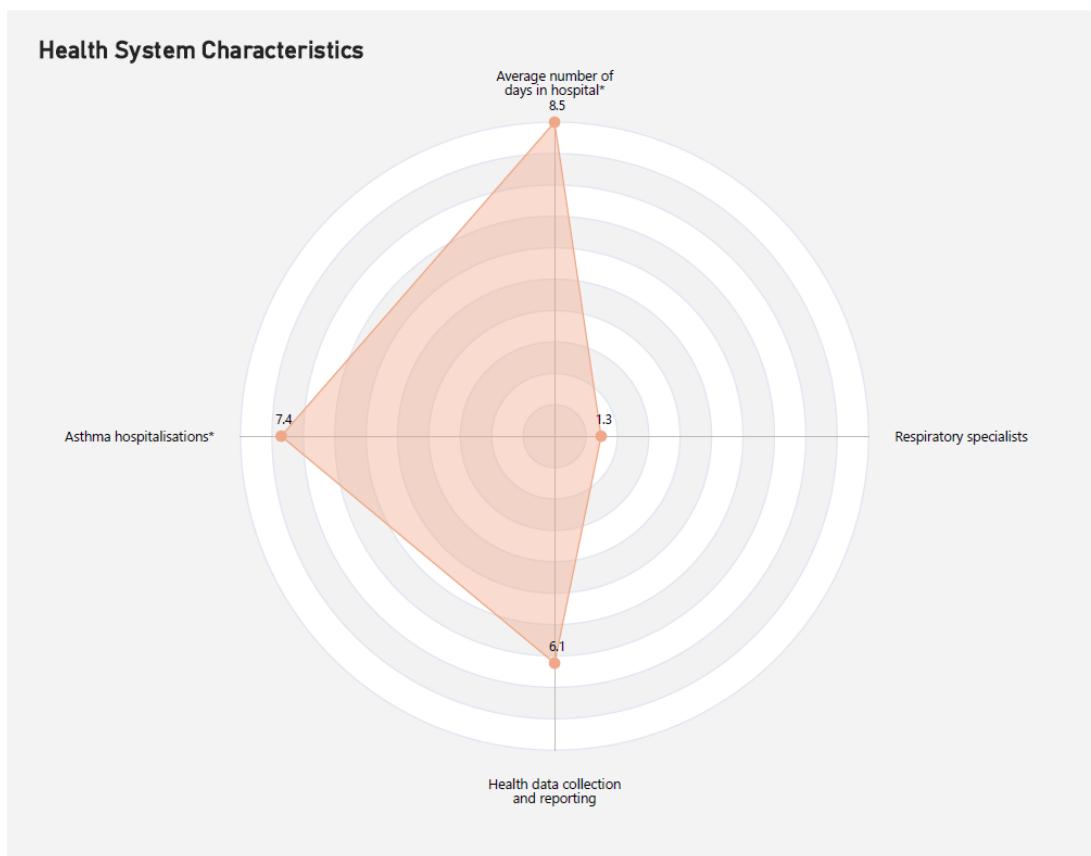
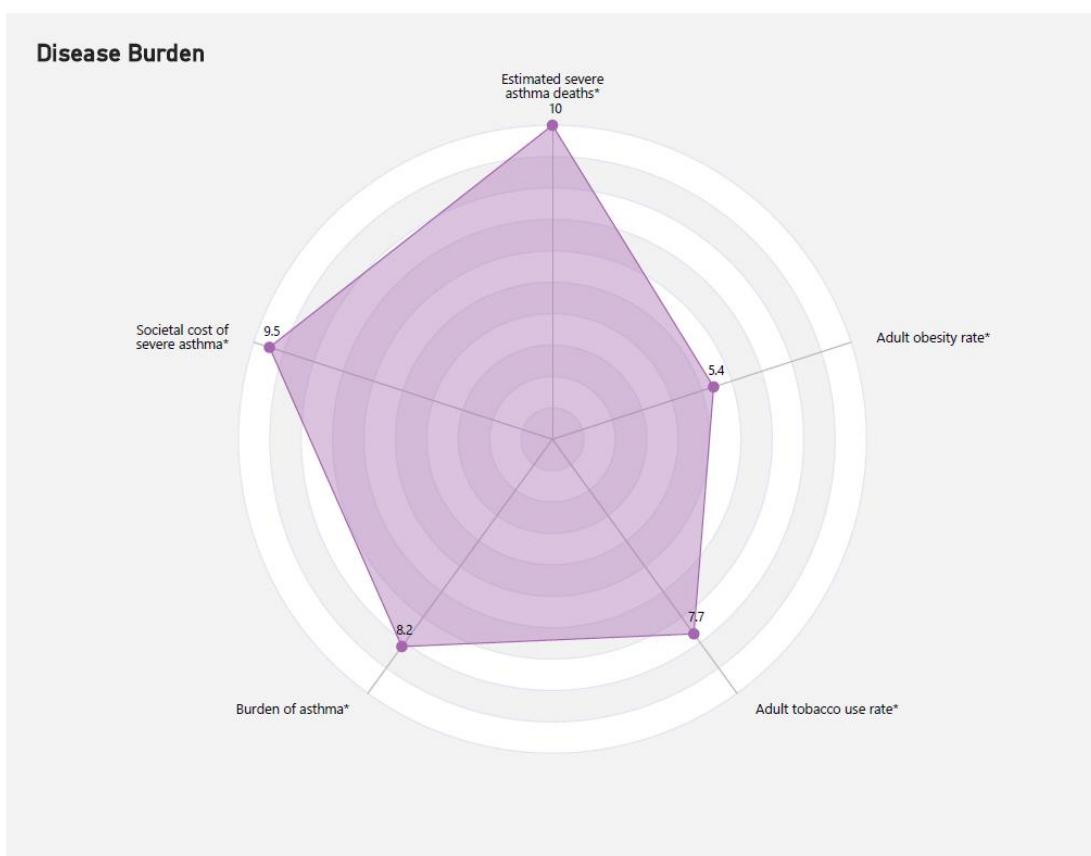
- Free access to systemic steroids without prescription, contributing to misuse
- Limited access to diagnostics (FeNO, spirometry) in many areas
- High unmet need due to structural, financial, and geographical barriers
- Underdiagnosis and poor disease awareness among general population and GPs
- Shortage of respiratory specialists and inconsistent referral pathways
- Unequal distribution of care quality across regions
- Obesity, poor indoor air quality, and lack of environmental regulation enforcement

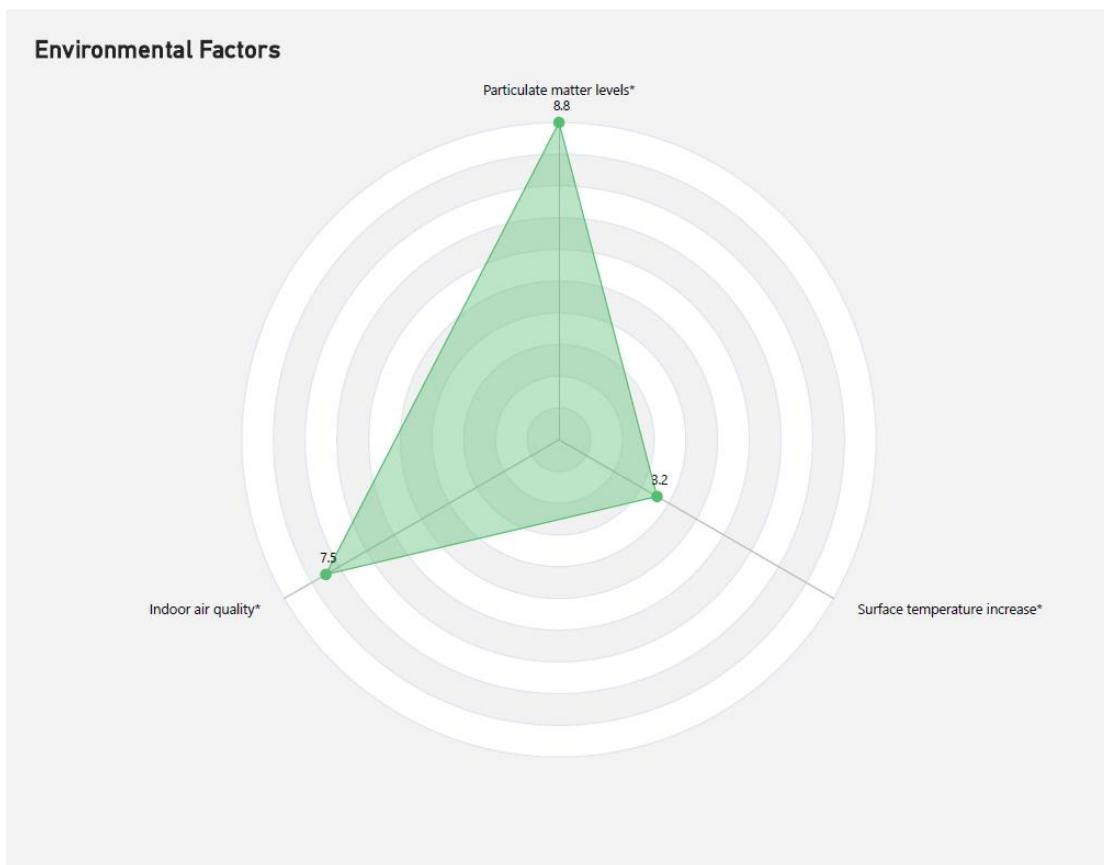
Policy Context – Score: 72/100



Access and Care Coverage – Score: 52/100



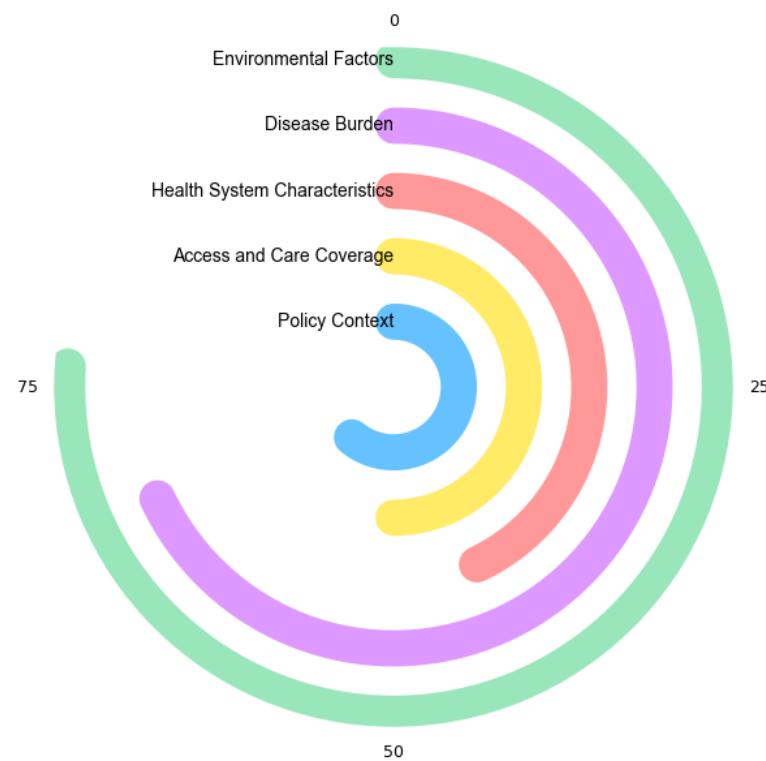
 **Health System Characteristics – Score: 58/100**

 **Disease Burden – Score: 81/100**


 Environmental Factors – Score: 65/100



Chile – Severe Asthma Country Profile

Aggregate Score (Unweighted): 59.6/100



Country Overview

Chile performs strongly in **Policy Context**, supported by a robust national asthma programme that includes up-to-date clinical guidelines and explicit health guarantees (GES) covering bronchial asthma.

In terms of **Access and Care Coverage**, Chile performs under the average, offering broad availability of basic.

However, specialised diagnostics such as FeNO remain limited. Essential medicines are guaranteed under GES, but biological treatments still face significant coverage restrictions.

The score for **Health System Characteristics** scores under the average, with a public system (FONASA) covering most of the population and a private system (ISAPRES) serving higher-income sectors. Specialist distribution, though improved, remains concentrated in metropolitan areas.

Chile scores under the average for **Disease Burden**, with favourable trends in reduced hospitalisations thanks to effective prevention programmes. Asthma mortality is relatively low, although challenges persist in specific vulnerable populations.

The **Environmental Factors** score highlights significant challenges, especially in urban zones such as Santiago, where critical air pollution episodes occur during winter months. The available sources do not offer sufficient data to evaluate the specific impact of indoor air quality.

Key Takeaways

1. Strong Policy Framework with Gaps in Advanced Coverage

Chile has a robust asthma policy foundation through the Explicit Health Guarantees Regime (GES), ensuring access to basic treatments and routine care. However, advanced therapies for severe asthma, like biologics, remain outside the core GES benefits and rely on exceptional approval processes, limiting equitable access.

2. Organised Health System, But Deep Public-Private Disparities

Chile's tiered care model and specialised primary care units (ERA rooms) reflect strong systemic design. Yet, inequities between FONASA and ISAPRES systems persist—particularly in wait times, access to specialists, and diagnostic tools like FeNO, disproportionately affecting public-sector patients with severe asthma.

3. Seasonal Environmental Pollution Significantly Affects Asthma Control

Chile experiences severe wintertime pollution in central-southern cities, and particulate matter pollution in urban centres like Santiago. These environmental triggers lead to spikes in exacerbations, but existing mitigation strategies remain insufficient to fully protect vulnerable populations.

Best Practices

- Integration of asthma into GES ensures broad access to basic care and protection mechanisms for asthma patients.
- Use of ERA rooms and respiratory rehabilitation programmes at the primary care level supports early intervention and continuity of care.
- Regional training and specialist retention policies are helping to reduce geographic disparities in expertise.
- Early warning and air quality monitoring systems are in place to help anticipate environmental risks, foundational tools for building more targeted severe asthma interventions.
- Emerging telemedicine infrastructure offers a strategic pathway to expand specialist reach in underserved areas.

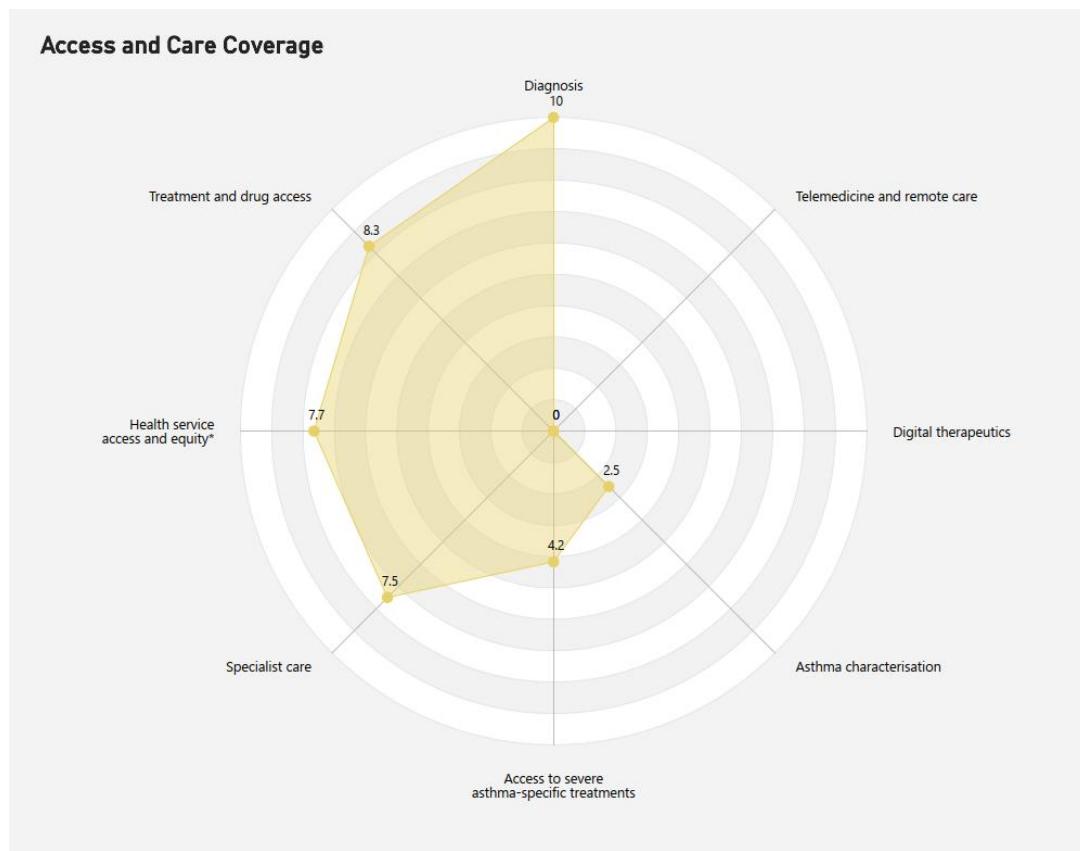
Challenges

- Limited coverage of biologics and advanced therapies within public health benefits (GES), hindering comprehensive severe asthma management.

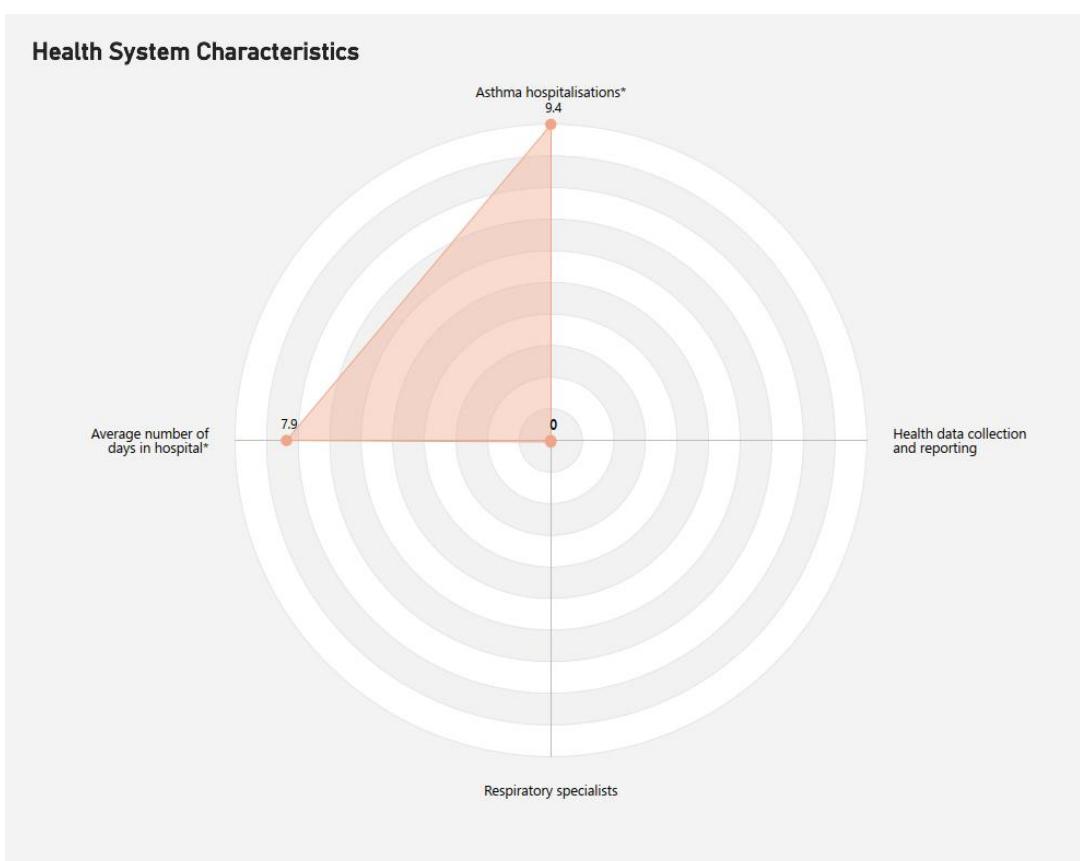
- Persistent healthcare inequalities between the public and private systems in terms of specialist access, diagnostic capacity, and treatment options.
- Severe seasonal air pollution, especially from firewood in colder regions and industrial/traffic emissions in urban zones, aggravates asthma outcomes.
- Lack of national severe asthma registries to track outcomes, guide resource allocation, and improve epidemiological understanding.

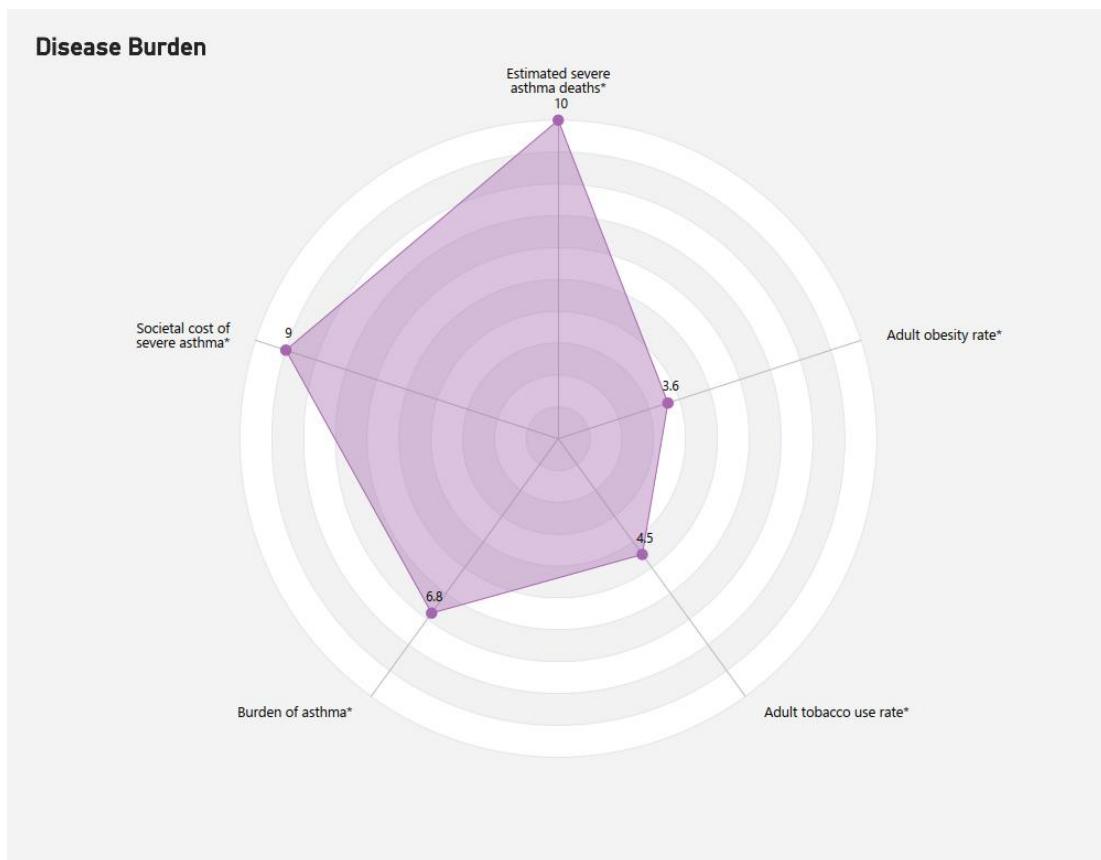


 Access and Care Coverage – Score: 50/100



 Health System Characteristics – Score: 43/100



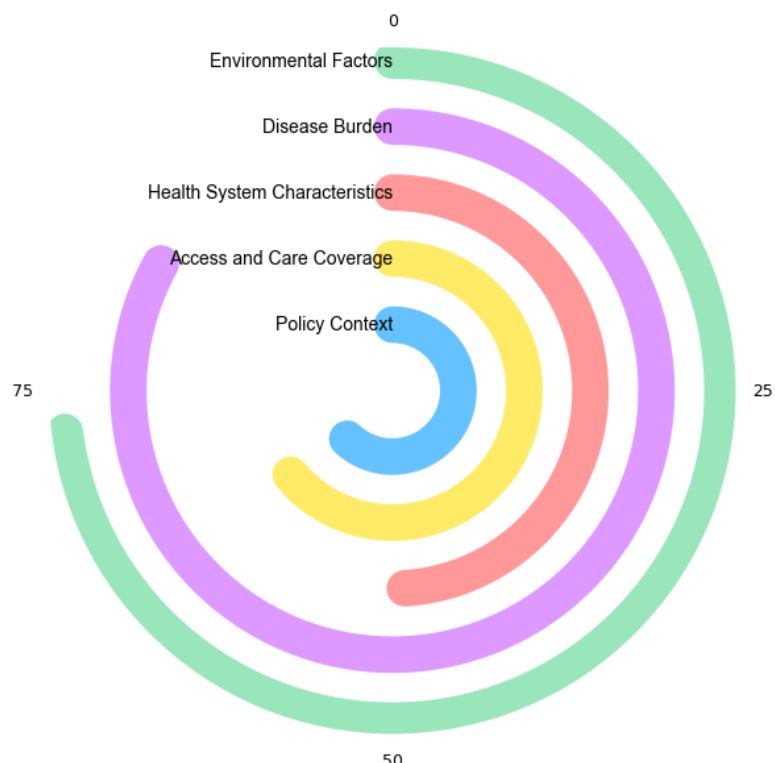
 **Disease Burden – Score: 68/100**

 **Environmental Factors – Score: 76/100**


China – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 66.4/100

Country Overview

China scores slightly above average in the Policy Context domain, having made notable progress with severe asthma guidelines and the implementation of a national asthma strategy. However, there is room for improvement in tobacco control and benchmarking with international standards for registry data.



In **Access and Care Coverage**, China performs above average, driven by strong availability of diagnostics, specialist care, and telemedicine. Nonetheless, access to treatment—particularly biologics—and FeNO testing could be further enhanced.

The **Health System Characteristics score indicates areas for development**, especially in the granularity of data collection and health record-keeping, as well as the relatively low number of respiratory specialists.

Despite these challenges, China achieves one of the highest scores in **Disease Burden**, reflecting a relatively low asthma burden overall. Most indicators are favourable, except for the percentage of deaths attributable to asthma.

China's score in Environmental Factors falls slightly below average, primarily due to elevated levels of fine particulate matter (PM2.5) in the air, and relatively high tobacco use rate.

Key Takeaways

1. Strong policy and care infrastructure, but gaps remain

China has established a solid foundation through national asthma strategies and strong access to diagnostics and specialist care. However, gaps persist in tobacco control, equitable access to advanced treatments such as biologics, and alignment with international data standards. Improvement opportunities include strengthening national asthma registries by standardising data collection across regions, integrating patient-reported outcomes, and ensuring compatibility with global frameworks like ISAR. Additionally, investing in digital infrastructure and workforce training can enhance data granularity and support evidence-based decision-making.

2. Low overall disease burden, with targeted risks

China reports a relatively low overall asthma disease burden, reflecting strong prevention and care efforts across much of the population. However, the persistently high proportion of asthma-related deaths points to targeted risks among specific subgroups, such as those with severe or poorly controlled asthma. Addressing these risks requires improved access to advanced treatments, stronger emergency response pathways, and better identification of high-risk patients through enhanced data systems.

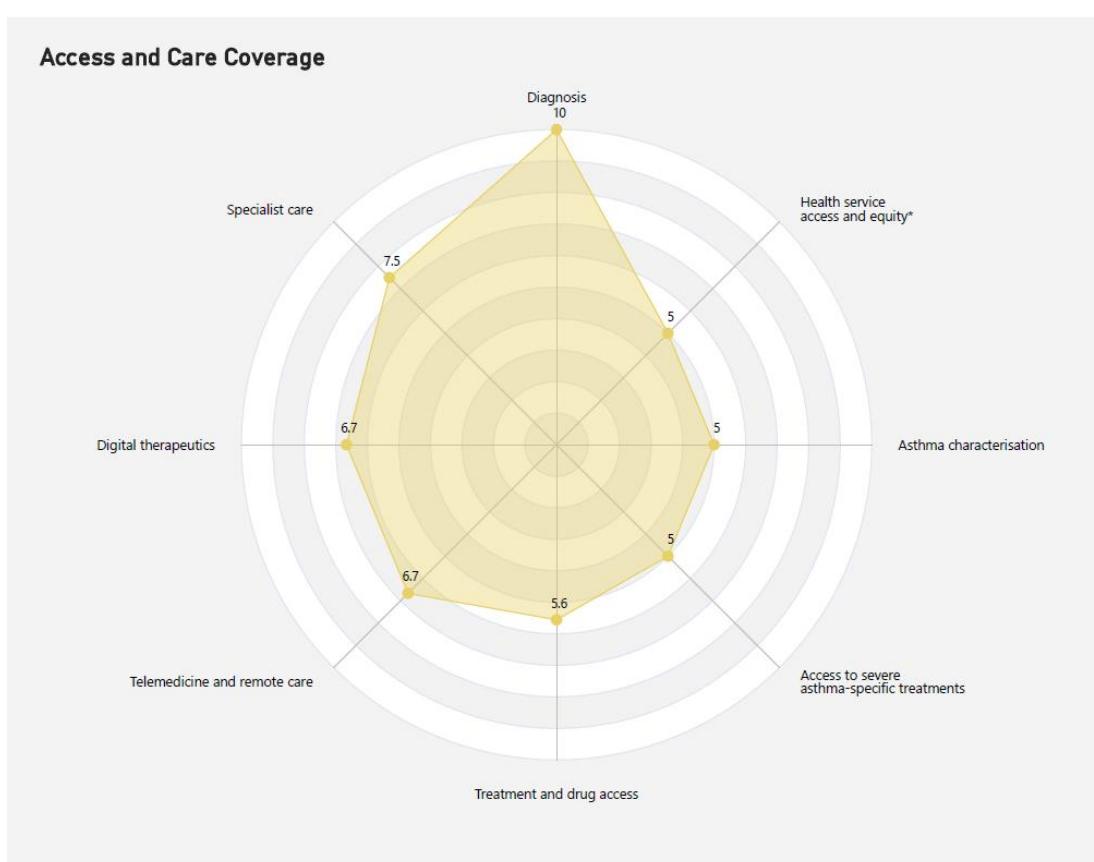
3. Environmental factors pose a persistent challenge

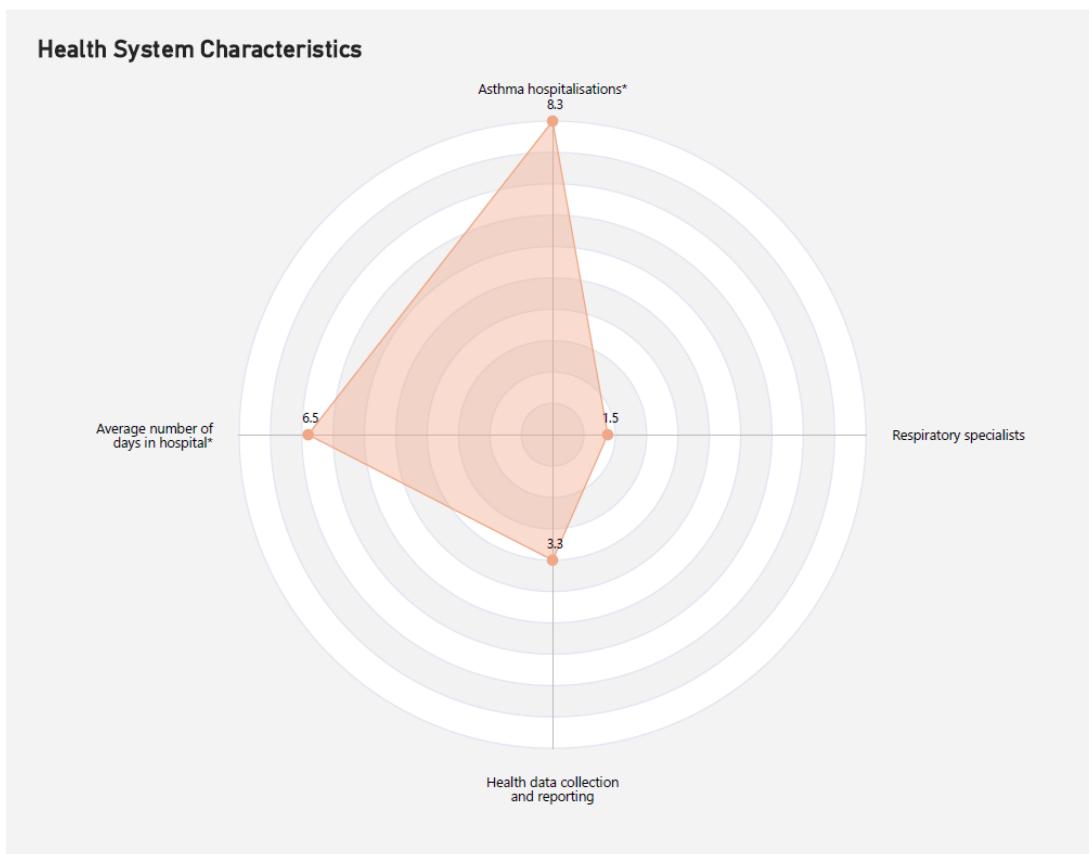
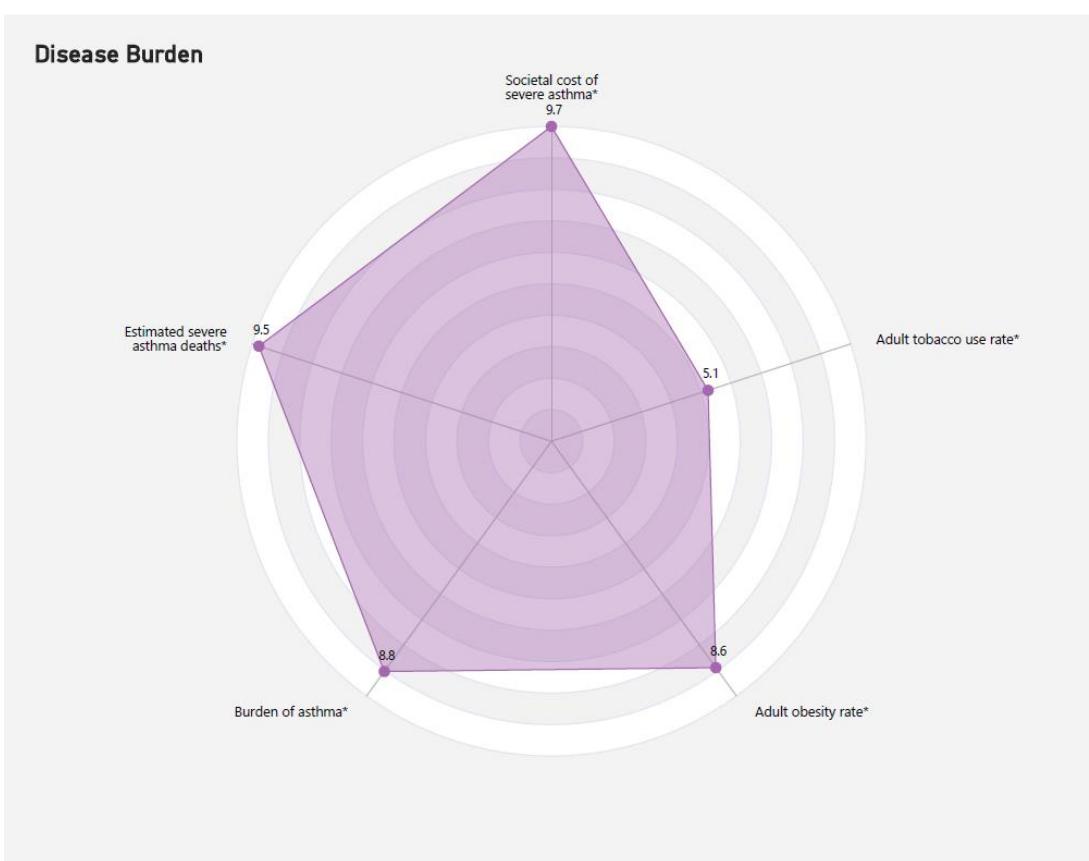
Air pollution—particularly high PM2.5 levels—continues to threaten respiratory health in China, despite notable national efforts. While major cities have improved under initiatives like the Blue-Sky Protection Campaign, exposure remains high in many industrial and rural areas, posing risks to asthma control. Building on existing progress, China should prioritise targeted PM2.5 reduction, accelerate clean transport adoption, and integrate health indicators—such as asthma-related hospitalisations and emergency visits—into environmental policies. Stronger regional enforcement and public engagement will be key to sustained impact.

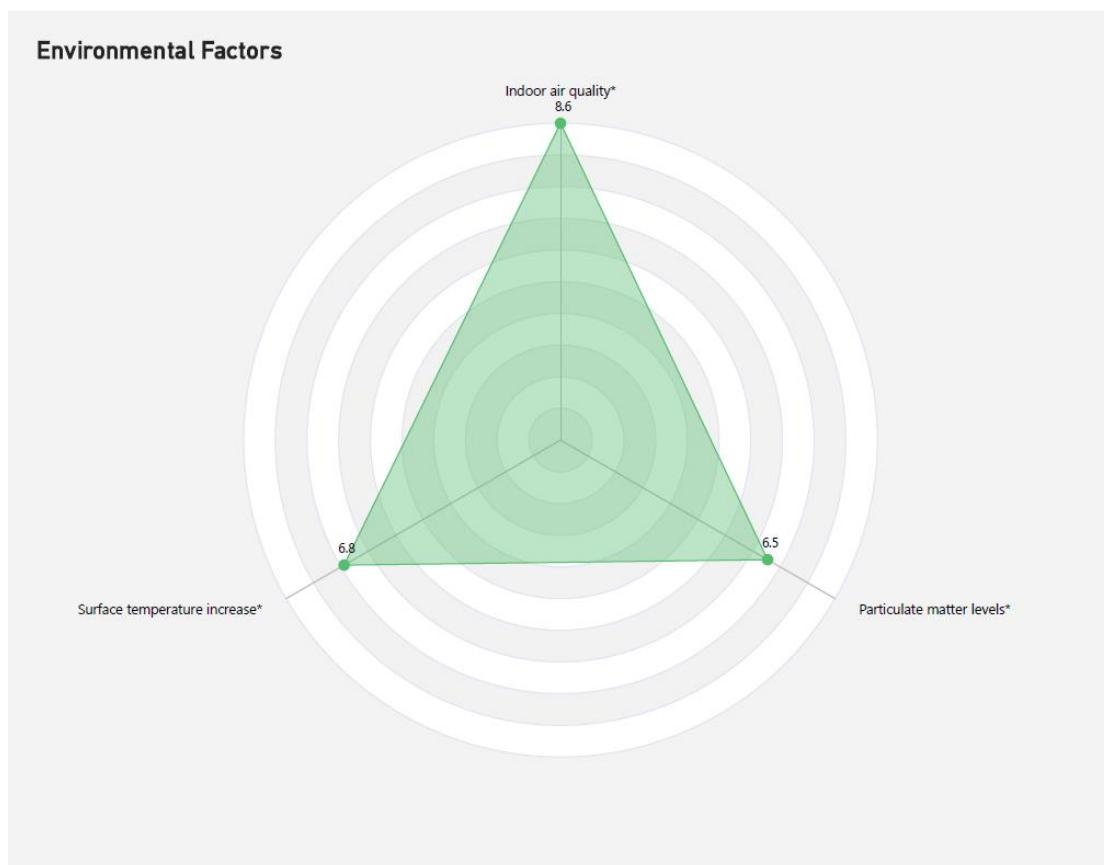
Policy Context – Score: 62/100



Access and Care Coverage – Score: 64/100



● **Health System Characteristics – Score: 49/100**

■ **Disease Burden – Score: 83/100**


 Environmental Factors – Score: 73/100



Colombia – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 61.3/100

Country Overview

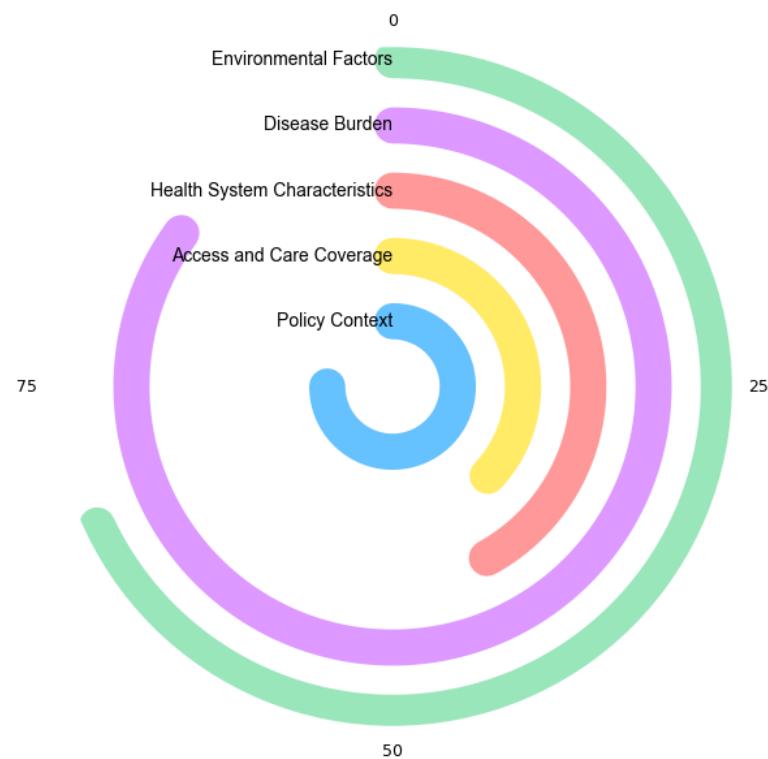
Colombia ranks in the **upper-middle range** in the **Policy Context** domain, with the development of national asthma guidelines and progress on some regional strategies although lacking a dedicated national plan for severe asthma.

In terms of **Access and Care Coverage**, Colombia scores below average, due to pronounced geographic and socioeconomic inequities. While basic diagnostics are reasonably available in urban areas, access to advanced tests like FeNO is very restricted.

The **Health System Characteristics** score reflects an ambitious but incomplete reform. Colombia has a universal unified health system (through contributory and subsidised regimes), but persistent administrative barriers and delays in treatment authorisation remain, especially for specialised care.

Colombia scores the highest in Disease burden, due to a combination of factors such as low asthma mortality, low obesity rates uses and one of the lowest tobacco use rates in the region. However, it must be noted that the score may underestimate the true burden of disease due to limited access to diagnosis, treatment, and reporting.

In terms of **Environmental Factors**, Colombia scores under the average. Urban areas particularly Bogotá and Medellín report high air pollution levels. Although indoor air quality is relevant to asthma, no data is available in this area.



Key Takeaways

1. Universal Coverage in Principle, Barriers in Practice

Colombia's SGSSS offers universal health coverage through contributory and subsidised regimes, but **bureaucratic obstacles and fragmented service delivery** create serious delays in accessing care, particularly for **non-standard or specialised treatments** like biologics and FeNO testing.

2. Deep Regional Inequities in Specialist Access and Diagnostics

While large cities have concentrations of pulmonologists and advanced diagnostics, **vast rural regions (e.g. Orinoquía, Amazon)** are significantly underserved. Severe asthma patients outside urban centres face **limited availability of trained specialists**, delayed diagnostics, and approval processes that sometimes require **legal action** to access therapies.

3. Environmental and Social Vulnerabilities Compound Disease Burden

Severe asthma outcomes are worsened by **air pollution in cities, occupational exposures**, and **poor housing conditions** in marginalised communities. Despite Colombia's environmental challenges, **public health and environmental policies remain poorly integrated**, and **few initiatives tackle the social determinants of asthma**.

Best practices

- **Telemedicine and mobile health strategies** are emerging as viable tools to bridge urban, rural care gaps.
- **Proposals to develop regional centres of excellence** offer scalable models for decentralised severe asthma care and training.
- **Data collection on urban air quality** is robust and can serve as a foundation for targeted environmental interventions.
- **Potential for intersectoral collaboration** exists through existing health and environmental ministries, though coordination must be strengthened.

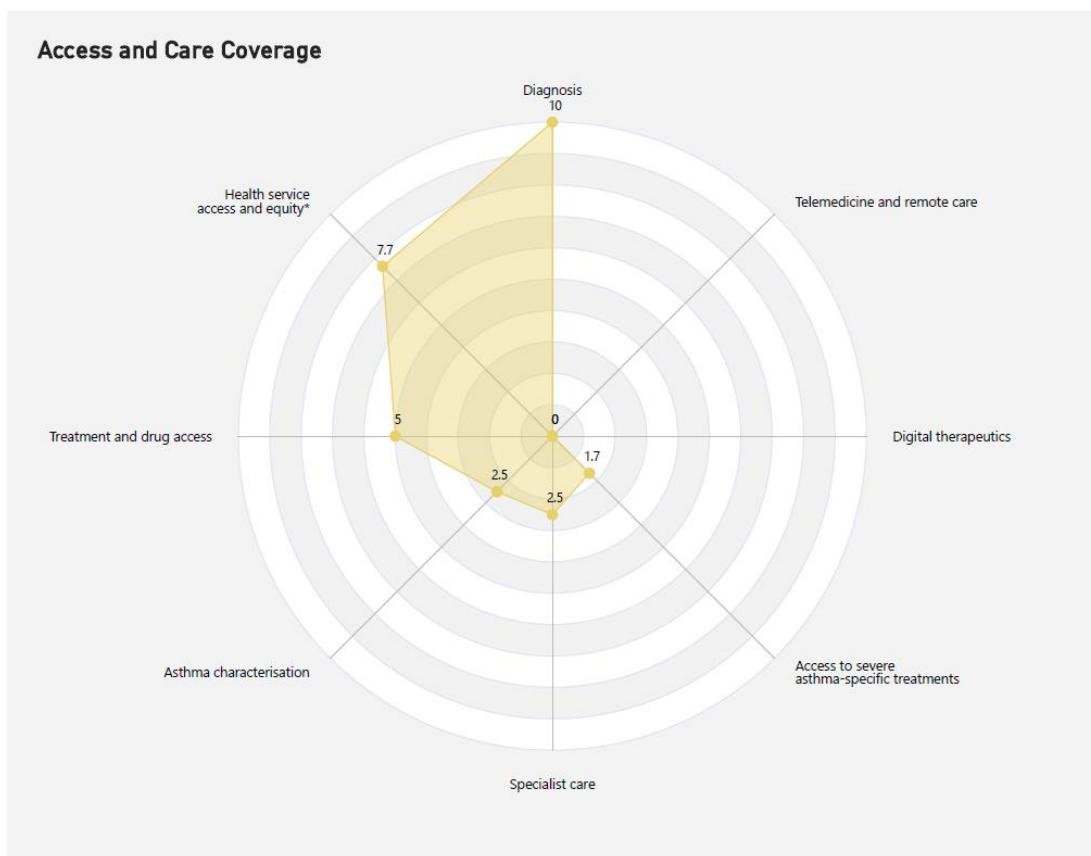
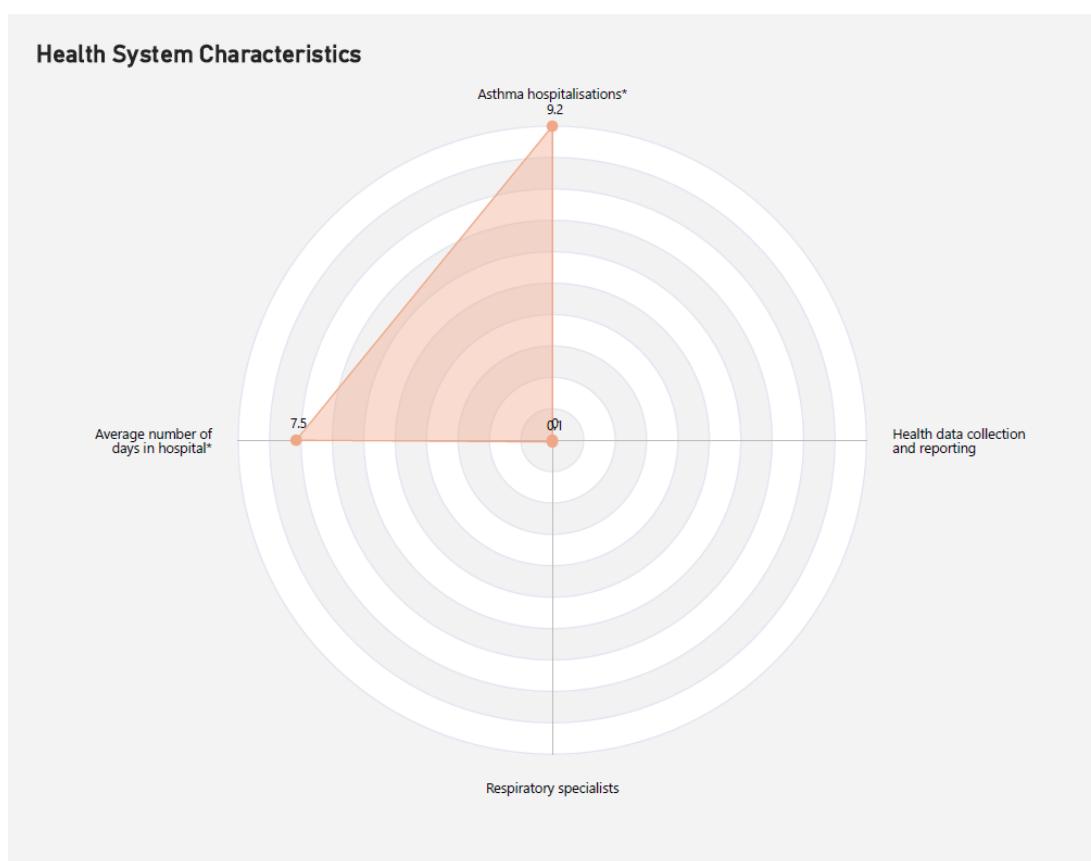
Challenges

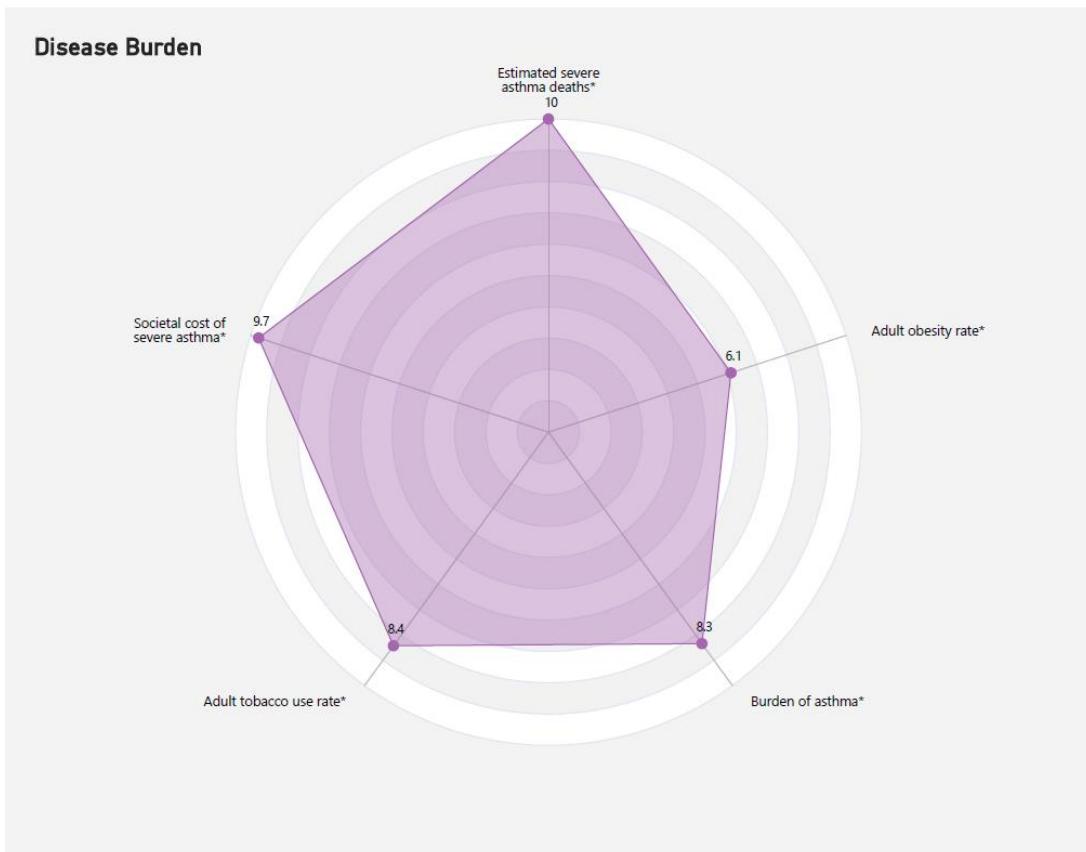
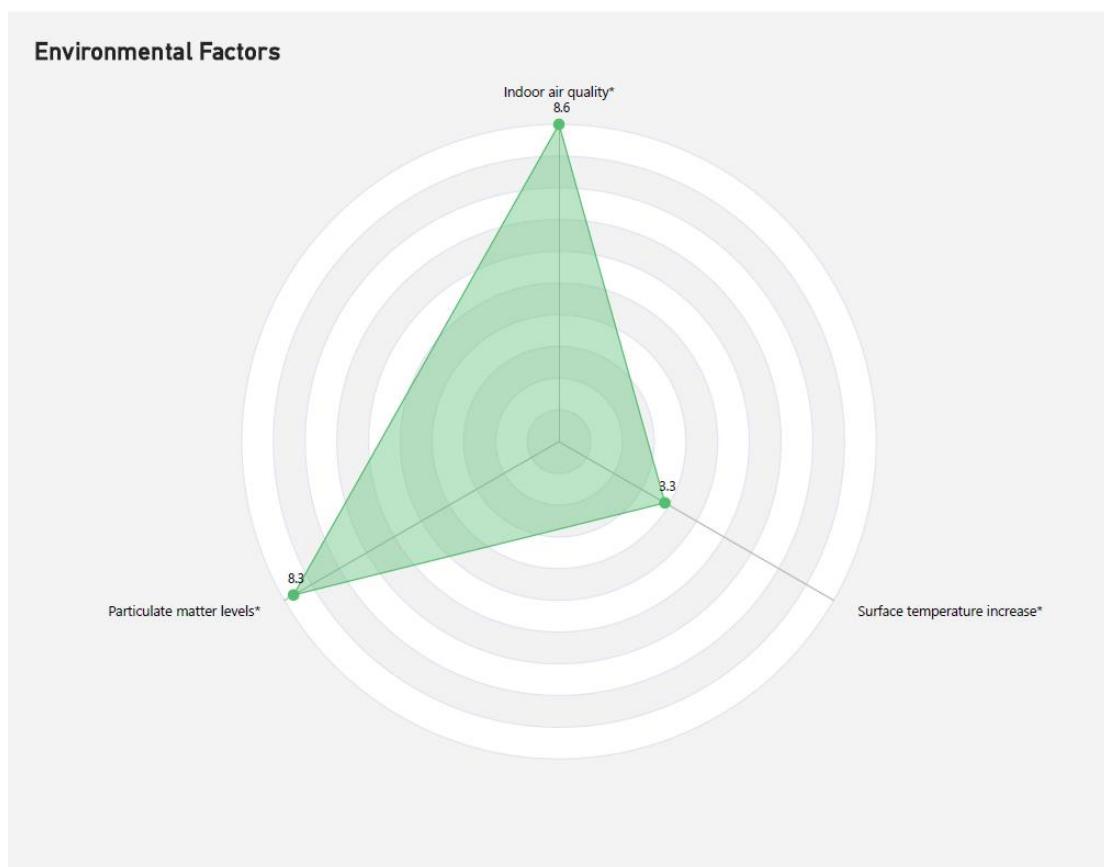
- **Cumbersome and inconsistent administrative processes** across EPS insurers delay or block access to specialised asthma treatments.
- **Significant geographic disparities** in specialist availability and access to advanced diagnostics like FeNO or allergy testing.

- **Barriers to biologics** due to limited PBS inclusion, restrictive approval criteria, and lack of trained prescribers.
- **Weak integration of asthma care with environmental monitoring and occupational health programmes**, especially in high-risk sectors.
- **Socioeconomic disparities** that limit disease control among low-income populations.

 Policy Context – Score: 75/100



📍 Access and Care Coverage – Score: 37/100

⚙️ Health System Characteristics – Score: 42/100


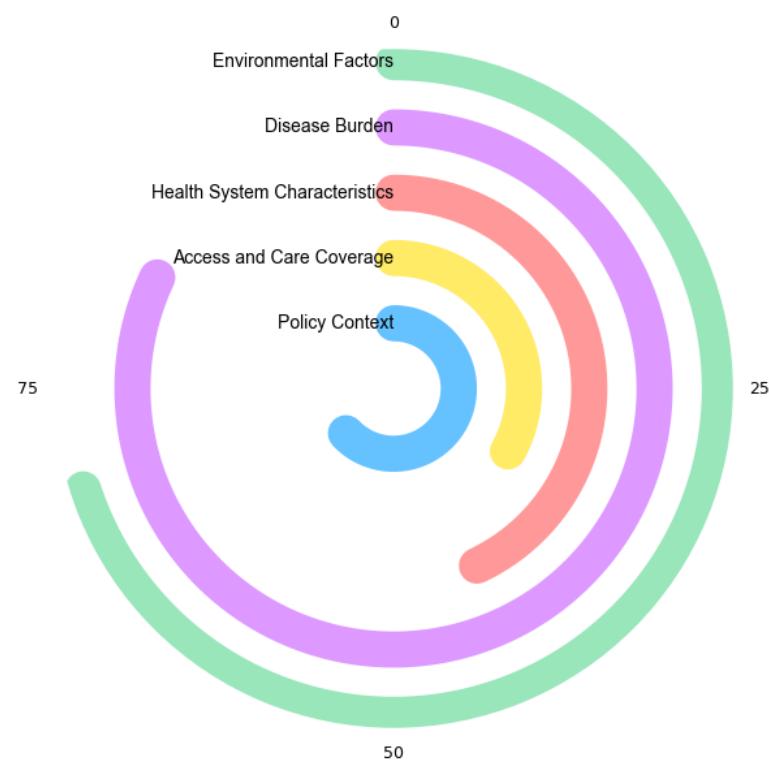
 **Disease Burden – Score: 85/100**

 **Environmental Factors – Score: 68/100**


Costa Rica – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 58.2/100

Country Overview

Costa Rica scores above average in Policy Context. The country has made notable progress with national asthma strategies and guideline development, showing strong alignment with global standards. However, it lacks a national severe asthma registry, and implementation of policies around chemical exposure regulation and personalised care remain partial.



In terms of Access and Coverage, Costa Rica shows documented strengths such as the (albeit restricted) availability of omalizumab, strong tobacco control legislation, and national strategies to address obesity. However, the overall low score mainly reflects gaps in data collection and the limited implementation of some aspects of care.

The **below-average score** for the **Health System Characterisation** in relation to asthma reflects key limitations, especially regarding the availability and systematisation of national data. Additionally, sources lack detailed information about the number and distribution of respiratory health specialists across the country.

Costa Rica scores strongly in Disease Burden due to a low societal cost of asthma, which corresponds to low asthma DALYs and low mortality. However, obesity is moderate, in comparison with the region. This score may underestimate the true burden of disease due to limited access to diagnosis, treatment, and reporting.

Costa Rica scores 70/100 in Environmental Factors, placing it above the average. The country benefits from relatively moderate levels of air pollution and has robust

monitoring systems in place, particularly for outdoor air quality. Although indoor air quality is relevant to asthma, no data is available in this area.

Key Takeaways

Previous reports have already noted annual increases in asthma prevalence. Asthma is the most common chronic disease in paediatrics.

Obesity is a major public health issue in Costa Rica, affecting adults, children, and adolescents. This challenge is critical, as obesity is a risk factor for developing or worsening asthma symptoms.

Best practices

- It is essential that both patients and their families have a clear understanding of asthma, can recognise symptoms, and know when to seek professional help.
- Given the recurring issue of poor technique, emphasis must be placed on thorough and repeated training and review of correct inhaler use at every visit.
- Asthma management should be based on continuous assessment of severity and control.

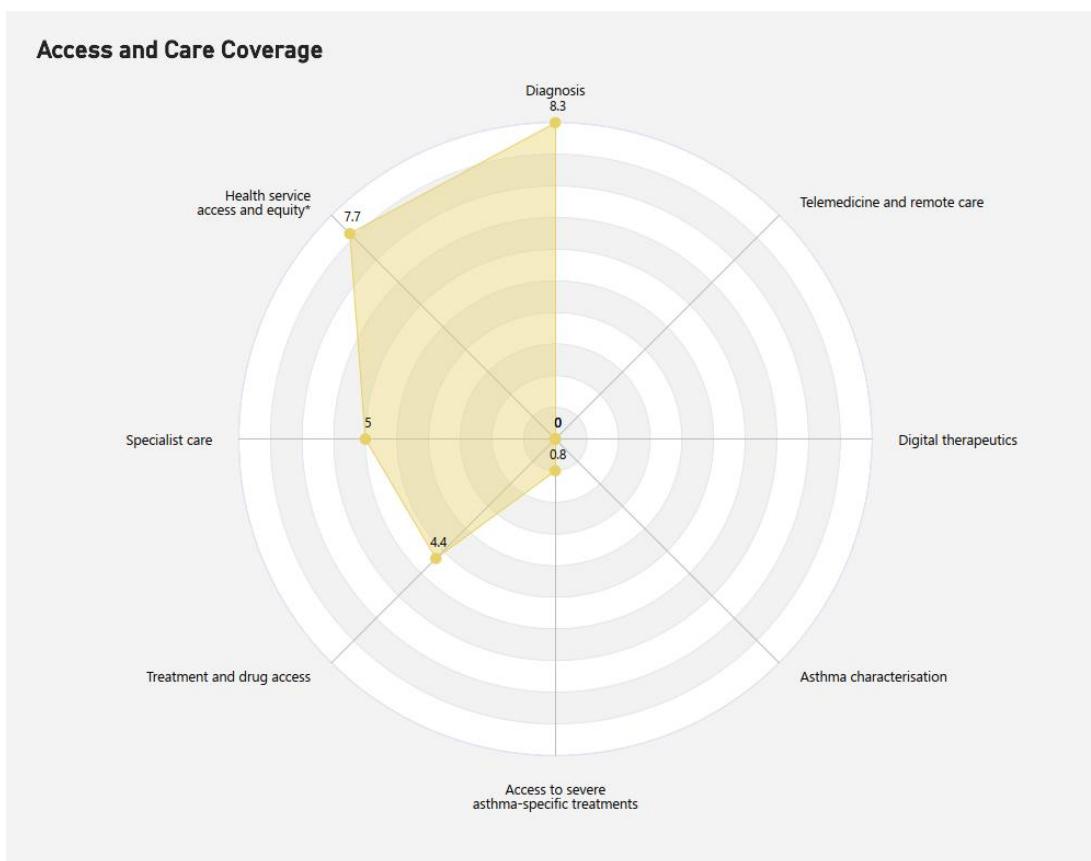
Challenges

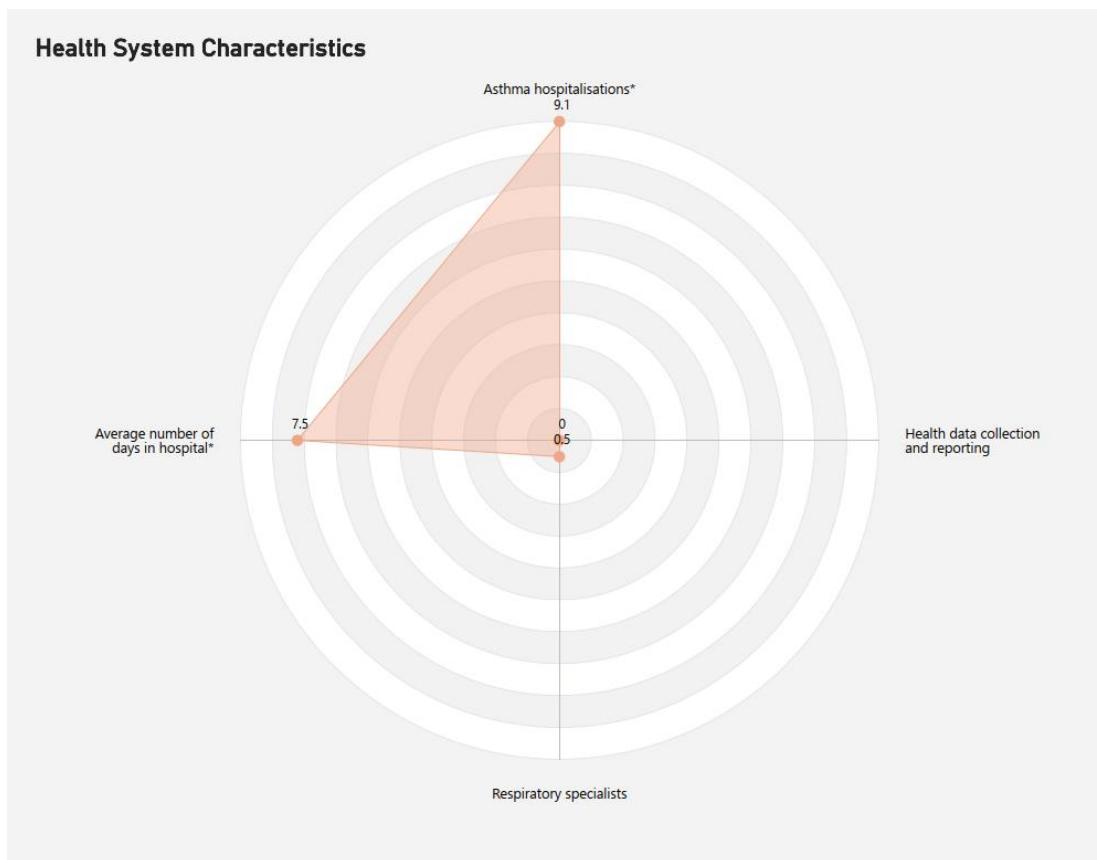
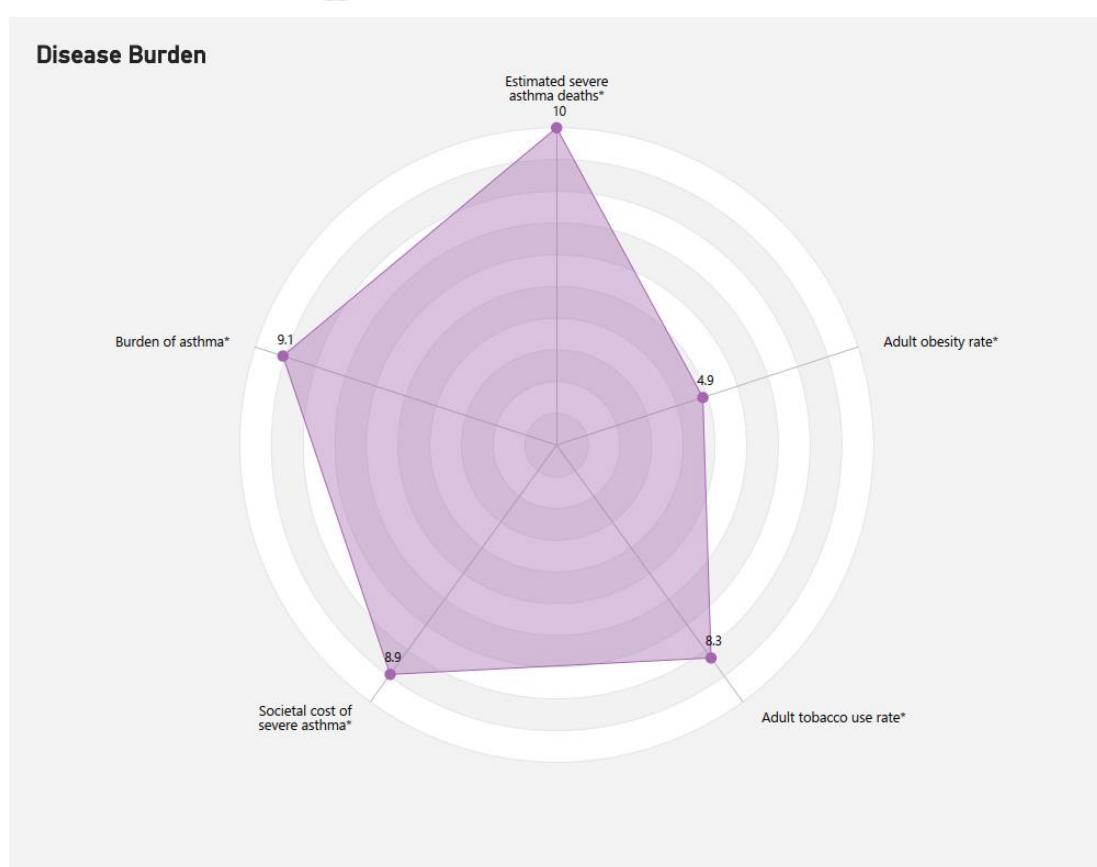
- Poor inhaler technique is one of the most significant barriers to effective asthma control. Patients frequently relapse into incorrect technique, necessitating constant review at each consultation.
- Non-adherence to treatment is another major issue—particularly in severe asthma management.

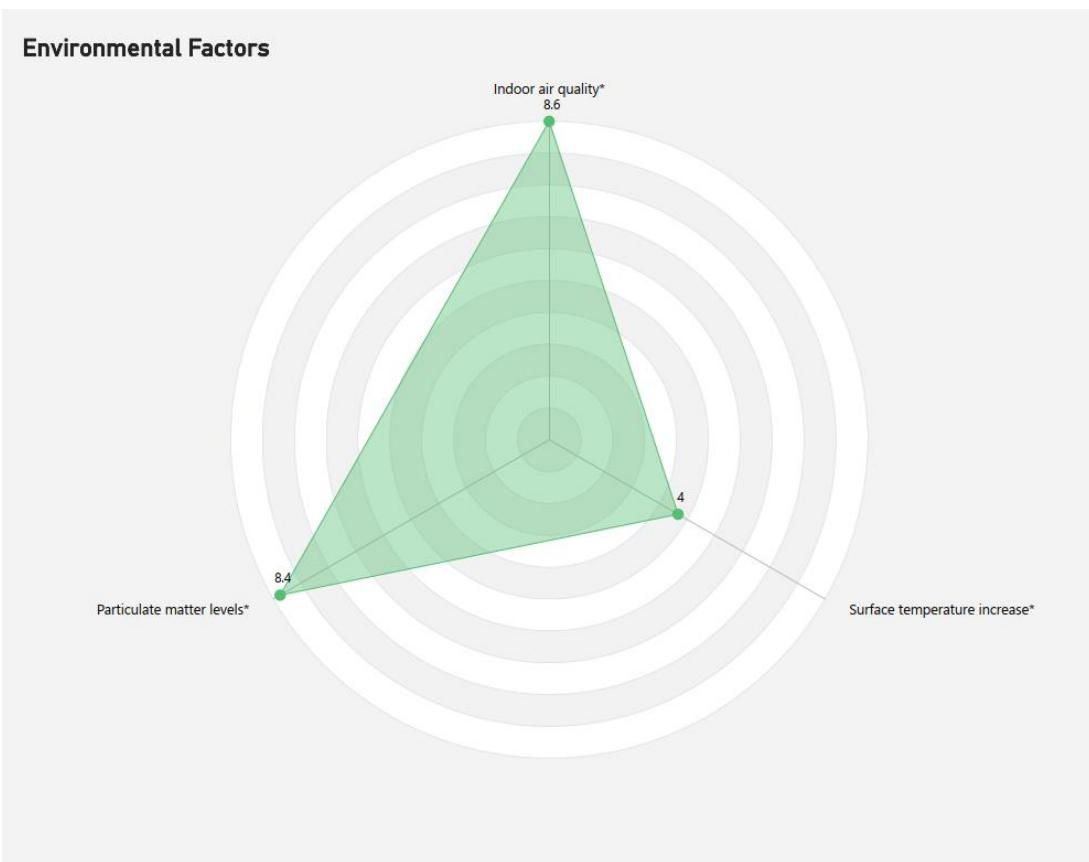
Policy Context – Score: 63/100



Access and Coverage – Score: 33/100



● **Health System Characteristics – Score: 43/100**

■ **Disease Burden – Score: 82/100**


 Environmental Factors – Score: 70/100



Egypt – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 54.3/100

Country Overview

In the **Health System Characteristics** domain, Egypt performs above average, with relatively low asthma hospitalisation rates and among the shortest average hospital stays. Its performance could be strengthened further by increasing the number of respiratory specialists.

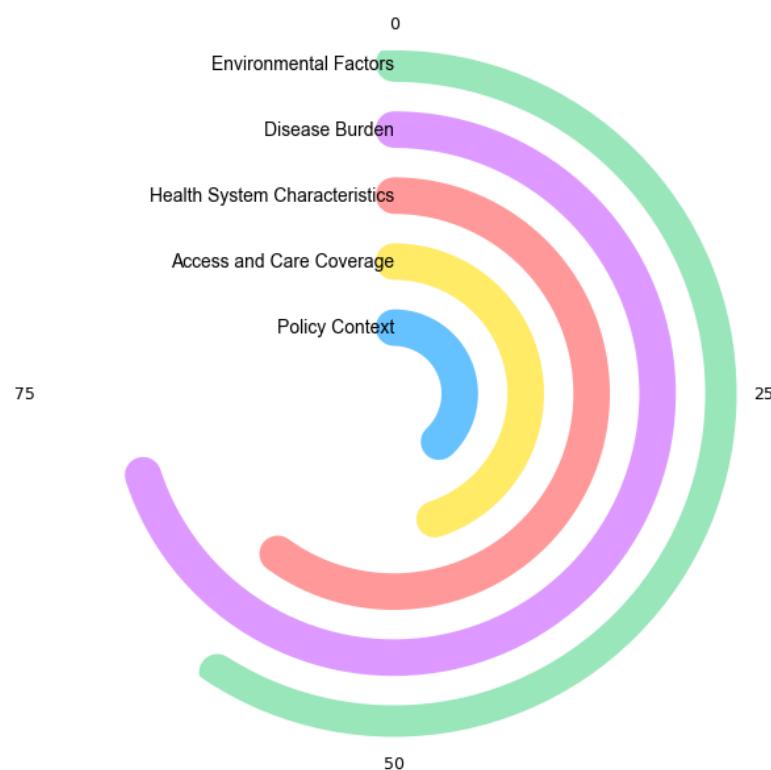
Within the **Disease Burden**

category, Egypt scores around the average, showing relatively low societal costs. However, it records the highest adult obesity rate in the index.

Egypt currently scores low in the **Policy Context** category, largely due to limited alignment with the GINA strategy, the absence of personalised asthma care, and relatively weak tobacco control laws. However, the development of a national asthma strategy signals positive momentum and growing disease awareness.

Access and Care Coverage remains a key challenge. While Egypt ensures relatively good access to a basic range of asthma medications and specialist care, access to biologics and FeNO is limited, and experts report high levels of unmet healthcare need.

In the **Environmental Factors** domain, Egypt ranks among the lowest, primarily due to high levels of particulate matter. Expert input also highlights ongoing issues with indoor air quality, further contributing to environmental risk exposure.



Key Takeaways

1. Access to advanced diagnostics and treatment remains limited — particularly in rural areas

While Egypt ensures relatively good access to essential asthma medications and specialist care in urban centres, access to FeNO testing, biologics, and respiratory specialists remains limited, especially in rural areas. This restricts early diagnosis and personalised treatment for severe asthma.

To address this, Egypt could invest in decentralising diagnostic capacity by equipping regional hospitals with basic inflammatory testing tools (such as FeNO) and expanding training programmes for general practitioners to recognise and refer severe cases earlier.

2. Clinical expertise is concentrated, leaving gaps in care equity and continuity

Expert input highlights a shortage of qualified professionals to diagnose and manage severe asthma, particularly outside major urban centres. While university hospitals and scientific societies demonstrate strong leadership in care quality, their reach is limited. Scaling up university-based best practices through national clinical training initiatives, and developing teleconsultation models in collaboration with respiratory societies, could help extend expert support into underserved regions.

3. Policy infrastructure is improving, but implementation remains a key opportunity

Egypt scores low in policy alignment with international best practices, lacks structured personalised care pathways, and has room to strengthen tobacco control. However, the development of a national asthma strategy presents a clear opportunity for progress. This strategy should include concrete implementation plans for severe asthma, such as diagnostic standards, referral mechanisms, and equity targets. Public awareness efforts should also be expanded to address asthma prevention, air quality, obesity, and tobacco harm reduction.

Best practices

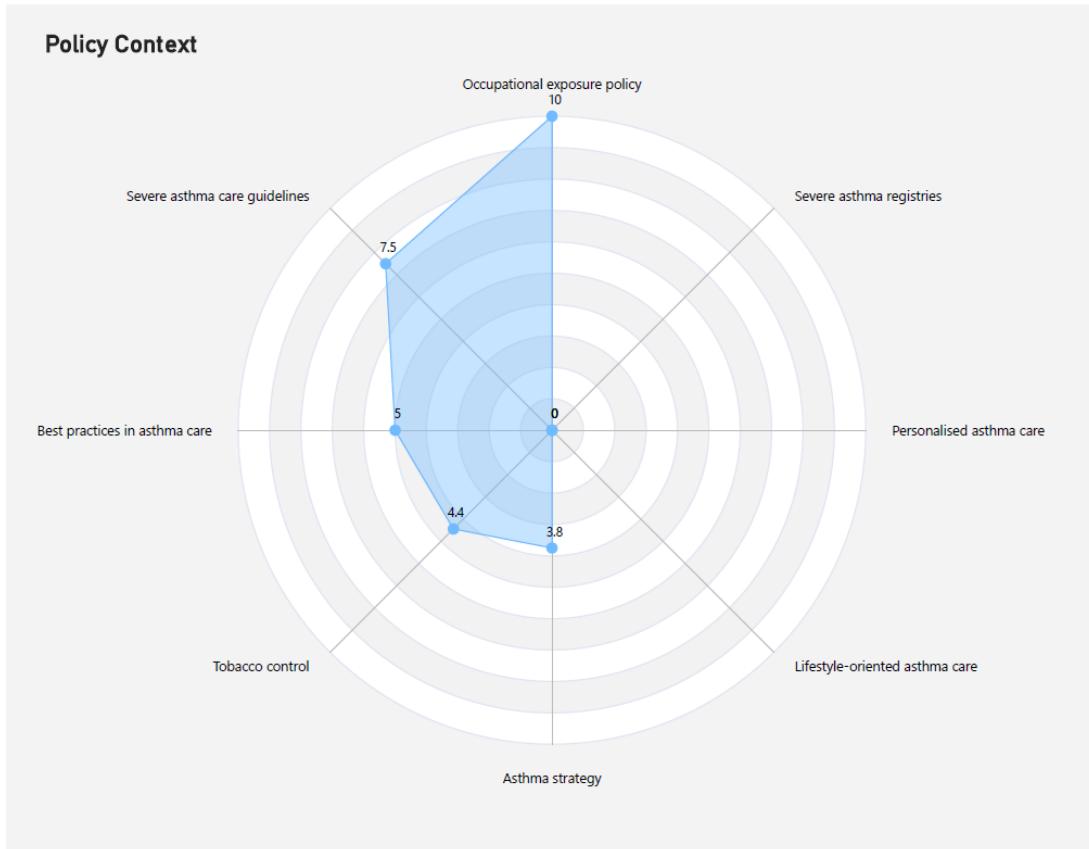
- Management
- University hospitals and Scientific Societies

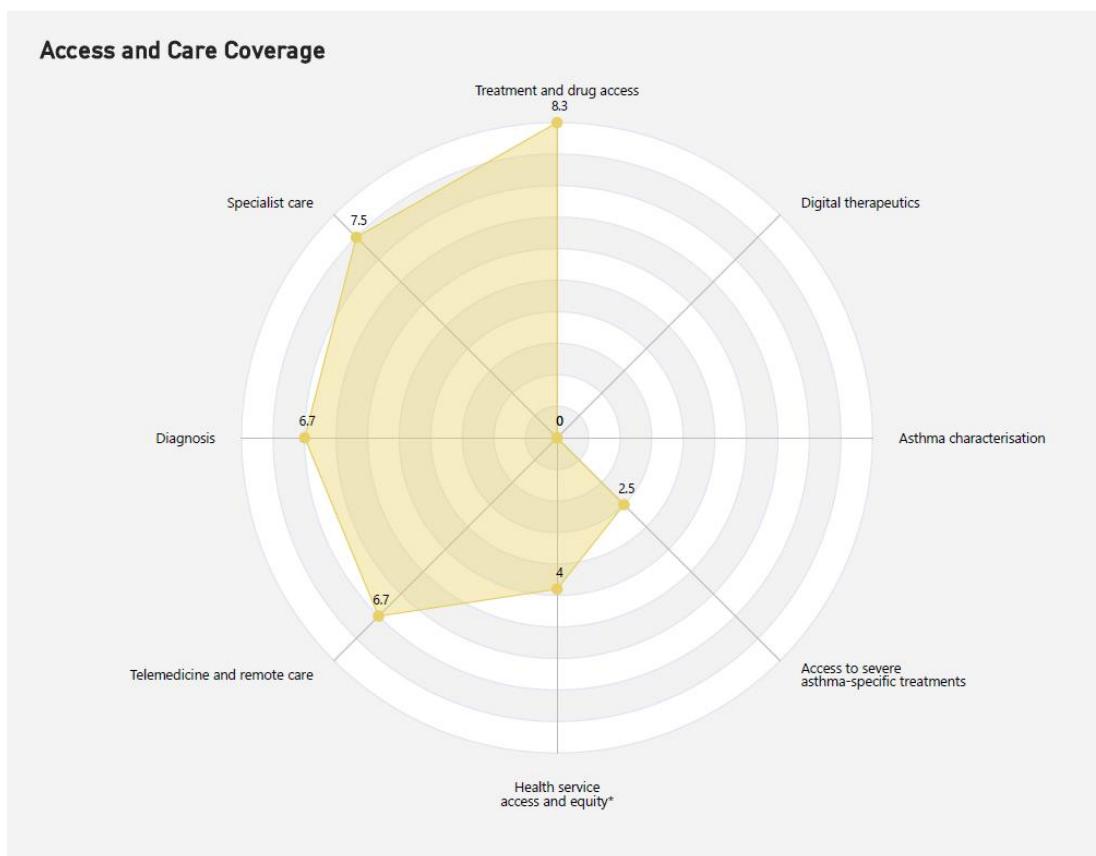
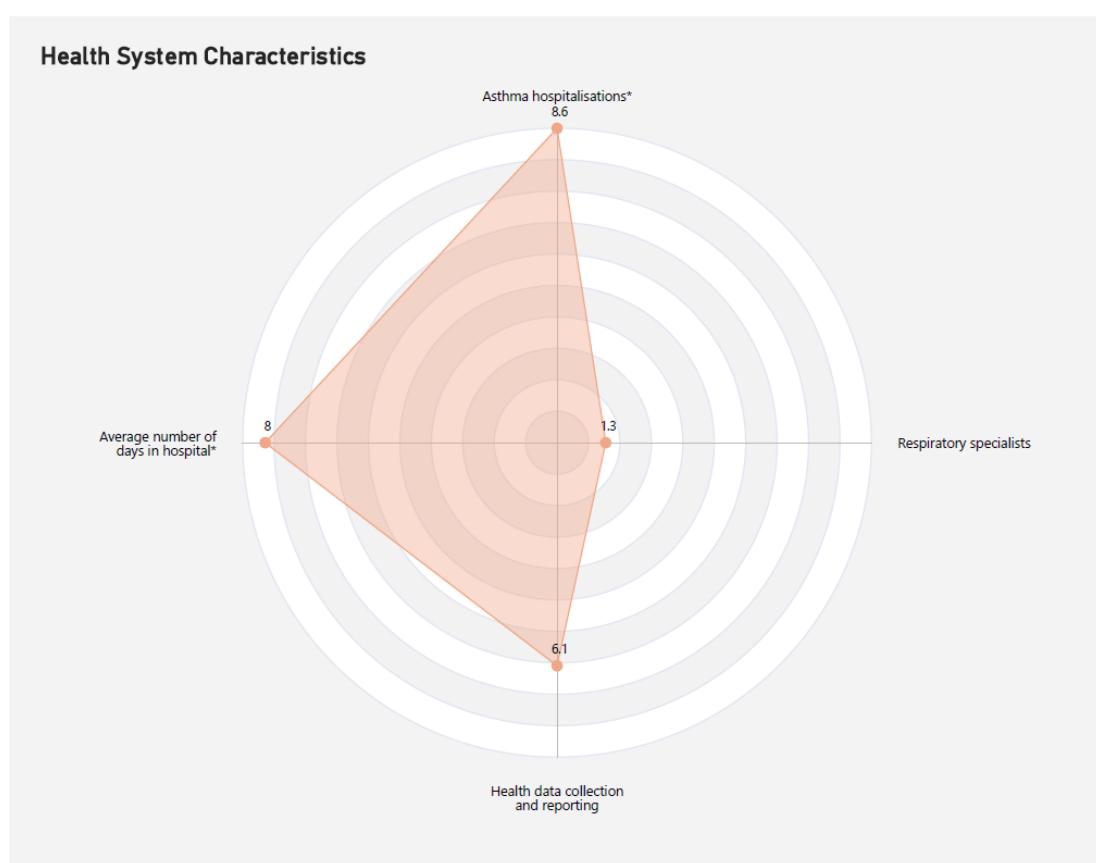
Challenges

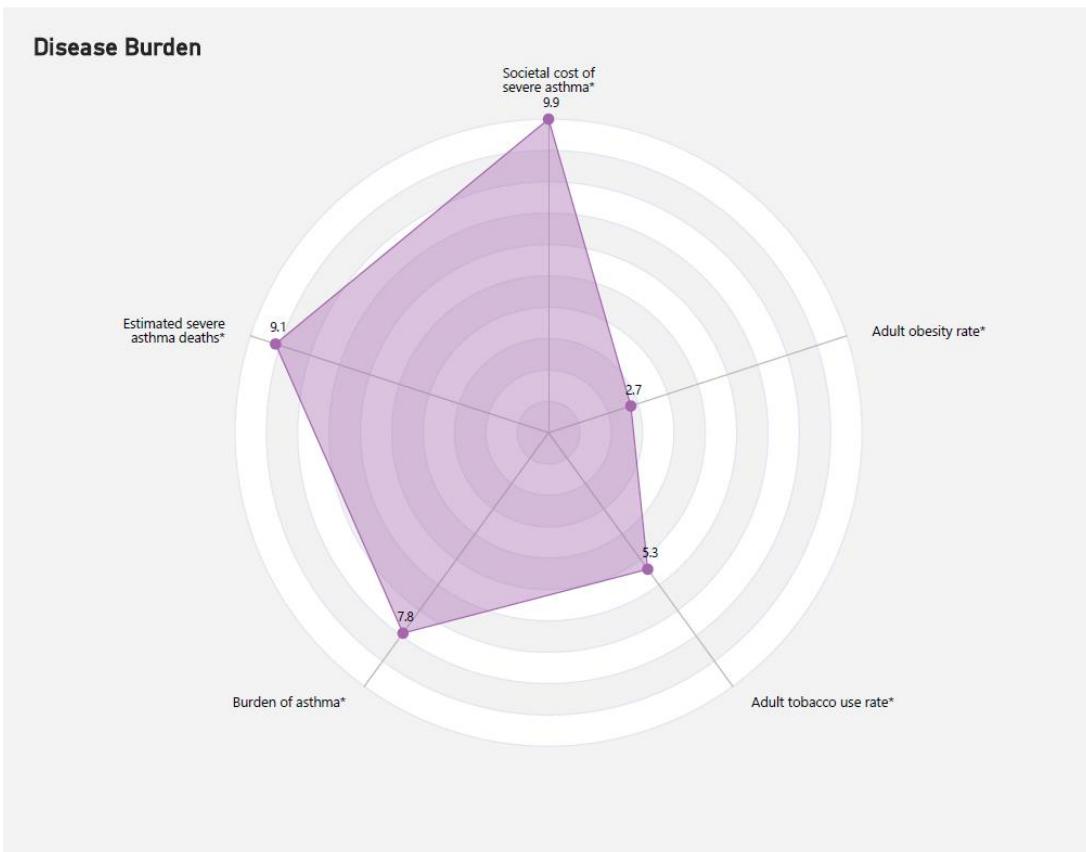
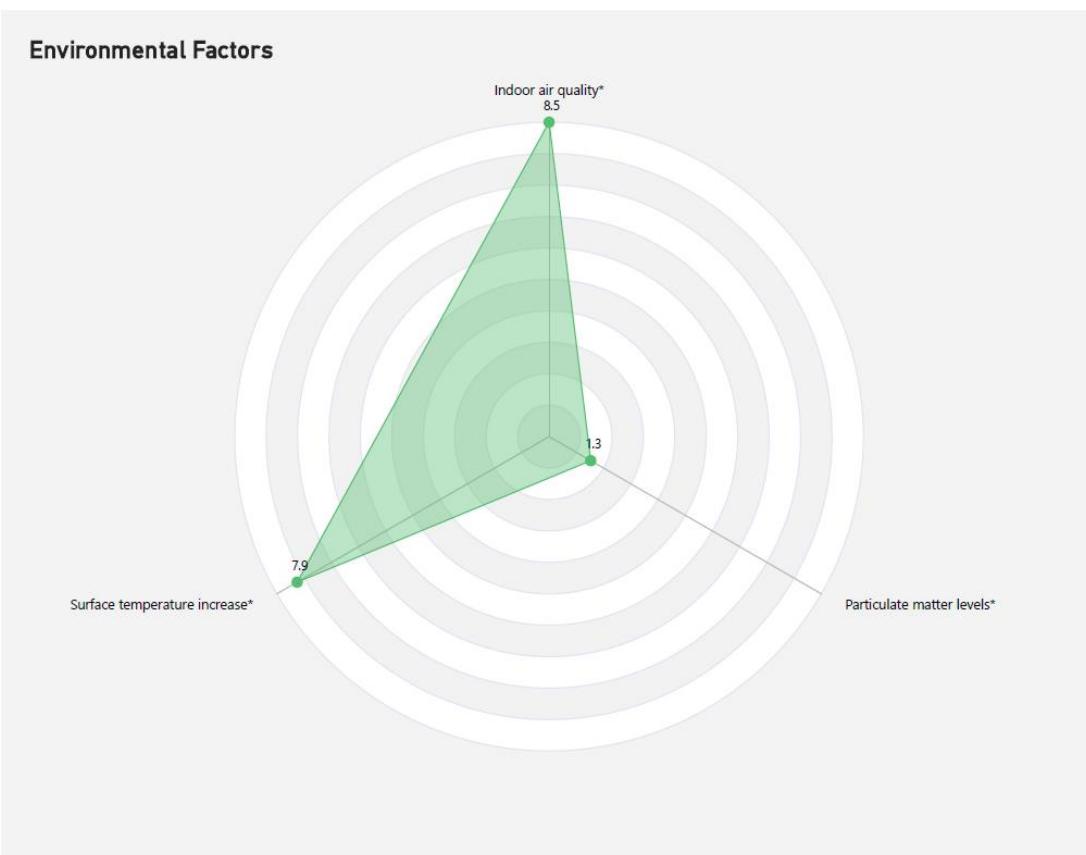
- Diagnostic tools and funding

- Availability of qualified medical professionals to diagnose and treat especially in rural areas

Policy Context – Score: 38/100



■ Access and Care Coverage – Score: 45/100

■ Health System Characteristics – Score: 60/100


 **Disease Burden – Score: 70/100**

 **Environmental Factors – Score: 59/100**


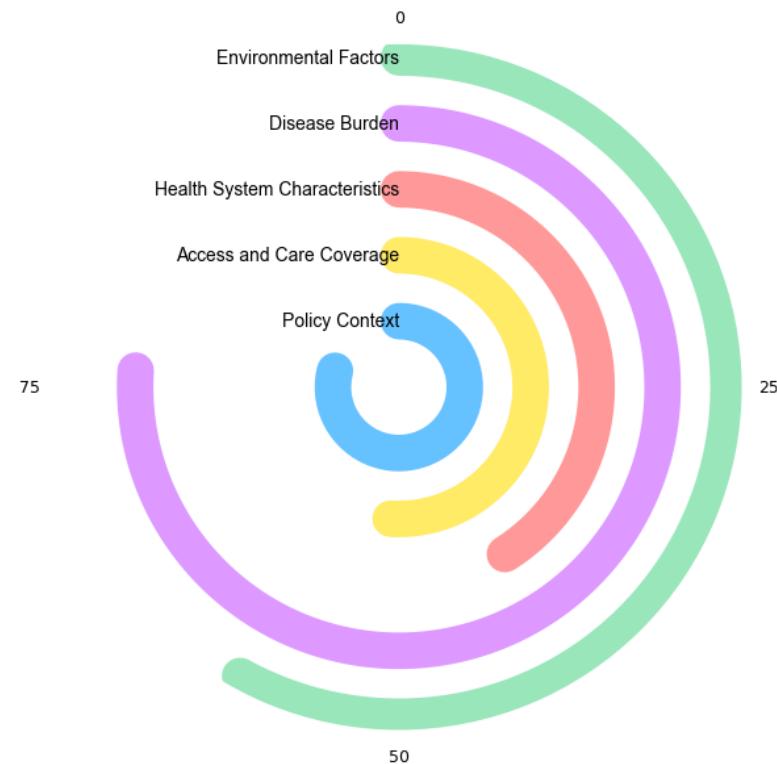


India – Severe Asthma Country Profile

 Aggregate Score (Un-weighted): 61/100

Country Overview

India scores high in Policy Context, supported by the presence of a national asthma strategy, clinical guidelines, and strong tobacco control regulations. However, there is still room to improve alignment with GINA-recommended best practices.



In Access and Care Coverage, India performs below average, primarily due to limited access to biologics and high levels of unmet healthcare need, despite relatively good availability of basic asthma treatments and medications.

India demonstrates the second lowest score in Health System Characteristics, driven by a low number of respiratory specialists and the absence of publicly available data on annual asthma hospitalisations and health outcomes.

In Disease Burden, India appears to perform well, showing the lowest societal cost of asthma and the second lowest adult obesity rate. However, this score may underestimate the true burden of disease due to limited access to diagnosis, treatment, and reporting — alongside a relatively high rate of adult tobacco use.

India also scores second lowest in Environmental Factors, due to the highest recorded level of particulate matter exposure among all countries in the index and a lack of publicly available data on indoor air quality.

Key Takeaways

- Strong policy foundations exist, but implementation and alignment remain limited**

India scores well in the **Policy Context** category, reflecting the presence of a national asthma strategy, clinical guidelines, and robust tobacco control measures. However, severe asthma care is often not formally recognised, and alignment with GINA-recommended practices remains limited. This contributes to a gap between national policy commitments and consistent delivery of care across regions. To move forward, national strategies should be expanded to explicitly address severe asthma, including diagnostic criteria, treatment pathways, and care quality standards.

2. Limited access to diagnostics and advanced treatment conceals true burden and restricts care

Although India ensures relatively good access to basic asthma medications, it scores below average in **Access and Care Coverage** due to restricted access to biologics, limited availability of diagnostics like FeNO, and high levels of unmet healthcare need. Experts highlight that even basic asthma care remains a challenge in many settings, with inconsistent treatment, delayed diagnosis, and low awareness at the primary care level. These limitations likely contribute to underdiagnosis and underreporting, which may explain the country's low recorded societal cost in the **Disease Burden** category.

3. System capacity and environmental challenges limit progress on asthma control

India ranks near the bottom in both **Health System Characteristics** and **Environmental Factors**. A shortage of respiratory specialists, the absence of asthma registries, and lack of hospitalisation data make coordinated planning difficult. At the same time, the country records the highest level of particulate matter in the index and lacks publicly available indoor air quality data. These structural limitations hinder both prevention and long-term disease management efforts, especially in areas where healthcare infrastructure is weakest.

Best practices

- Perform well in Policy Context due to having a national asthma strategy, clinical guidelines, and strong tobacco control regulations

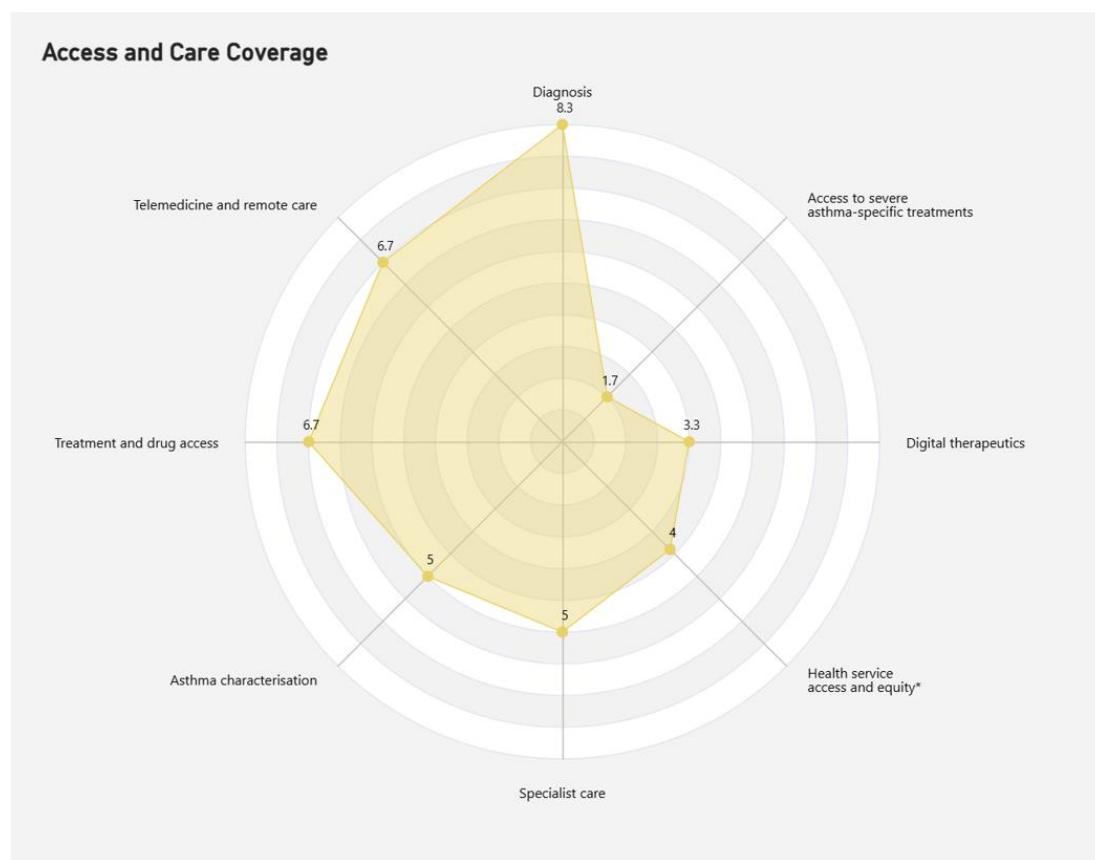
Challenges

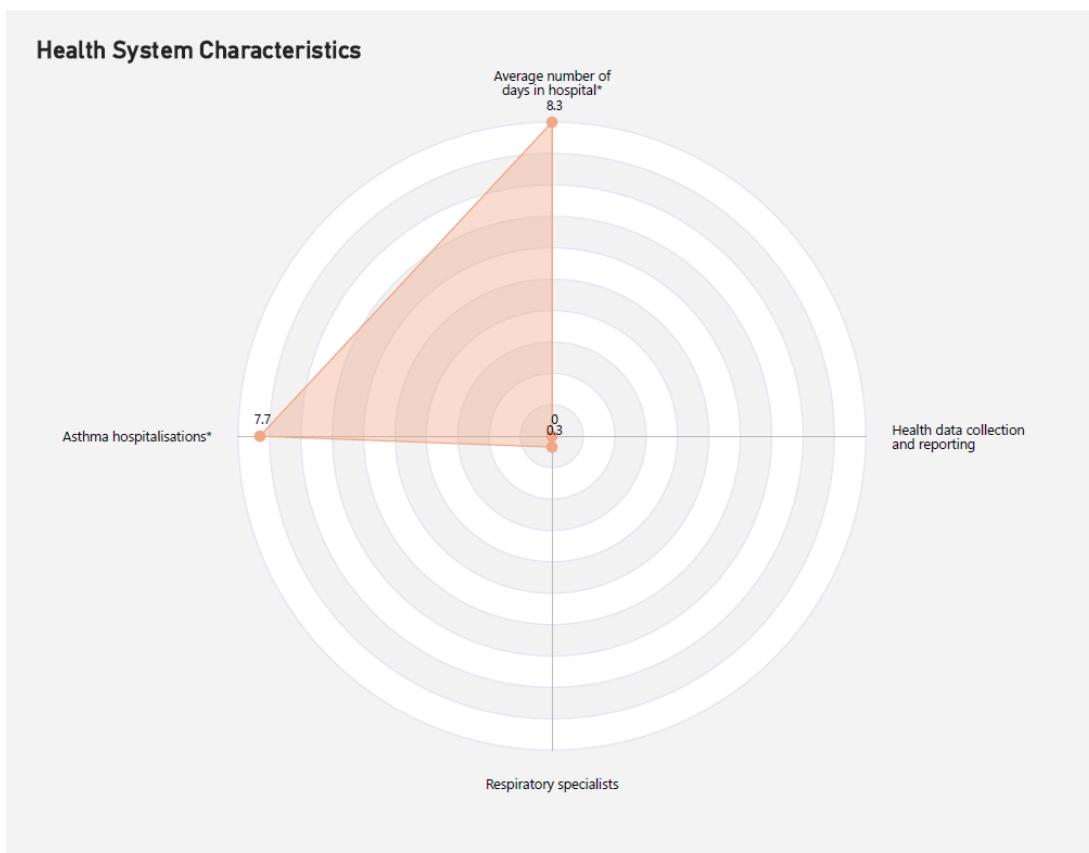
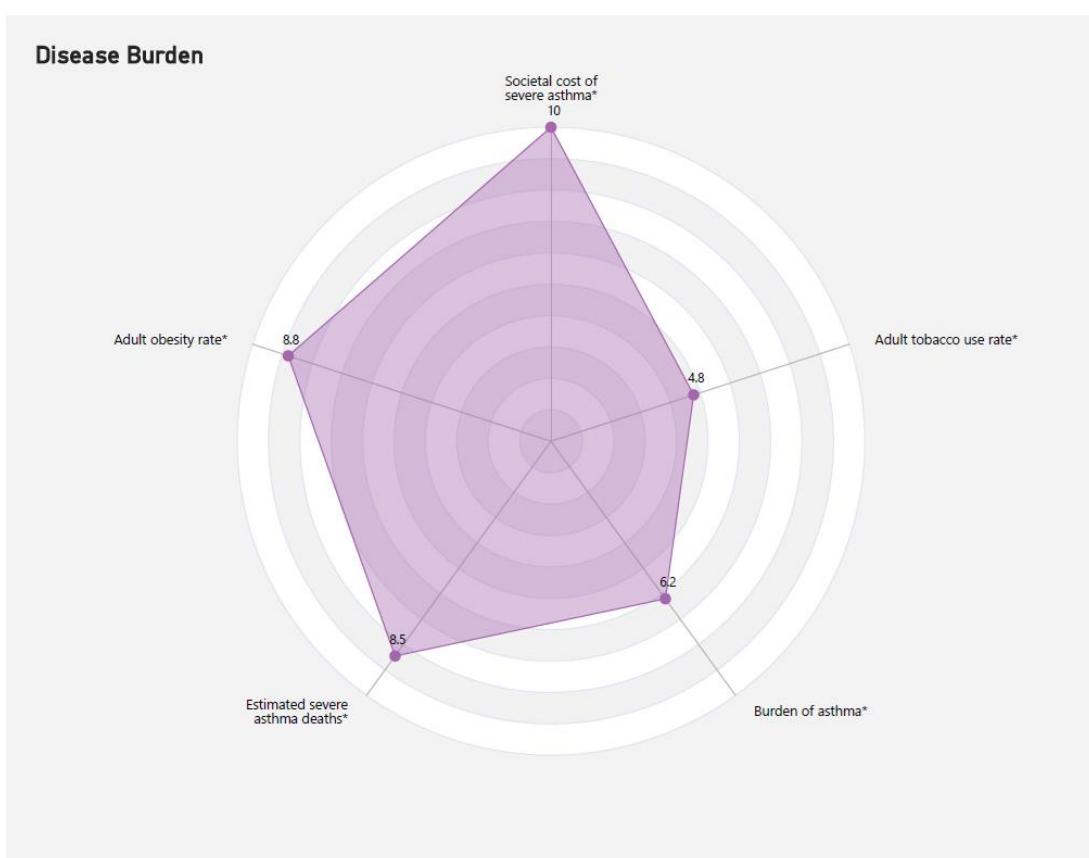
- Basic asthma care is limited
- Severe asthma care is not yet recognised

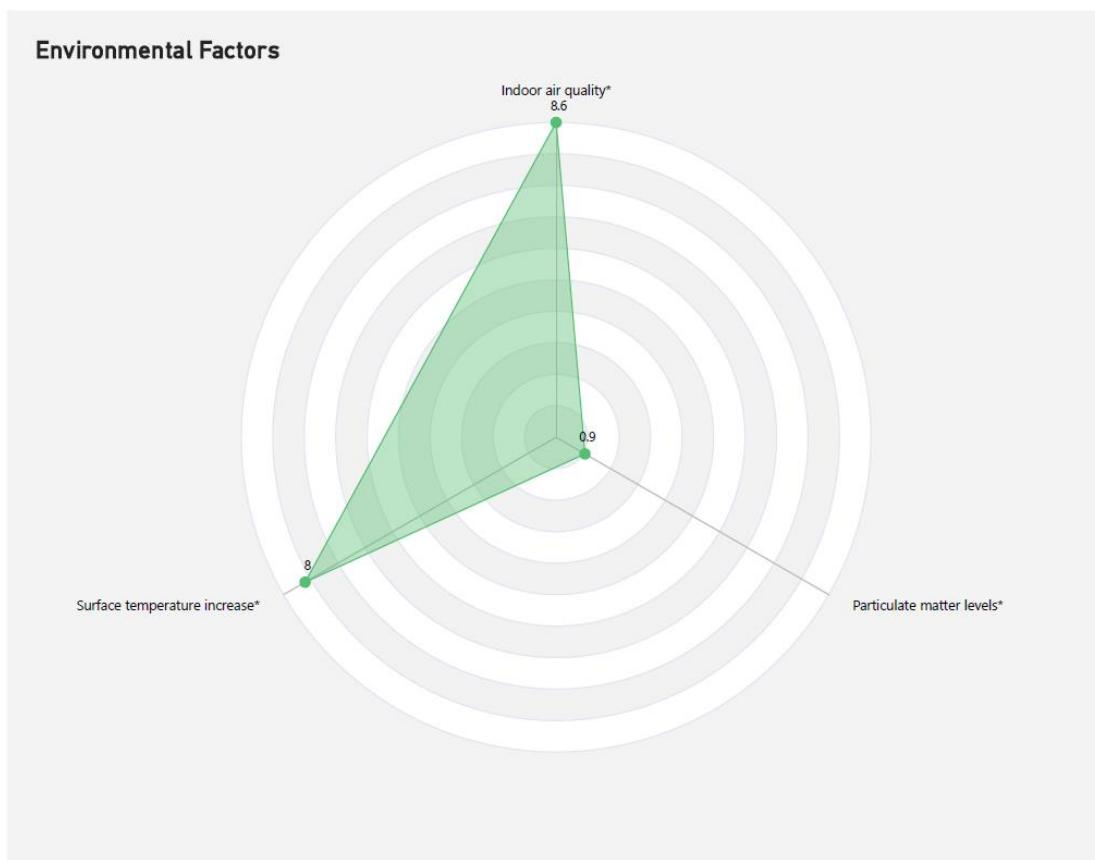
Policy Context – Score: 79/100



Access and Care Coverage – Score: 51/100



● **Health System Characteristics – Score: 41/100**

☒ **Disease Burden – Score: 76/100**


 Environmental Factors – Score: 58/100



Israel – Severe Asthma Country Profile

🌐 Aggregate Score (Unweighted): 65.2/100

Country Overview

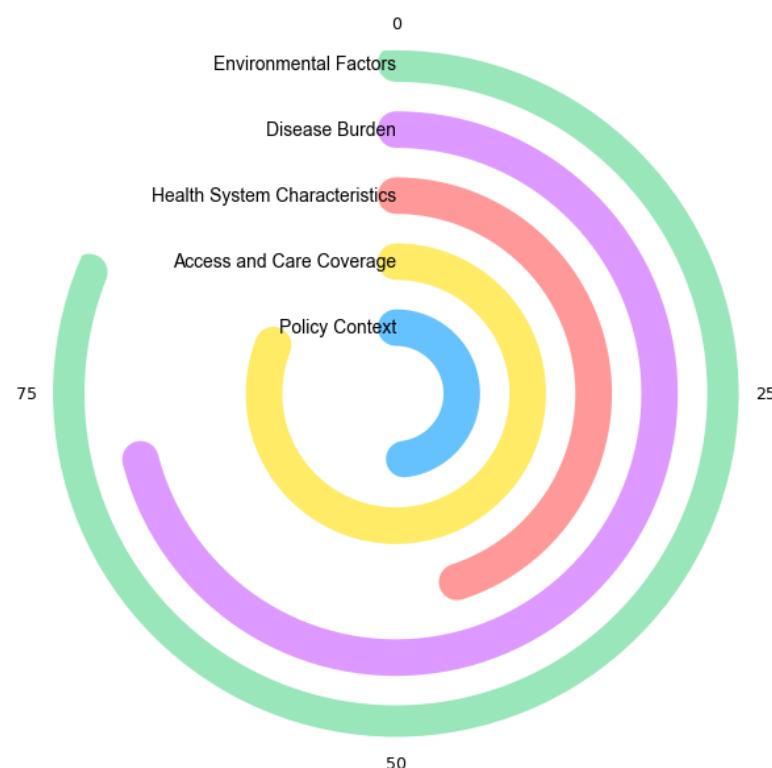
Israel ranks second highest in the **Access and Care Coverage** category, with strong availability of treatment, especially biologics, diagnostics, specialist care, and telemedicine. However, equity in healthcare access remains an area for improvement.

The country scores below average in the **Policy Context** category due to the absence of a formal national asthma strategy and dedicated guidelines, although alignment with GINA best practices is strong and a national strategy is currently under development.

In the **Health System Characteristics** category, Israel's score is limited by the lack of registries that include severe asthma outcomes, despite low asthma hospitalisation rates and a short average length of stay.

Performance in the **Disease Burden** category is around average, with a low adult tobacco use rate and moderate societal cost from asthma.

Environmental Factors represent a relative strength – Israel ranks second overall, supported by relatively good indoor air quality, although particulate matter levels remain elevated.



Key Takeaways

1. Strong treatment access contrasts with persistent equity gaps and system fragmentation

Israel ranks second highest in the Access and Care Coverage category, reflecting excellent public coverage of asthma treatments, biologics, diagnostics, and telemedicine. The availability of all approved biologics and diagnostic testing under national insurance is a notable strength. However, the health service access and equity indicator shows significant unmet need, and expert input highlights long waiting times, regional disparities, and reliance on private care — often with suboptimal outcomes.

Despite high coverage, care is less accessible in peripheral areas due to geographical barriers, longer wait times, and inconsistent care quality, particularly in the public system. Patients in underserved regions are more likely to delay treatment or seek private care that lacks coordination or oversight.

2. Weak policy infrastructure and limited implementation reduce consistency of care

Israel scores below average in the Policy Context category, primarily due to the absence of a formal national asthma strategy and lack of dedicated severe asthma guidelines. This limits the standardisation of care across providers and regions. Although the country aligns well with GINA best practices and is reportedly developing a national strategy, its score is affected by the lack of structured protocols, personalised care models, and tobacco control regulation.

Experts also noted that biologics prescribing is not restricted to centres of excellence, and there are no requirements for adherence to clinical pathways or documentation in registries, raising concerns about variation in prescribing practices. A shortage of pulmonologists, especially severe asthma specialists, compounds these structural gaps and contributes to uneven care delivery.

3. Low investment in structured education and respiratory care teams limits patient empowerment

Israel underperforms in Health System Characteristics, in part due to the absence of severe asthma registries, despite relatively low asthma hospitalisation rates and short hospital stays. The Index also shows limited presence of personalised asthma care and lifestyle-oriented interventions, and expert feedback confirms the absence of respiratory educators, nurses, or allied health staff who could support patient engagement.

Experts also report a lack of awareness about severe asthma at the primary care level and no national education campaigns or community-based programmes. This results in missed opportunities for early diagnosis, treatment adherence, and consistent disease management.

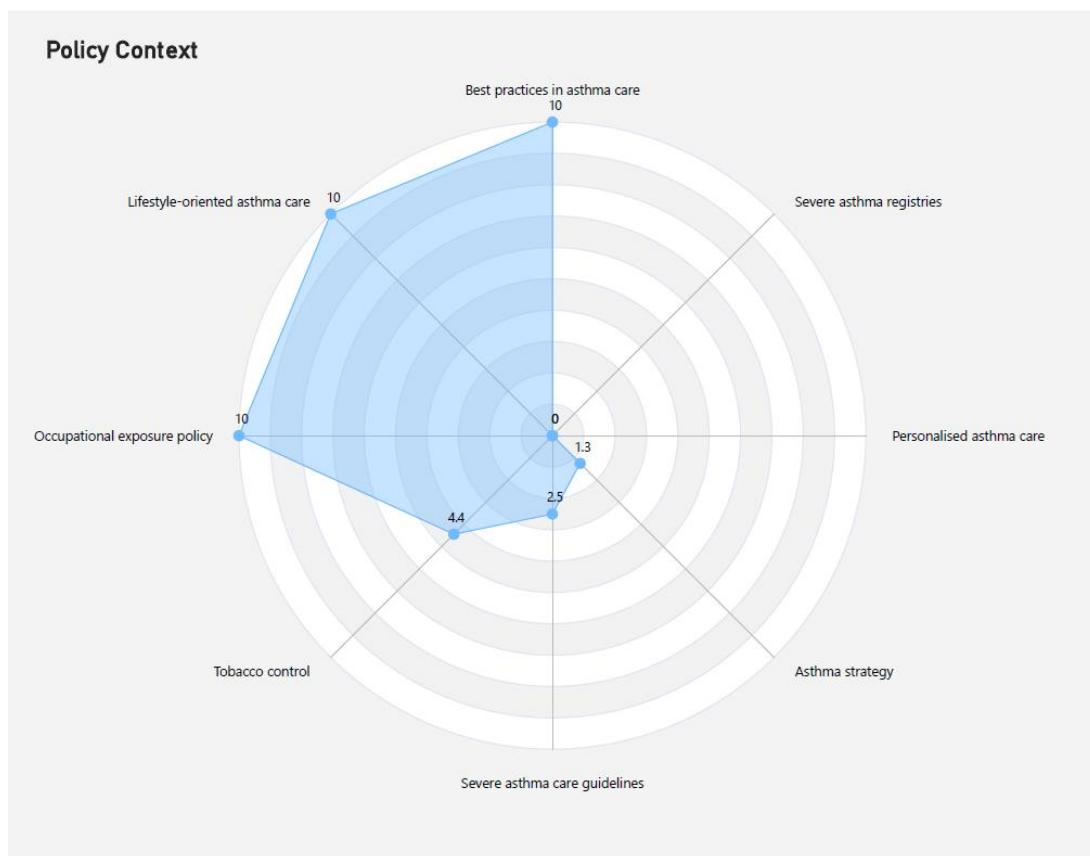
Best practices

- **Comprehensive public coverage** of biologics, inhaled therapies, and diagnostic tools
- **Public funding** for asthma-related hospital care and specialist consultations
- **Hospital-based research** and diagnostics infrastructure
- **Universal insurance access** to core asthma services

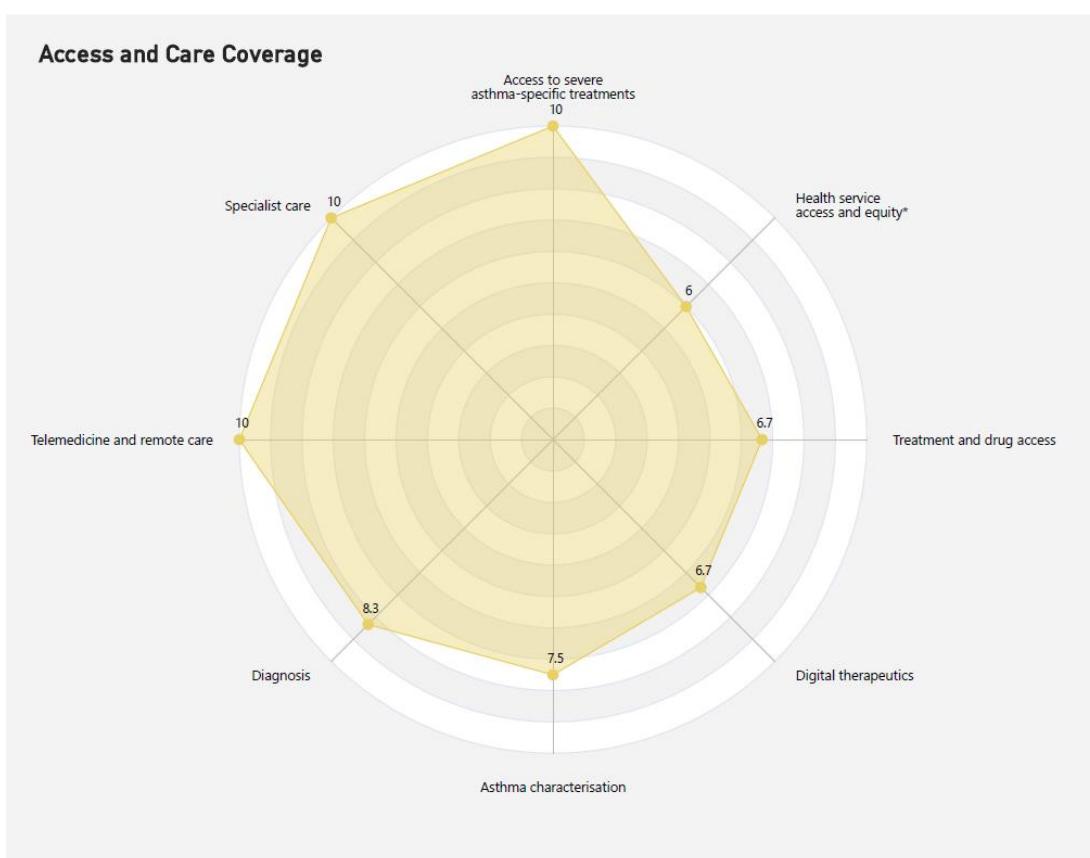
Challenges

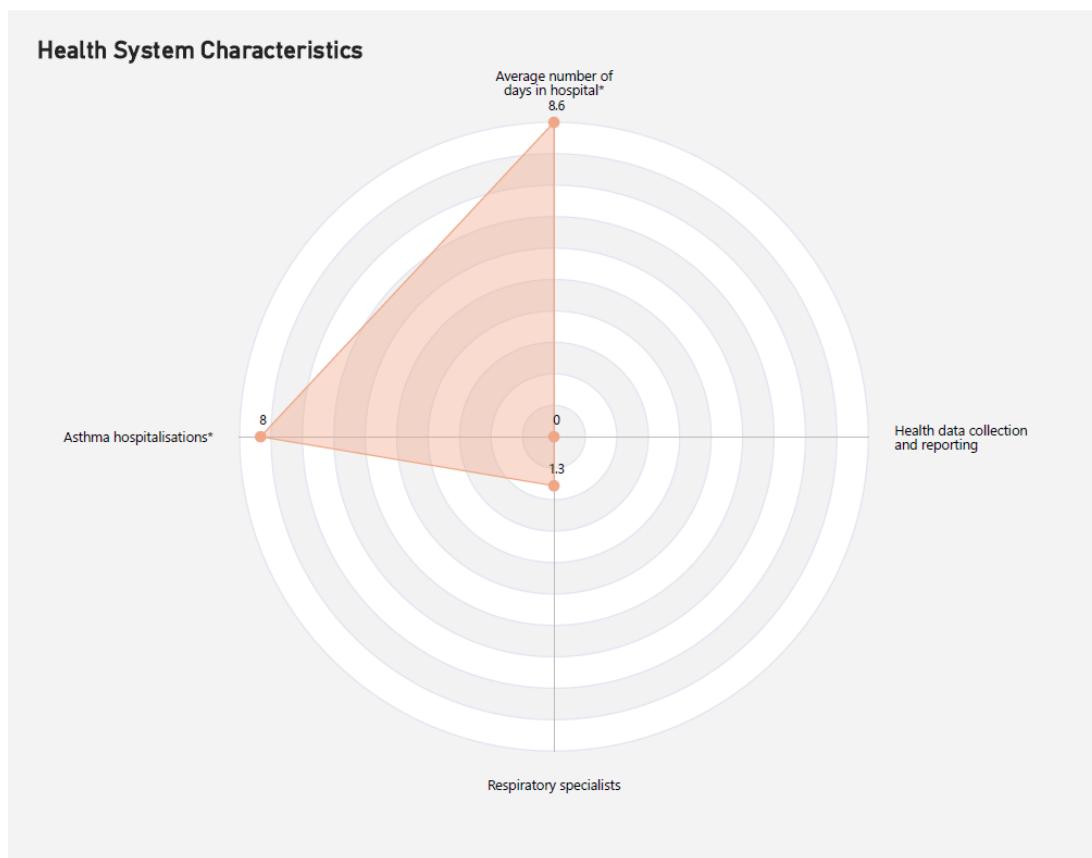
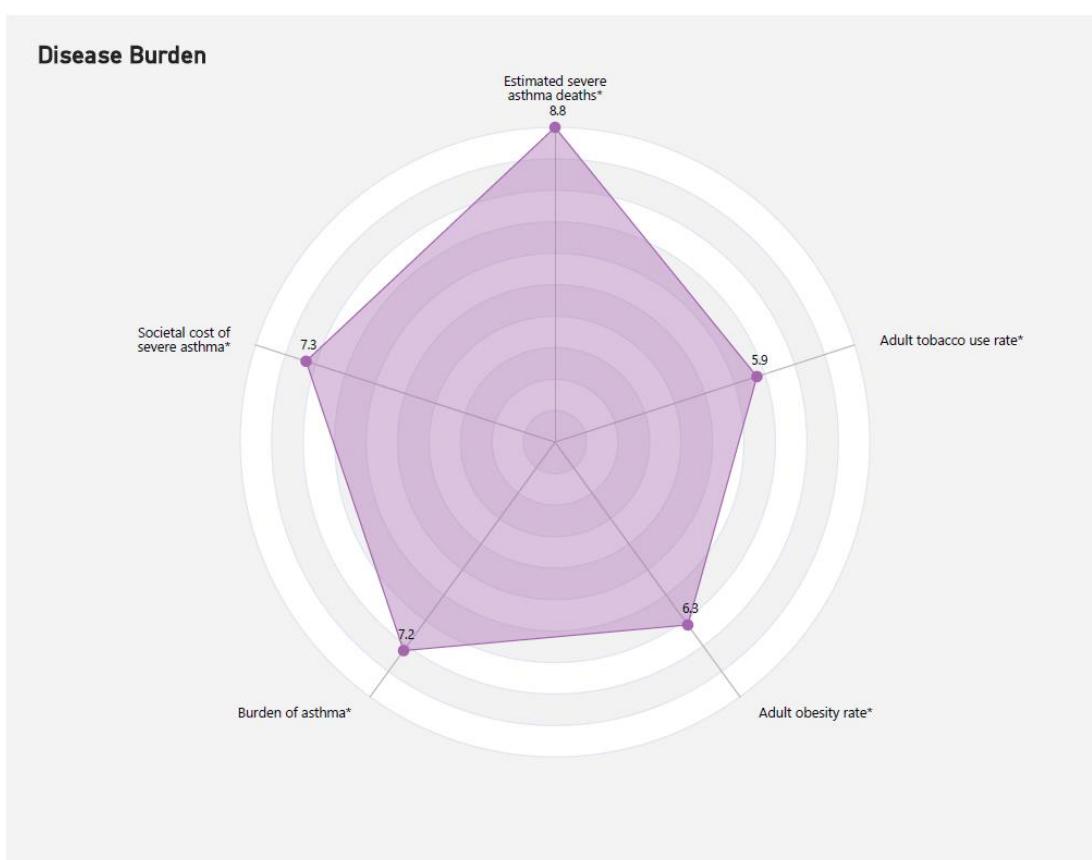
- **Health system inequities:** long wait times, regional disparities, reliance on private sector care
- **Lack of national protocols or registry infrastructure**
- **Shortage of trained asthma educators and severe asthma specialists**
- **Low awareness among GPs and the public** about severe asthma symptoms and treatment options
- **Variation in biologics prescribing practices** and absence of centre-based coordination

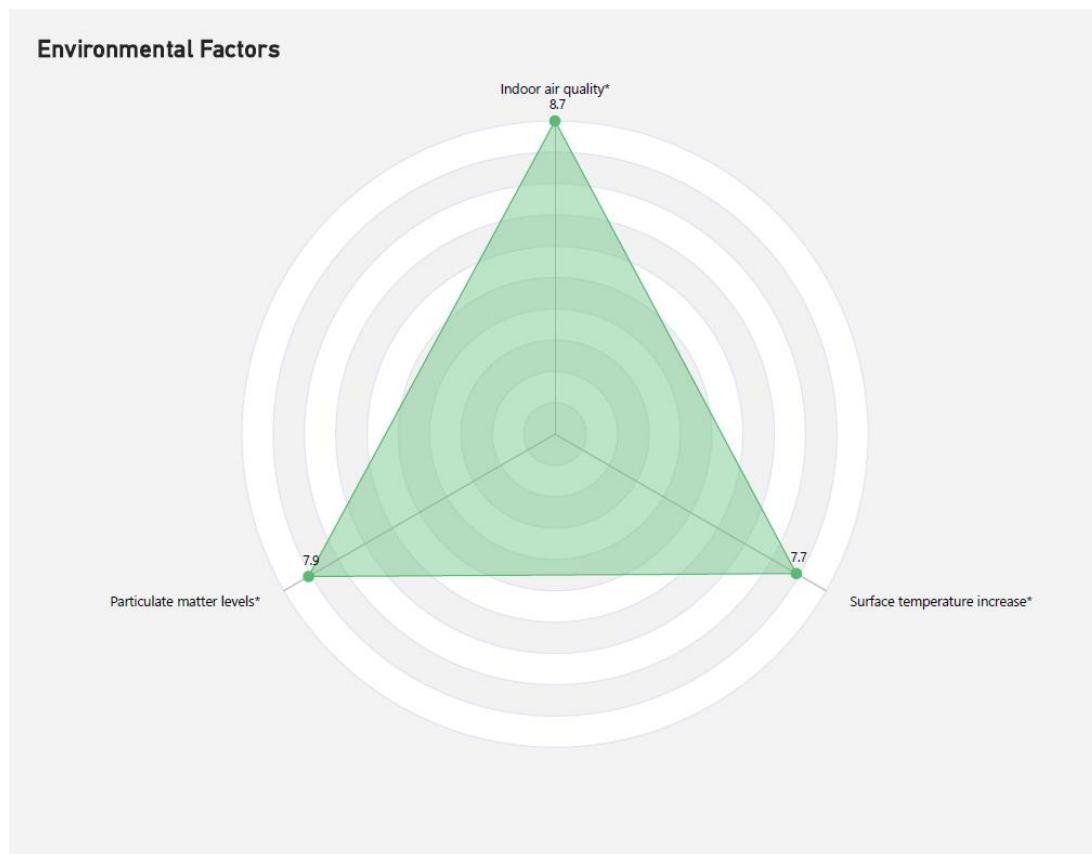
Policy Context – Score: 48/100



Access and Care Coverage – Score: 81/100



● **Health System Characteristics – Score: 45/100**

■ **Disease Burden – Score: 71/100**


 Environmental Factors – Score: 81/100

The Kingdom of Saudi Arabia – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 60.1/100

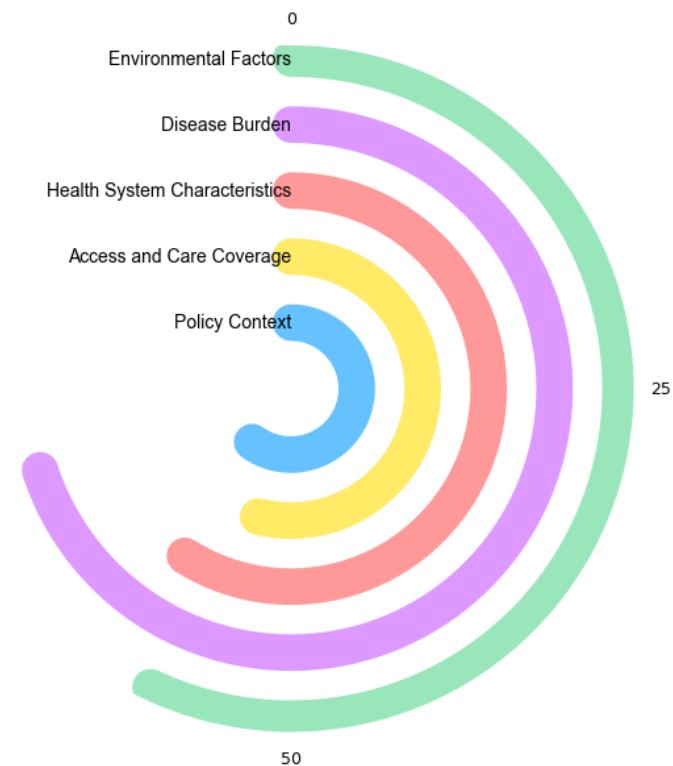
Country Overview

The Kingdom of Saudi Arabia scores slightly below the average in the **Policy Context**, mainly due to lack of national asthma strategy, despite strong clinical guidelines, as well as strong alignment with best practices for severe asthma care. In **Access and Care Coverage**, similarly, the score is somewhat below average, with good access to treatment and diagnostics for severe asthma, but improvements possible in access to biologics and equity in access to care.

Saudi Arabia scores above average in **Health System Characteristics**, with relative low average hospital stay per asthma patient, a national registry, but could improve by having publicly available data on annual asthma hospitalisations.

In **Disease Burden** category, Saudi Arabia demonstrates an average score, mainly due to second highest adult obesity rate in the index.

Saudi Arabia scores lowest in the **Environmental Factors** category with the second highest particulate matter rate but also lack of publicly available data on indoor air quality.



Key Takeaways

1. Strong clinical foundations but limited national coordination

Saudi Arabia has strong clinical guidelines for asthma and a high degree of alignment with best practices for severe asthma care. However, the absence of a national asthma strategy limits policy-level coherence and system-wide integration. To build on its clinical strengths, the Kingdom could benefit from a coordinated national plan for asthma, including clear referral pathways, formalised care protocols for severe cases, extending public payor access to treatment, diagnostics and biologics to permanent residents from citizens only.

2. Good infrastructure with room to improve equity and biologics access

The Kingdom performs reasonably well in access and health system capacity, with short hospital stays, availability of diagnostics, and a national asthma registry in place. Nonetheless, there is room to improve public access to biologics and to address equity gaps in how care is delivered across regions and populations. Introducing clearer coverage policies for advanced therapies and monitoring equity in service utilisation could help address these disparities.

3. Environmental risks and lifestyle factors require urgent attention

Saudi Arabia's lowest score is in the Environmental Factors category, with one of the highest PM2.5 exposure levels in the Index and limited data on indoor air quality. Combined with one of the highest adult obesity rates, these factors significantly increase respiratory vulnerability. The country could strengthen asthma outcomes by prioritising air quality management, improving transparency in environmental data, and integrating obesity prevention into broader respiratory health strategies.

Best practices

- Free healthcare system for citizens

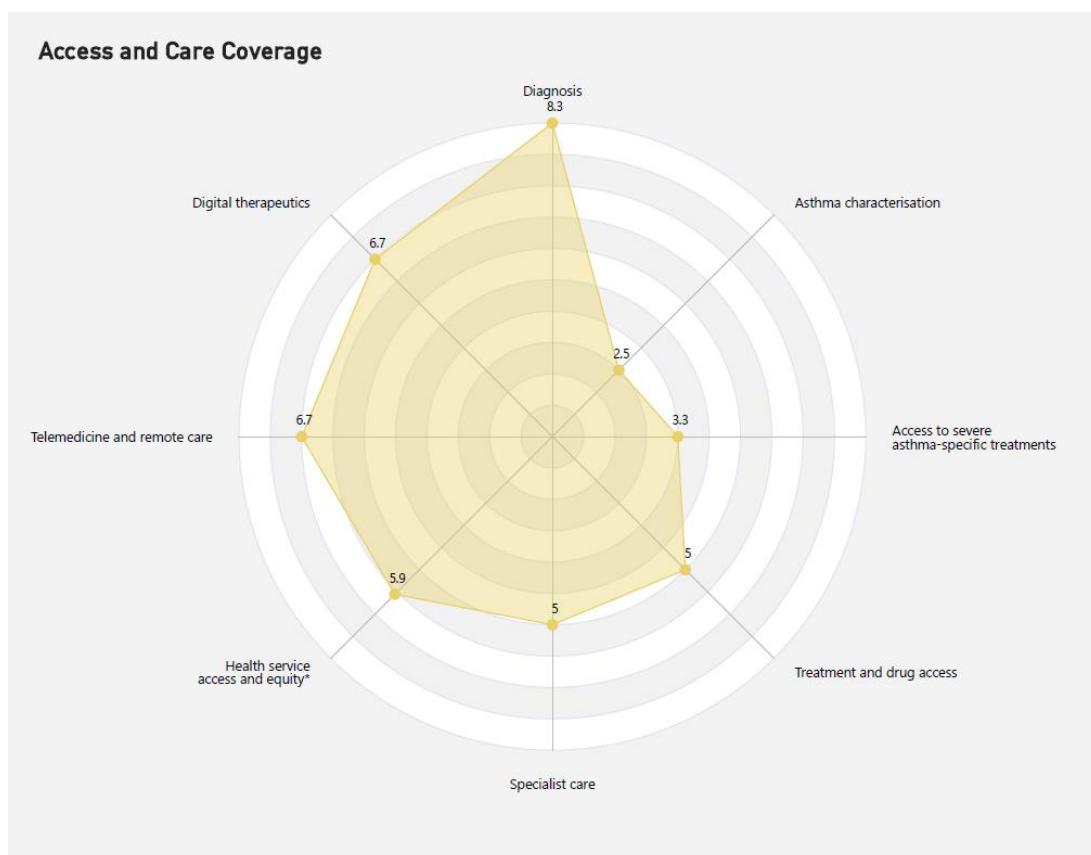
Challenges

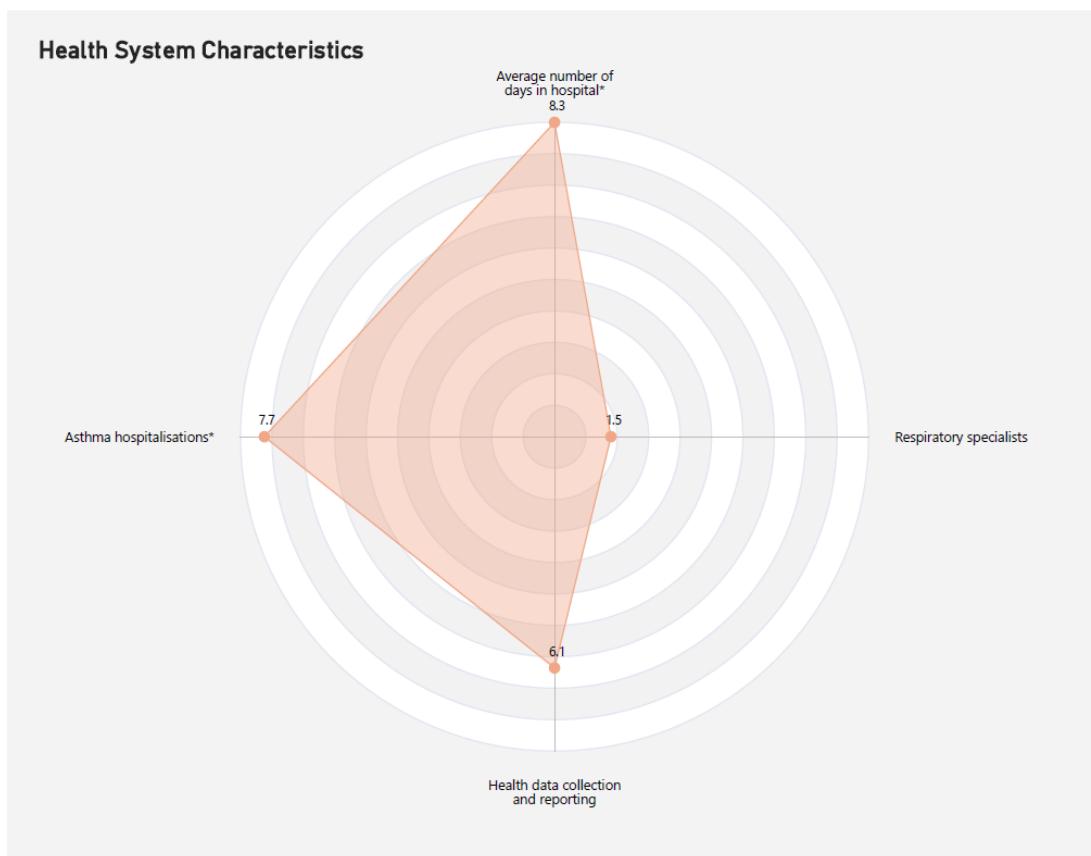
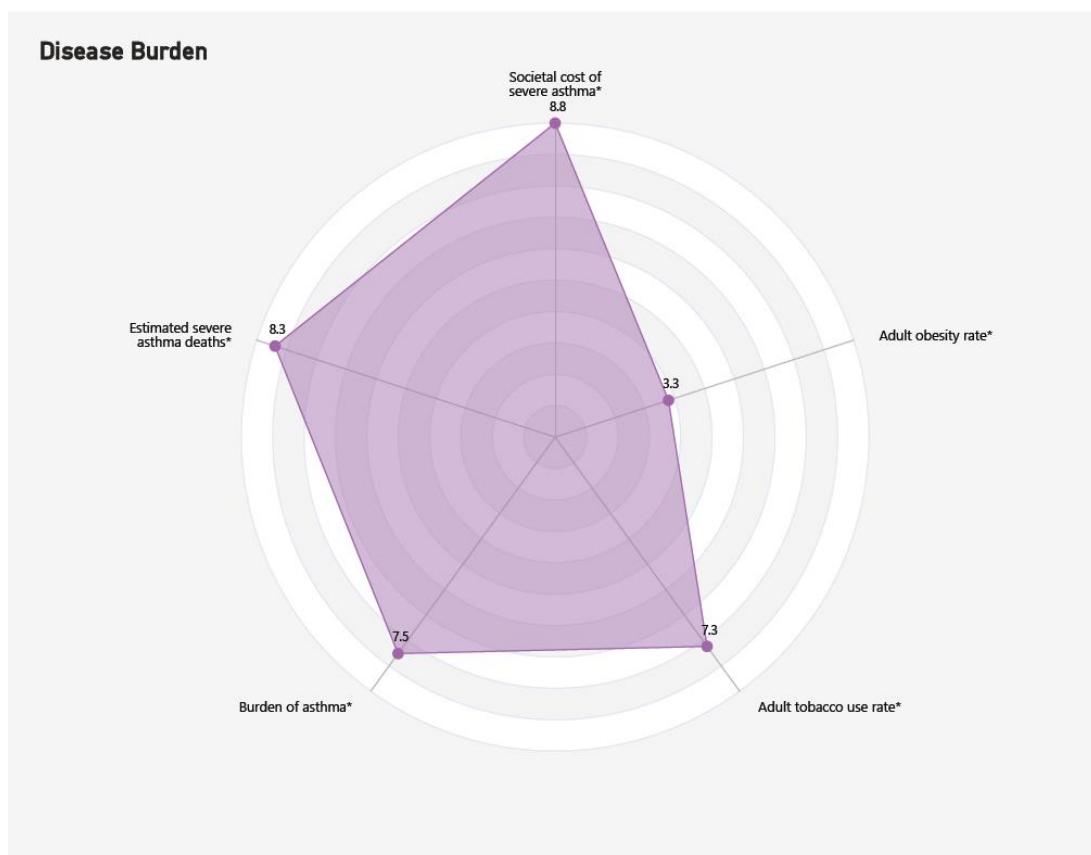
- Lack of severe asthma centres
- Lack of diagnostics in asthma
- Biologics access restriction

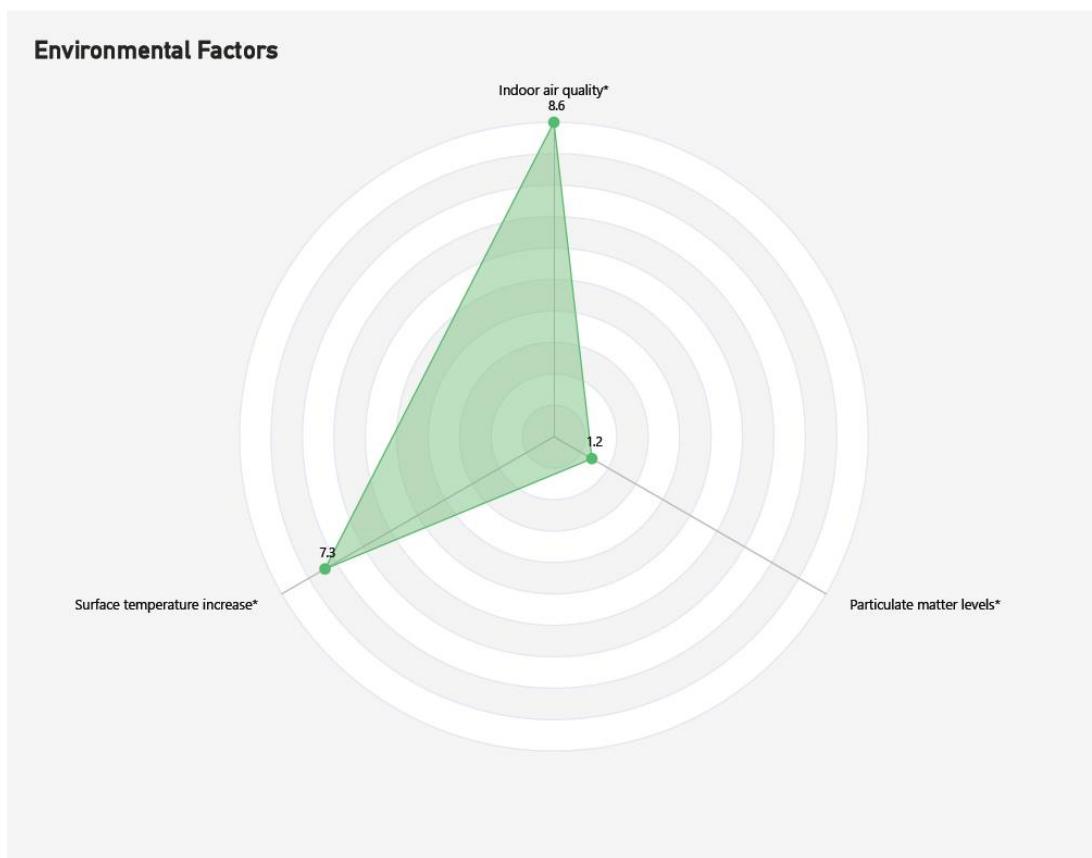
Policy Context – Score: 60/100



Access and Care Coverage – Score: 54/100



 **Health System Characteristics – Score: 59/100**

 **Disease Burden – Score: 70/100**


 Environmental Factors – Score: 57/100

Mexico – Severe Asthma Country Profile

 Aggregate Score (Un-weighted): 60.6/100

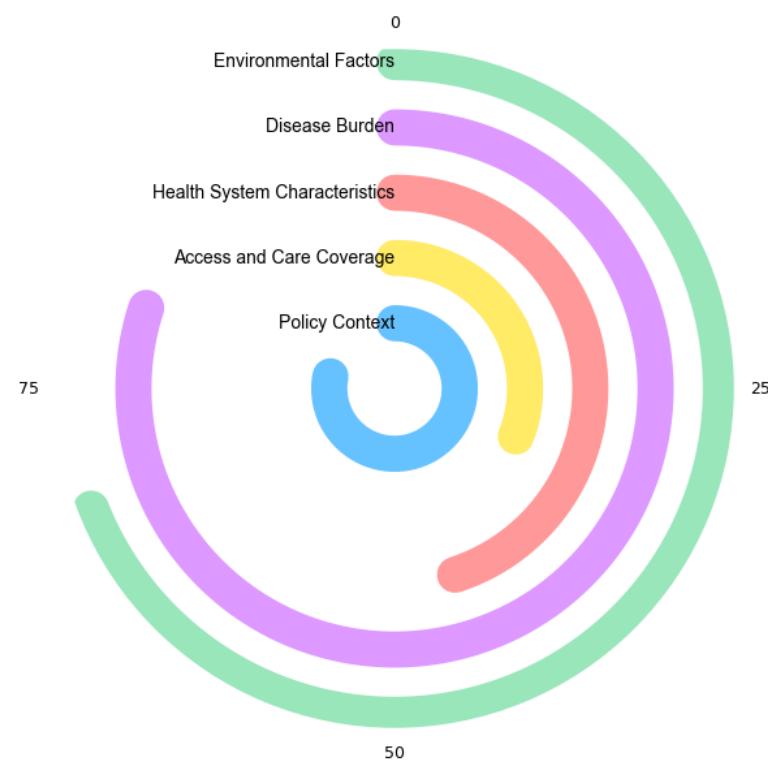
Country Overview

Mexico scores highly in **Policy Context**, having made significant progress in developing locally adapted, evidence-based clinical guidelines. The country also recognises the importance of patient education and controlling risk factors such as tobacco use.

Mexico ranks low in Health System Characteristics. While the number of hospitalisations is low, the Mexican Health system also presents a low number of respiratory specialist density and no structured national data systems.

Mexico scores strongly in Disease Burden due to a low societal cost of asthma, which corresponds to low asthma DALYs and low mortality. However, obesity is the highest in the region. This score may underestimate the true burden of disease due to limited access to diagnosis, treatment, and reporting

Regarding **Environmental Factors**, the available sources do not offer sufficient data to evaluate the specific impact of indoor air quality. However, poor outdoor air quality (linked to particulate matter, ozone, and vehicle/industrial emissions) are known contributors to the asthma burden in Mexico.



Key Takeaways

There has been a progressive increase in demand for acute asthma care in some areas and institutions. Seasonal spikes are noted, with higher demand during colder months.

Although overall reported mortality is low, **asthma can be fatal**, and there is suspected **underreporting of asthma-related deaths**.

Comorbidities—such as allergic rhinitis, rhinosinusitis, gastroesophageal reflux, obesity, anxiety, and depression—are common among asthma patients (especially severe or difficult-to-control cases), complicating diagnosis and treatment.

Best practices

- Development of clinical guidelines such as **MIA 2021** and **GUIMA 2017** is a major step toward optimising and standardising asthma management in Mexico. These should be widely disseminated and adopted across all levels of care.
- Integrated management should address diagnosis, treatment, follow-up, and comorbidity handling to improve control, reduce crises, and enhance quality of life.
- Ongoing education of healthcare workers, patients, and caregivers is crucial. Parents of children with asthma should receive proper training on symptom recognition, daily monitoring, and how to accurately track peak expiratory flow (PEF) to detect worsening symptoms early—particularly for mild asthma cases, where risk awareness may be lower. This can reduce mismanagement at home and healthcare costs through early intervention.

Challenges

- Despite being common, **asthma is underdiagnosed**, especially in children.
- Poor treatment contributes to poor disease control, leading to more frequent crises, persistent symptoms, and a higher risk of complications.
- Contributing factors include lack of diagnostic consensus, flexible severity classifications, and limited recognition of paediatric asthma as a serious illness.
- **Lack of accurate, regionally specific data** limits understanding of severe asthma prevalence at the national level. Methodological inconsistencies between studies, and the absence of national severe asthma registries, restrict public health planning and the ability to track trends or evaluate interventions.

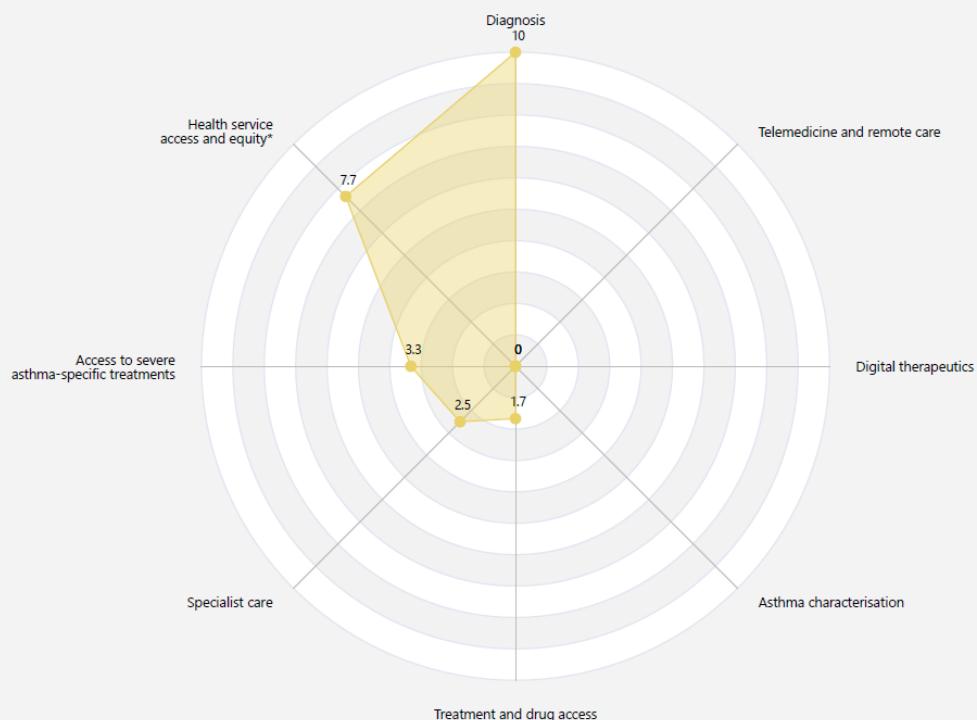
Policy Context – Score: 78/100

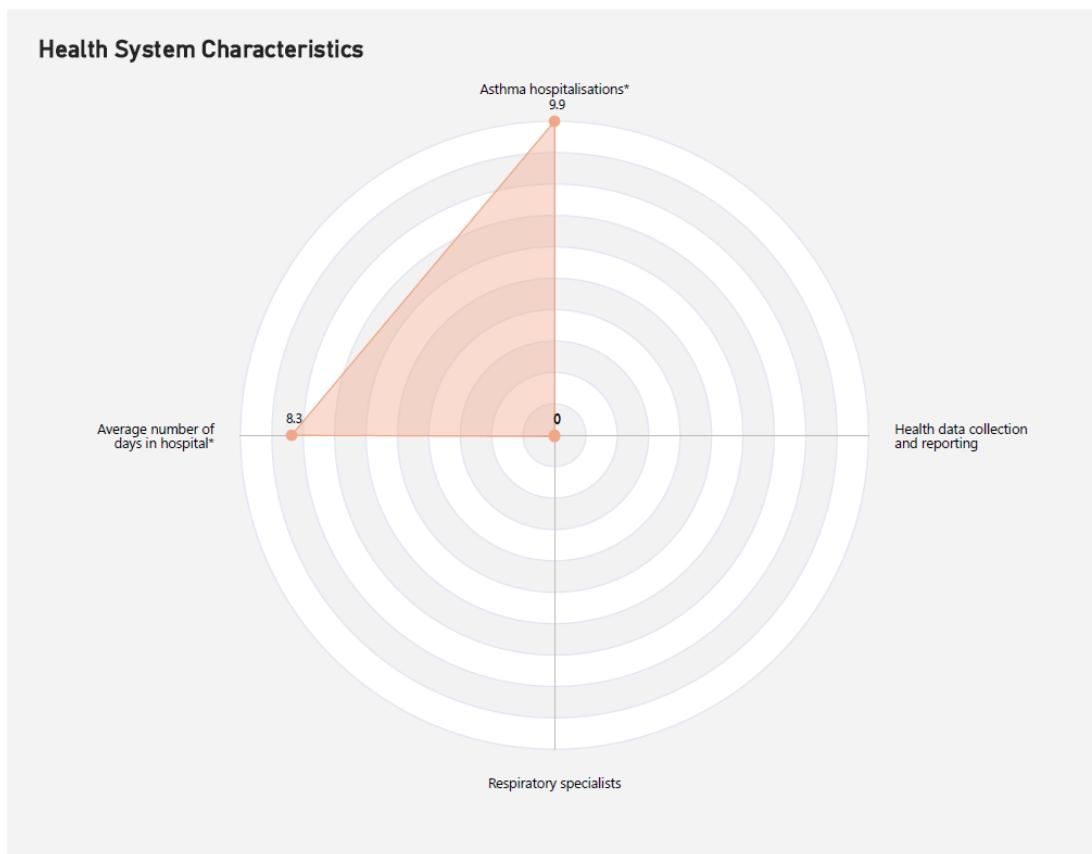
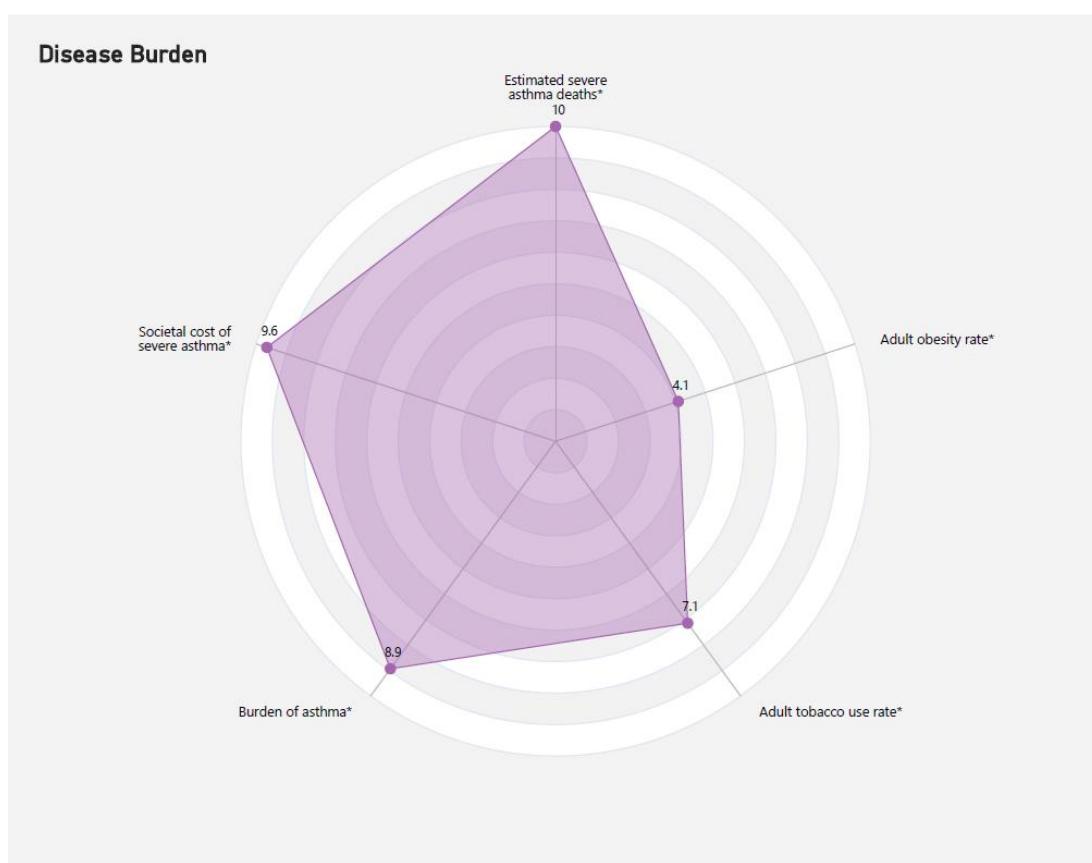
Policy Context

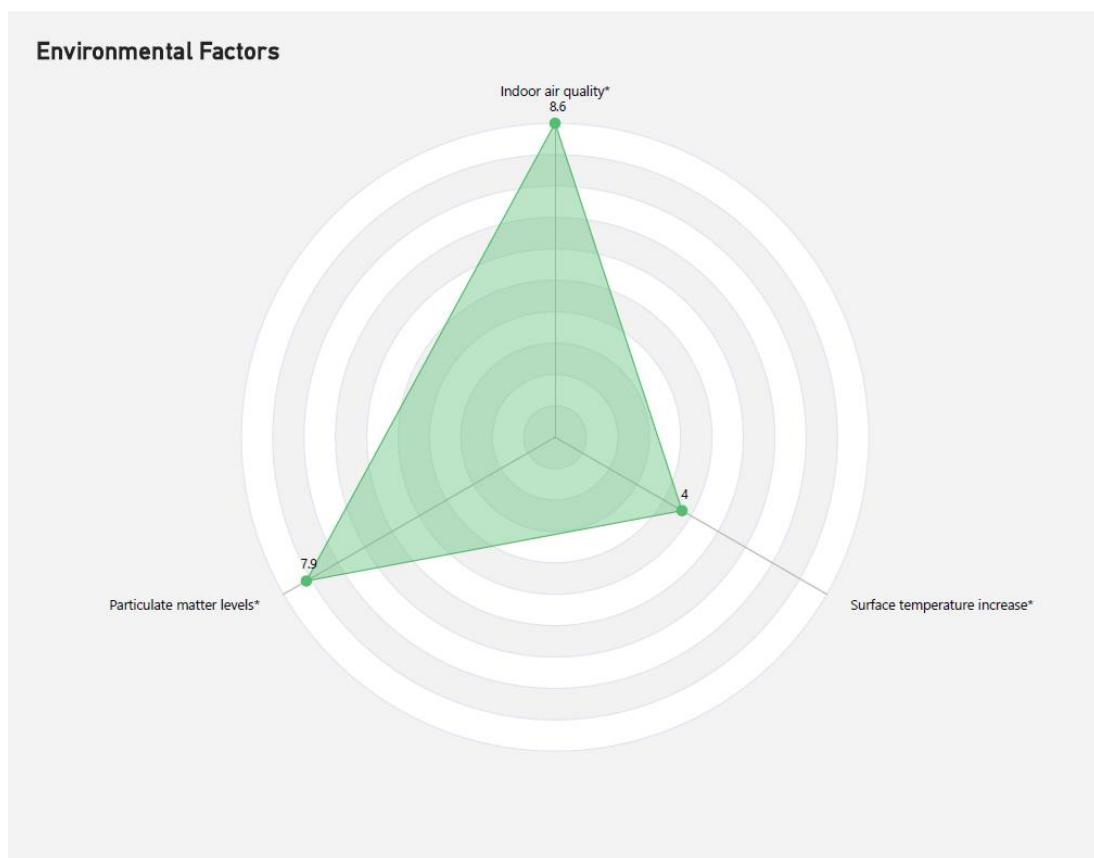


Access and Care Coverage – Score: 31/100

Access and Care Coverage



 **Health System Characteristics – Score: 45/100**

 **Disease Burden – Score: 80/100**


 Environmental Factors – Score: 69/100

Peru – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 53/100

Country Overview

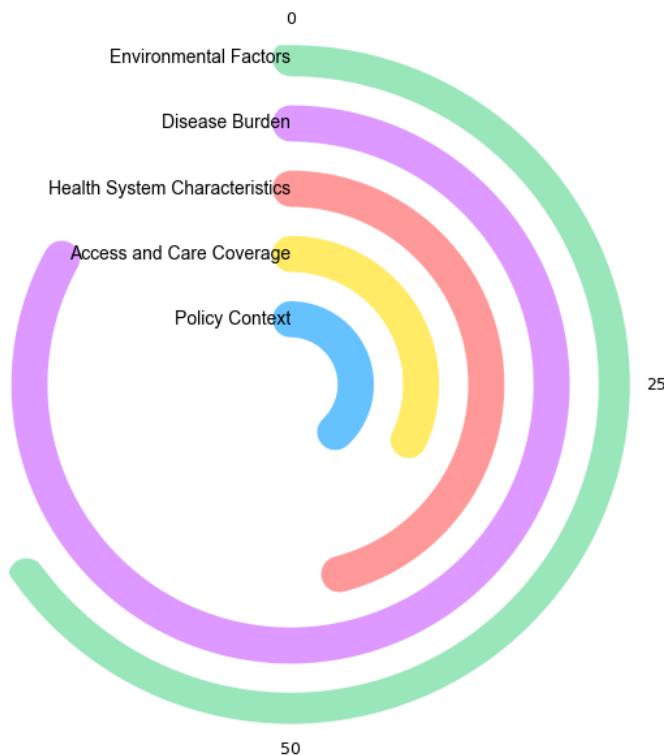
Peru's low policy context score reflects limited progress in severe asthma-specific guidelines, with dissemination largely driven by professional societies. Key gaps include the absence of a national strategy, poor data systems, weak policy enforcement, and limited access to personalised care.

Peru's low score in health access and coverage for asthma reflects significant barriers in the availability and affordability of advanced diagnostics and treatments such as biologics, personalized care and remote care.

The below-average score for Peru's health system characterisation in relation to asthma is primarily due to the absence of a robust, standardised system for collecting and aggregating national data on asthma, the limited availability of specialists impacting quality and access to care.

Peru scores strongly in Disease Burden due to a low societal cost of asthma, which corresponds to low asthma DALYs and low mortality. However, obesity is a growing challenge, compounding asthma severity risks. As is the case for the rest of the region understanding societal costs, accuracy of diagnosis and data reporting gaps highlight the need for expanded tracking and more precise burden estimates.

A slightly under average score for Environmental Factors can be attributed to high levels of particulate pollution (PM_{2.5} and PM₁₀) in key urban areas such as Lima. These levels are well documented and exceed national and international standards.



However, the lack of formal, standardised measures of indoor air quality limit the score from reaching more accurate values.

Key Takeaways

While Peru has a solid foundation in creating tools to standardise asthma management through the development of guidelines focused on children and adolescents using rigorous methodologies, it faces significant challenges related to the quality and availability of scientific evidence, resource limitations in certain levels of care, and the need to improve data collection and dissemination of guidelines at the national level.

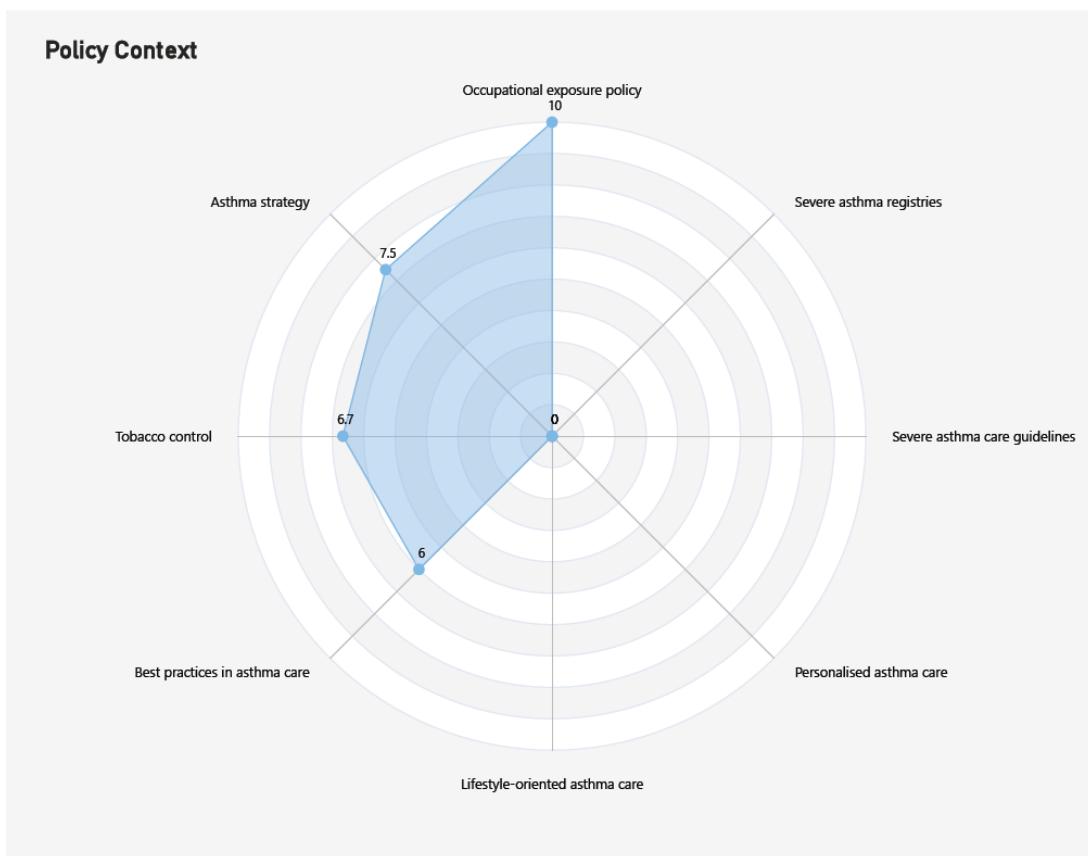
Best practices

- The development of **Clinical Practice Guidelines (CPGs)** for children and adolescents follows a rigorous, evidence-based methodology. This includes formulating PICO questions, conducting systematic reviews and primary studies, assessing evidence quality and certainty using GRADE, and applying a structured EtD (Evidence-to-Decision) framework—essential for standardising quality care.
- Structured educational interventions are recommended for children and adolescents with asthma exacerbations and their families at emergency discharge. This good practice should include key components such as a written action plan, inhaler technique verification, education on warning signs, the need for follow-up care, and identification of risk factors or asthma triggers, along with emotional support.

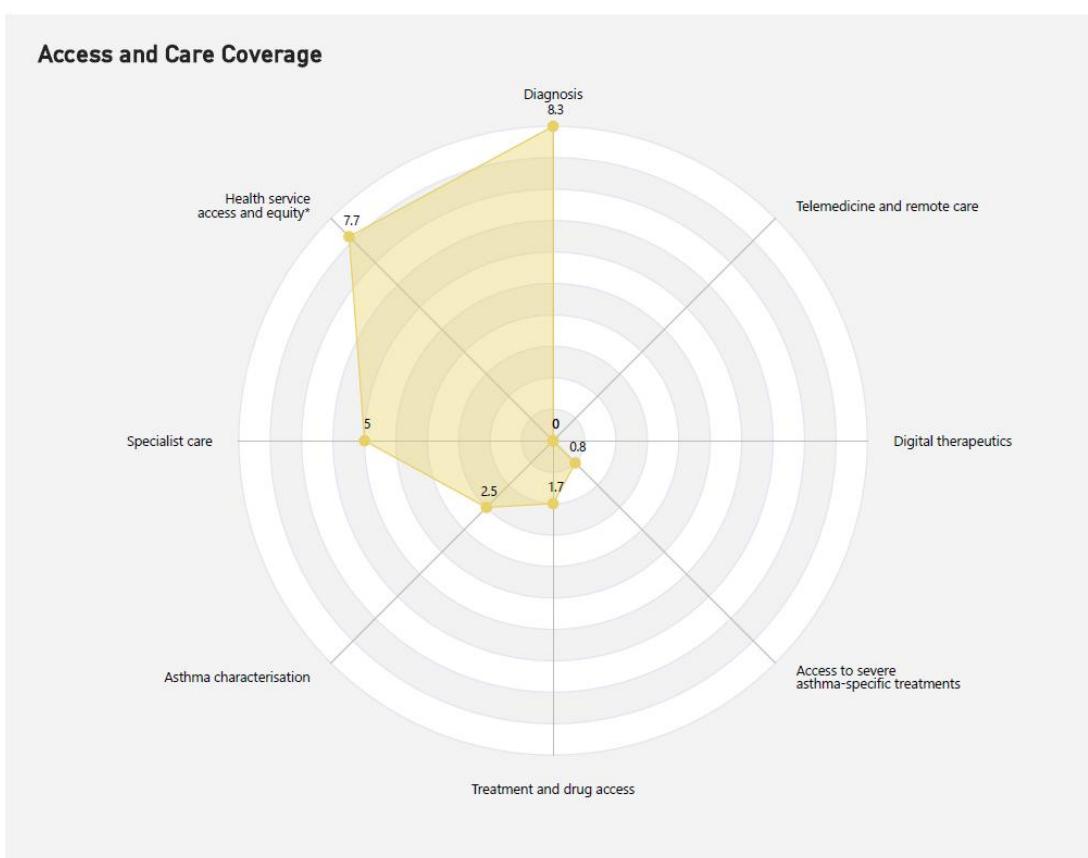
Challenges

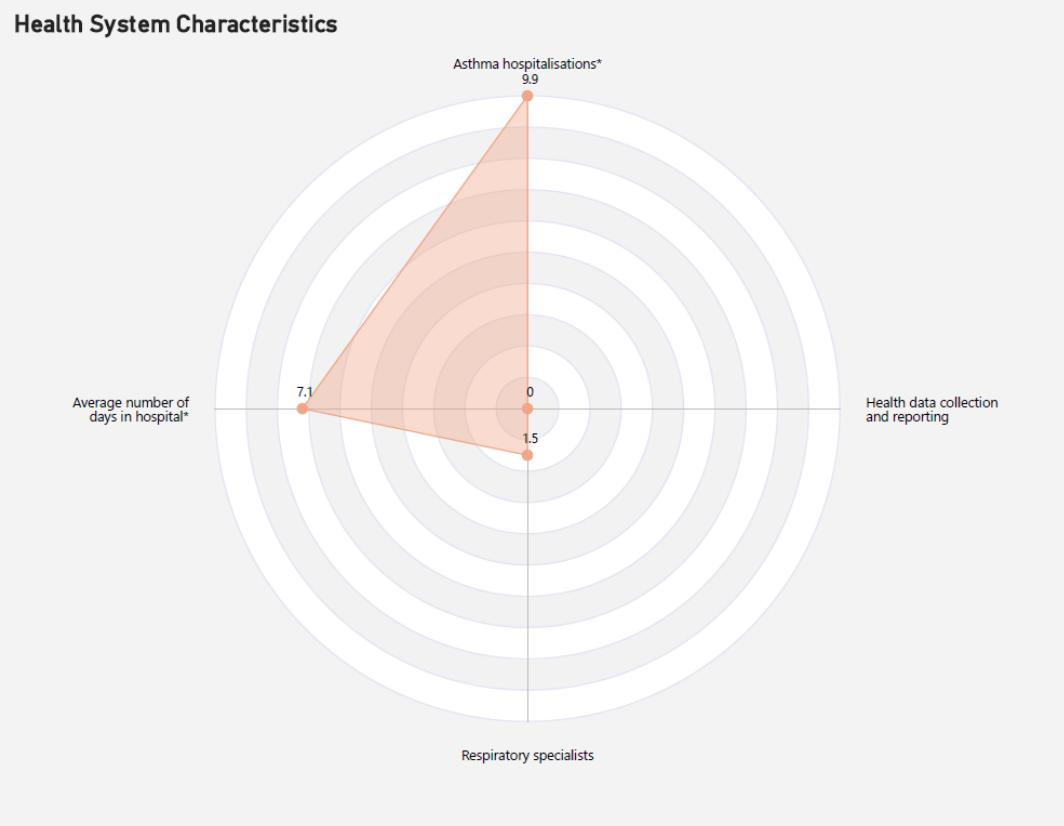
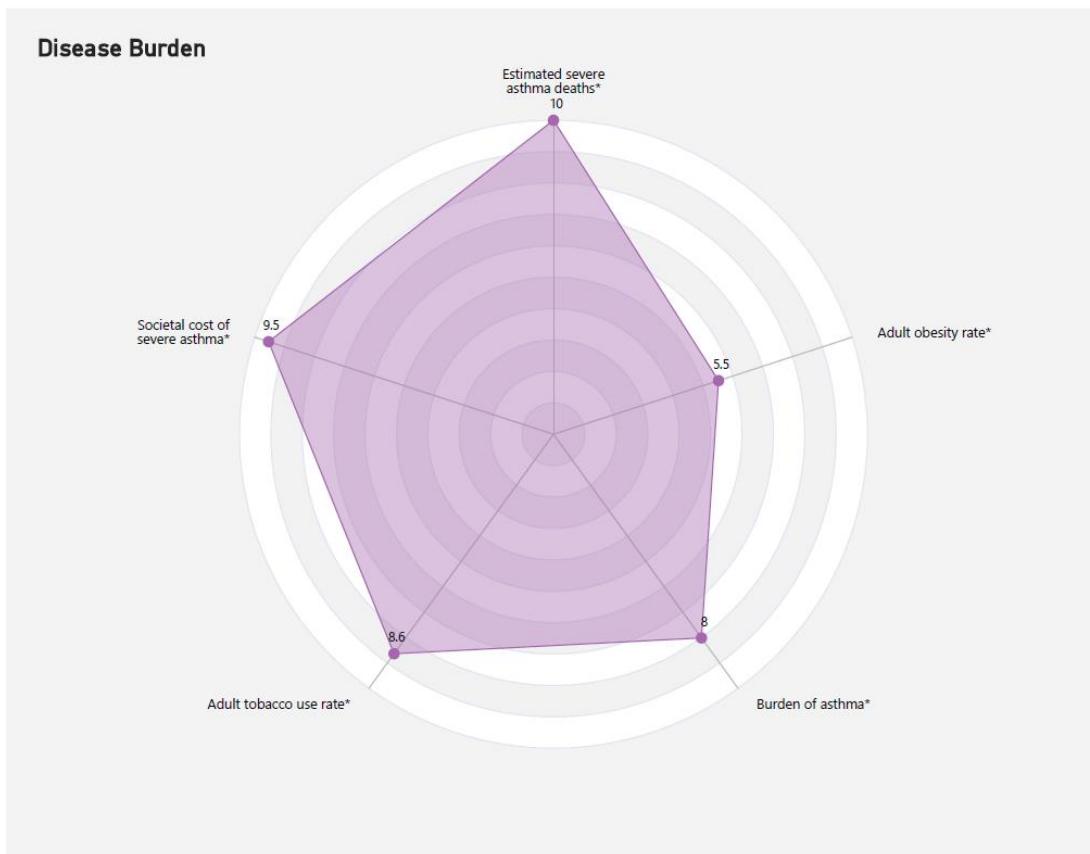
- **Lack of specific national data:** Although some studies exist, they are limited by sample size or geographical representation focused on a few cities. Individual risk factors, medical history, and home allergen exposure were often unmeasured due to data gaps in paediatric hospitalisation studies or underdiagnosis.
- **Guideline development** explicitly considers the need to tailor recommendations to Peru's diverse geography and socioeconomic strata, as well as standardise the definition of severe asthma—acknowledging practical national limitations.
- **Availability and cost of certain medications** in primary care establishments pose a significant barrier to effective implementation of some clinical recommendations.
- **Environmental factors** are acknowledged as important, but there is still no generalised control over environmental exposures or their relation to the presence, exacerbation, or control of asthma in the Peruvian population.

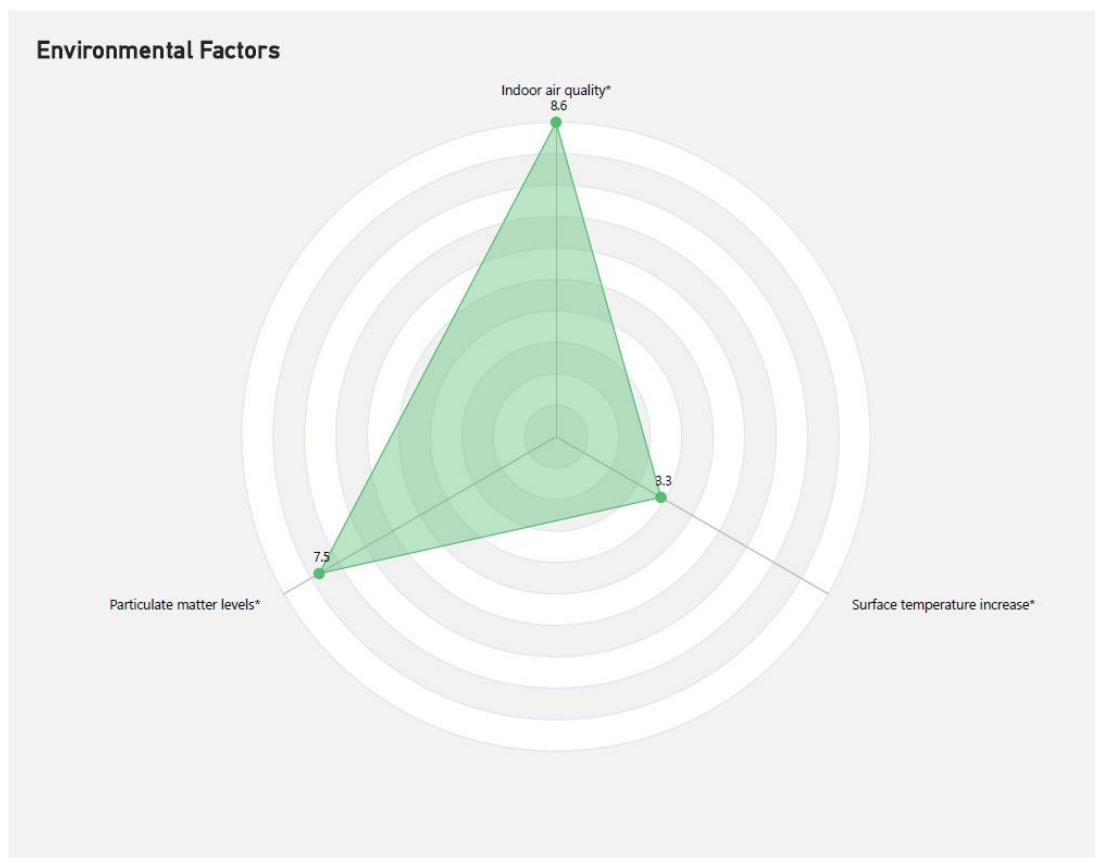
Policy Context – Score: 38/100



Access and Coverage – Score: 32/100



● **Health System Characteristics – Score: 46/100**

■ **Disease Burden – Score: 83/100**


 Environmental Factors – Score: 65/100



South Africa - Severe Asthma Country Profile

🌐 Aggregate Score (Un-weighted): 58/100

Country Overview

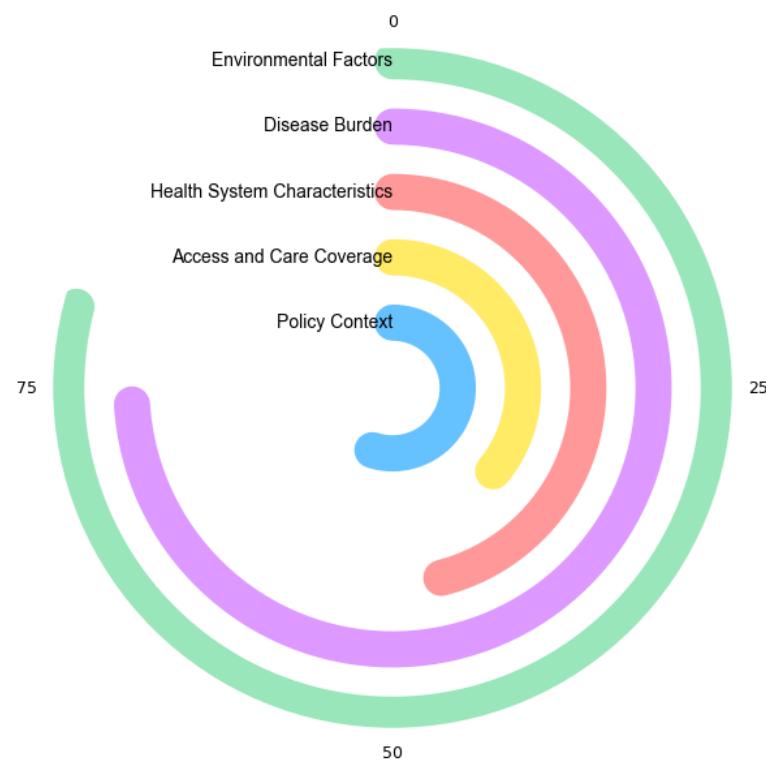
South Africa has **strong asthma care guidelines** that are **well aligned with international best practices** — a key strength that supports clinical decision-making. However, the country scores below average in **Policy Context**, mainly due to the lack of a national asthma strategy and non-participation in global severe asthma registries.

South Africa scores slightly below average in **Health System Characteristics**, largely due to a shortage of respiratory specialists, as well as limited publicly available data on asthma hospitalisations and hospital stay — despite tracking patient outcome data.

The score in **Access and Care Coverage** is among the lowest in the Index, primarily due to high unmet health need reported by local experts, and the absence of public payor coverage for biologic treatments and FeNO. This occurs despite high access to other asthma drugs and treatments, and relatively good access to specialist care.

The **Disease Burden** score is above average, reflecting relatively low societal cost, asthma DALYs, and asthma-related mortality. However, the country's relatively high adult obesity rate remains an area for improvement.

In **Environmental Factors**, South Africa ranks among the highest, mainly due to elevated levels of particulate matter and poor indoor air quality, both of which are significant contributors to asthma risk and severity.



Key Takeaways

1. Strong guidelines and specialist capacity, but lacking national coordination

South Africa has asthma guidelines in place and a small number of centres capable of delivering high-quality, specialist-led care. However, severe asthma is often not recognised or acted on in routine care, with patients receiving repeated corticosteroids without proper assessment or referral. This disconnect reflects a lack of national coordination and policy direction.

To address this, South Africa could integrate severe asthma into a broader national respiratory or NCD strategy, define referral criteria more clearly in clinical guidance, and support limited registry development through partnerships with specialist centres. Even small-scale data collection could help align care pathways across settings.

2. Persistent inequities in access and coverage limit care for most patients

Access to advanced treatments such as biologics, phenotyping, and FeNO is limited to the private sector or clinical trials, while the majority of patients in the public system rely on essential medicines only. Cost, funding policies, and infrastructure gaps all contribute to these disparities.

Improving access will require stepwise efforts, such as introducing basic phenotyping tools (e.g. eosinophil counts) at tertiary centres, piloting public FeNO availability, and engaging health technology assessment bodies to review selected biologics for inclusion in the public sector. Streamlining criteria for private sector reimbursement could also improve equity in the short term.

3. Environmental burden and underdiagnosis challenge disease control

Experts note that many patients with uncontrolled asthma are misclassified, with true severe asthma often going unrecognised. Limited diagnostic capacity and poor follow-up contribute to this, while high environmental exposure — especially to air pollution — adds further risk. Despite these factors, South Africa scores above average in the Index on disease burden — a result that may reflect gaps in classification, reporting, and access to care, rather than an accurate picture of asthma severity.

To respond, South Africa should expand asthma training in primary care, promote use of basic diagnostic tools (spirometry, biomarkers), and build simple follow-up tools to flag patients needing further investigation. Environmental health policies could also integrate asthma data (e.g. hospitalisations) as indicators for urban planning, especially in high-risk communities.

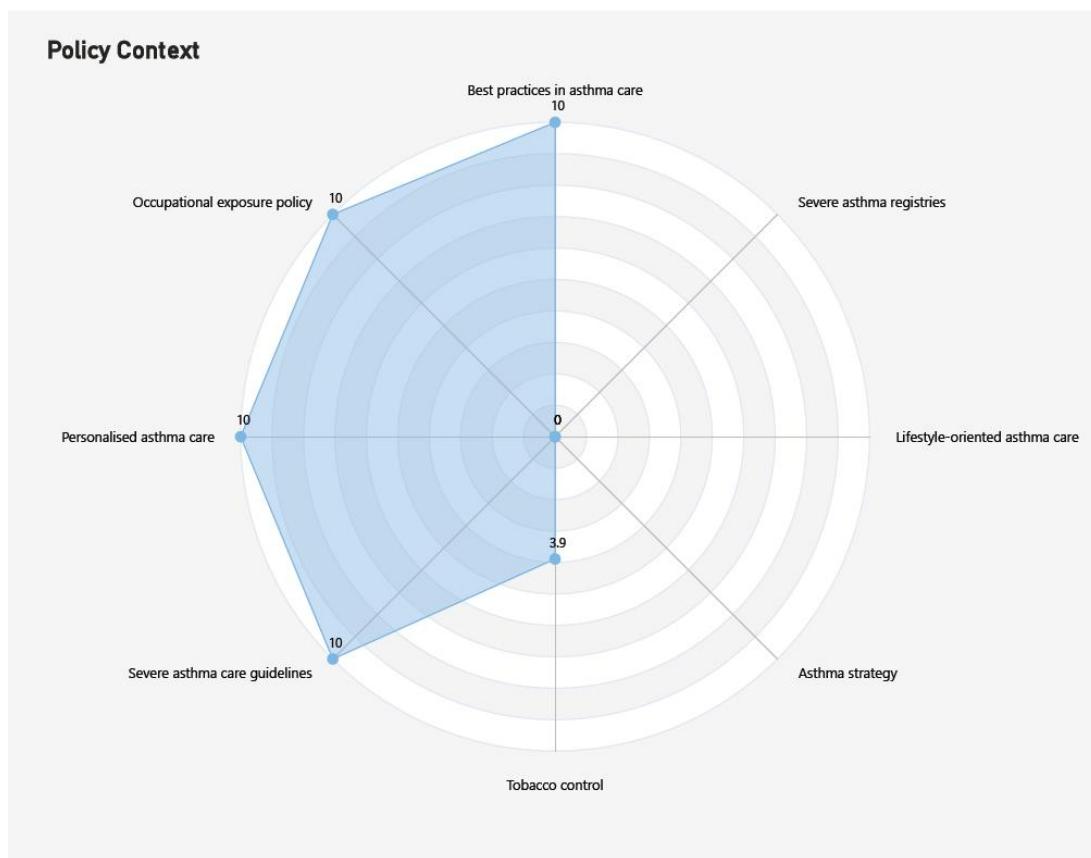
Best practices

- South Africa has national asthma guidelines for all age groups, incorporated into the Essential Medicines List, with universal access to inhalers in the public sector, mainly following GINA Track 2.
- In the private (insured) sector, care aligns with international standards, including access to biologics and a broad range of medications, while in the public sector, best practice may include triple inhaler therapy and older oral treatments.
- A few centres of excellence, such as Groote Schuur Hospital, are able to provide comprehensive diagnostic workups and specialist-led care for severe asthma, though treatment options remain limited.
- Some patients in the public sector can access biologics through pharmaceutical clinical trials, though this is rare.
- Academic congresses and national training platforms support ongoing specialist education and discussion on severe asthma.
- Specialised asthma clinics and pulmonology practices are available in both public and private sectors, although not consistently across regions.

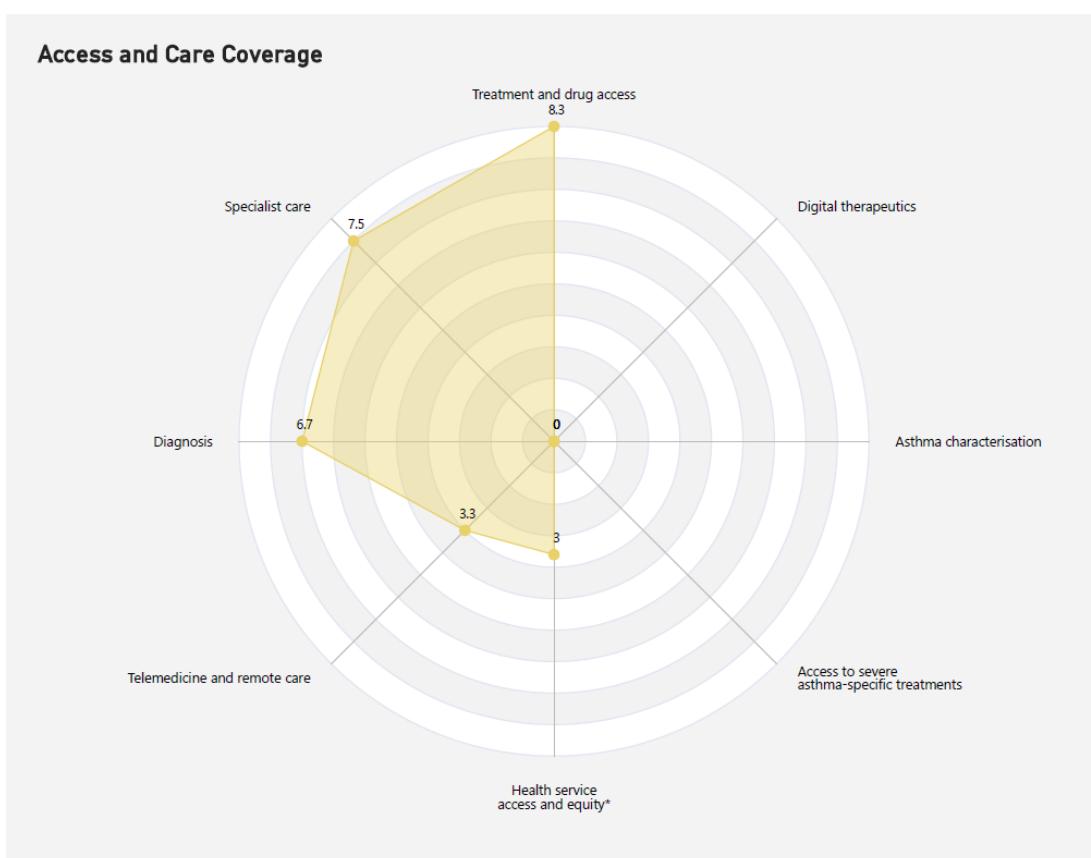
Challenges

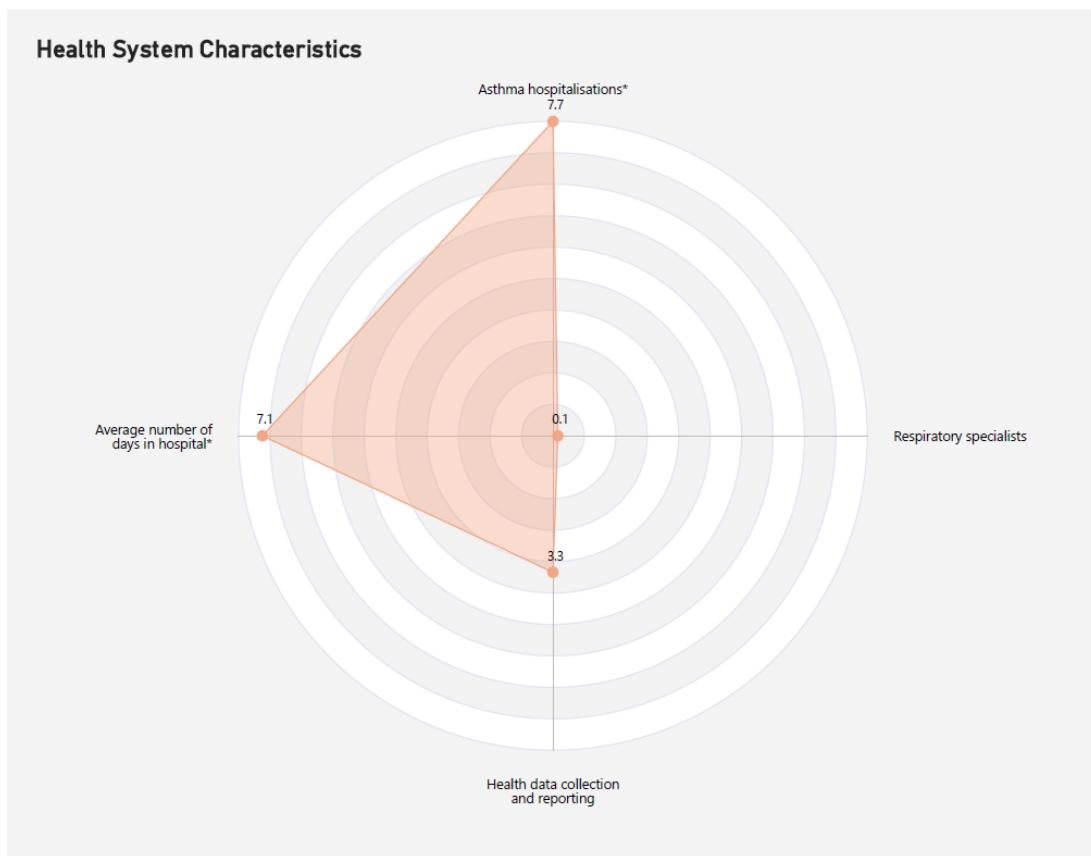
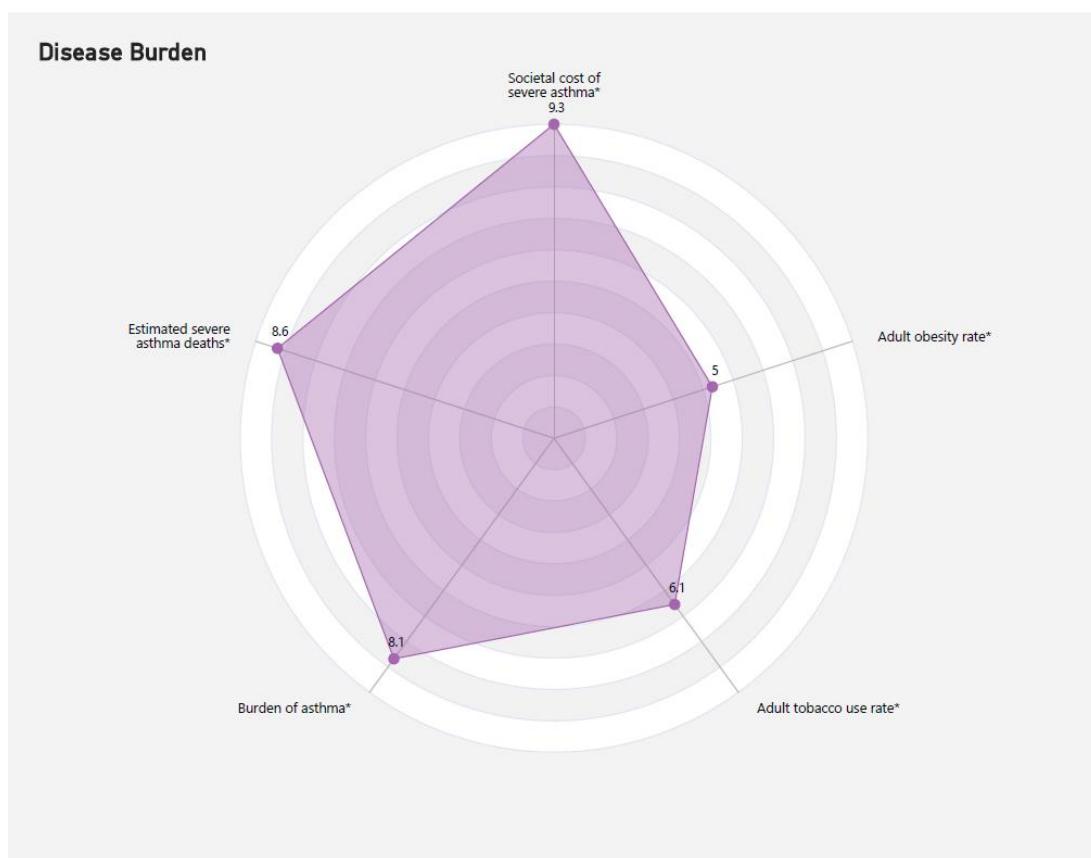
- Persistent stigma and low community awareness continue to limit early diagnosis and inhaler acceptance, contributing to widespread under-treatment and poor disease control.
- Severe asthma is frequently under-recognised, with many providers relying on repeated oral corticosteroids and failing to escalate care, even in patients on high-dose ICS.
- Referral to specialists is uncommon, and many healthcare providers lack training on severe asthma criteria and biomarkers such as FeNO or eosinophil counts.
- Access to diagnostic tools is limited: spirometry is unavailable in primary care, FeNO testing is restricted to private labs, and oscillometry for children is used only in research.
- Phenotyping and advanced diagnostics are underutilised, especially outside academic settings, further complicating accurate diagnosis and targeted treatment.
- Access to biologics is a major barrier — they are not funded in the public sector and are tightly restricted in the private sector due to cost and payer criteria.
- There is overreliance on short-acting bronchodilators, poor adherence among patients, and limited availability of specialised asthma services, particularly outside urban centres.

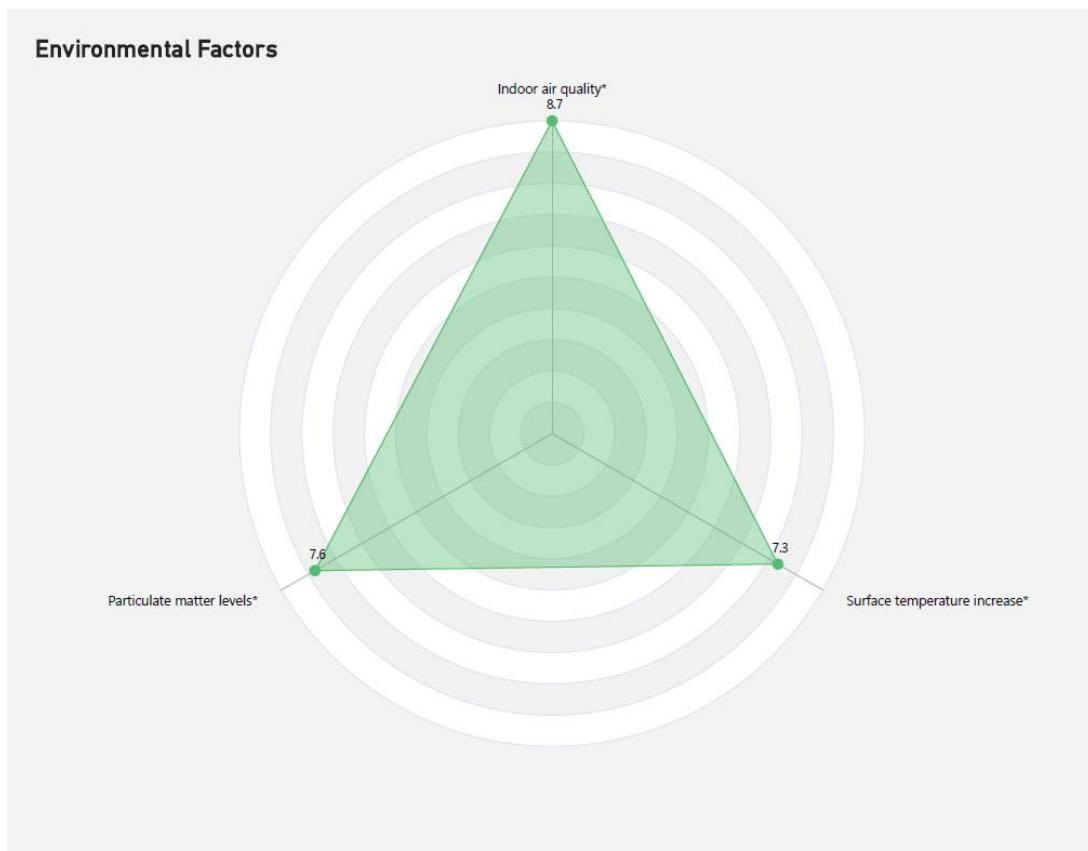
Policy Context – Score: 55/100



Access and Care Coverage – Score: 36/100



● **Health System Characteristics – Score: 46/100**

■ **Disease Burden – Score: 74/100**


 Environmental Factors – Score: 79/100



United Arab Emirates – Severe Asthma Country Profile

 Aggregate Score (Unweighted): 59.3/100

Country Overview

The **United Arab Emirates scores below average in Policy Context**, primarily due to the absence of a national asthma strategy and the need for stronger implementation of clinical guidelines and better alignment with international best practices such as GINA. This is despite the country's strong performance in tobacco control legislation.



In **Access and Care Coverage**, the UAE performs slightly below average. It shows good availability of specialist care and telemedicine services but still faces challenges in access to advanced treatments such as biologics and in ensuring equitable care delivery across different population groups.

The **Health System Characteristics score is average**, with limitations primarily stemming from a lack of publicly available data on annual asthma hospitalisations and hospital stay duration, which affects the ability to monitor system performance.

In the **Disease Burden category**, the UAE ranks fourth lowest overall, reflecting high asthma-related DALYs, elevated societal cost, and a high adult obesity rate, despite a relatively low adult tobacco use rate.

The country scores well in **Environmental Factors**, supported by expert reports of high indoor air quality. However, this is tempered by consistently high levels of particulate matter exposure, which continue to pose a risk for respiratory health.

Key Takeaways

1. Strong infrastructure and telemedicine capacity offer a foundation, but access to treatment remains uneven

The UAE demonstrates good access to specialist care and telemedicine services, supporting a solid position in the Access and Care Coverage category. An asthma programme aiming to reduce emergency visits, hospitalisations, absenteeism, and mortality reflects a meaningful commitment to health system performance and patient outcomes. However, limited access to biologics and inconsistent insurance coverage for severe asthma treatment remain significant barriers. Equitable access is further challenged by underuse of essential controller therapies like inhaled corticosteroids, and an overreliance on short-acting beta-agonists (SABAs), which can mask poor disease control. Expanding coverage for evidence-based therapies and strengthening prescribing practices would help translate system capacity into consistent disease management.

2. Policy foundations are emerging, but national direction and alignment need reinforcement

Despite strong tobacco control laws, the UAE scores below average in the Policy Context category, primarily due to the absence of a national asthma strategy and incomplete alignment with international standards such as GINA. A national asthma programme focused on outcomes is a promising step, but without coordinated guidelines and enforcement mechanisms, implementation may vary widely. Establishing clear national guidance for asthma diagnosis, stepwise treatment, and follow-up care would improve consistency across care settings and help address clinical variation.

3. High disease burden and cost signal urgent need for prevention and adherence support

The UAE ranks among the lowest-performing countries in the Disease Burden category, with high asthma-related DALYs, elevated societal cost, and a high adult obesity rate. These outcomes point to challenges in early control and long-term disease prevention. Experts also highlight poor medication adherence, lack of education on asthma self-management, and gaps in follow-up as key drivers of poor outcomes. While the country benefits from relatively strong indoor air quality, high levels of particulate matter still pose environmental risks. Strengthening public and provider education, improving adherence monitoring, and expanding prevention campaigns could significantly reduce the burden and cost of asthma in the long term.

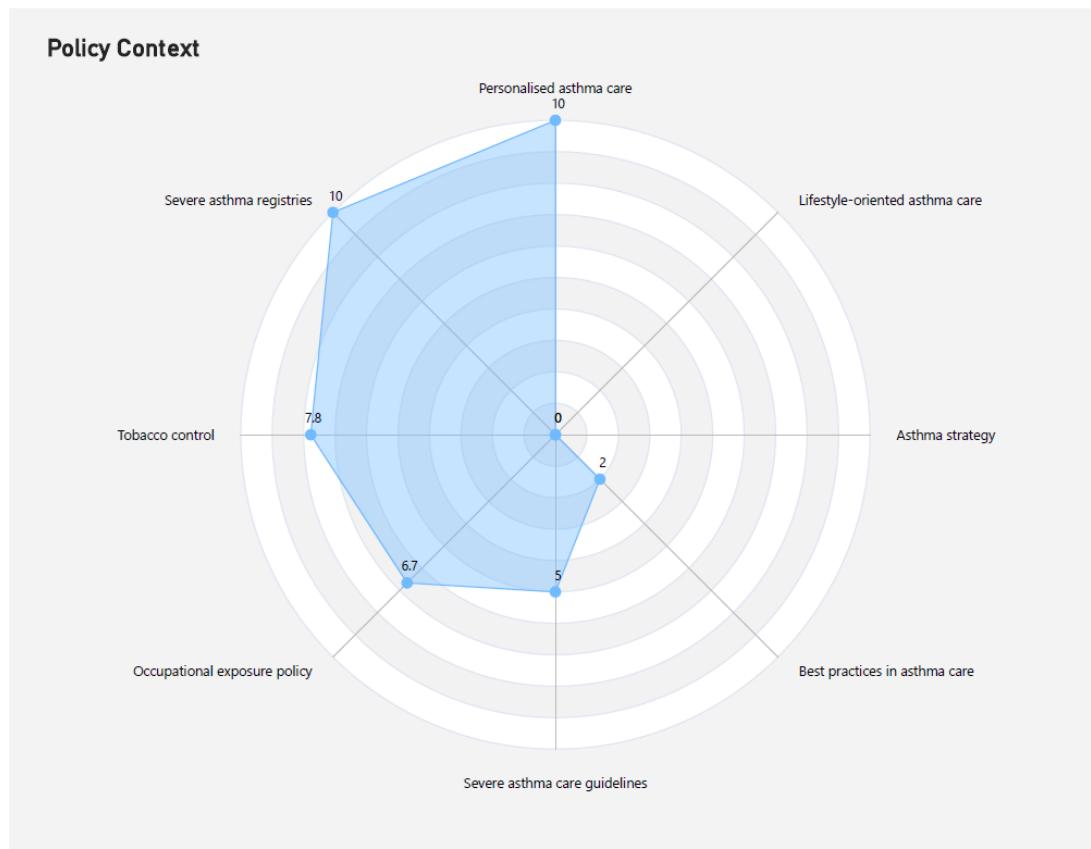
Best practices

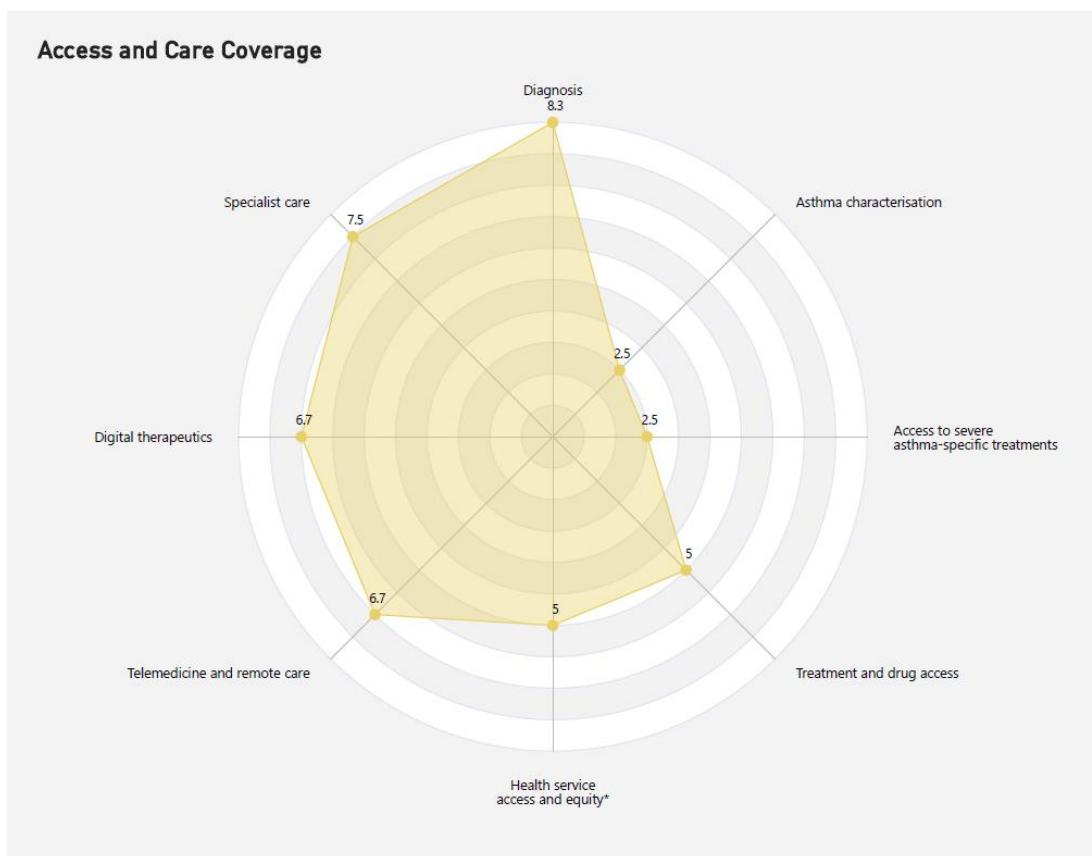
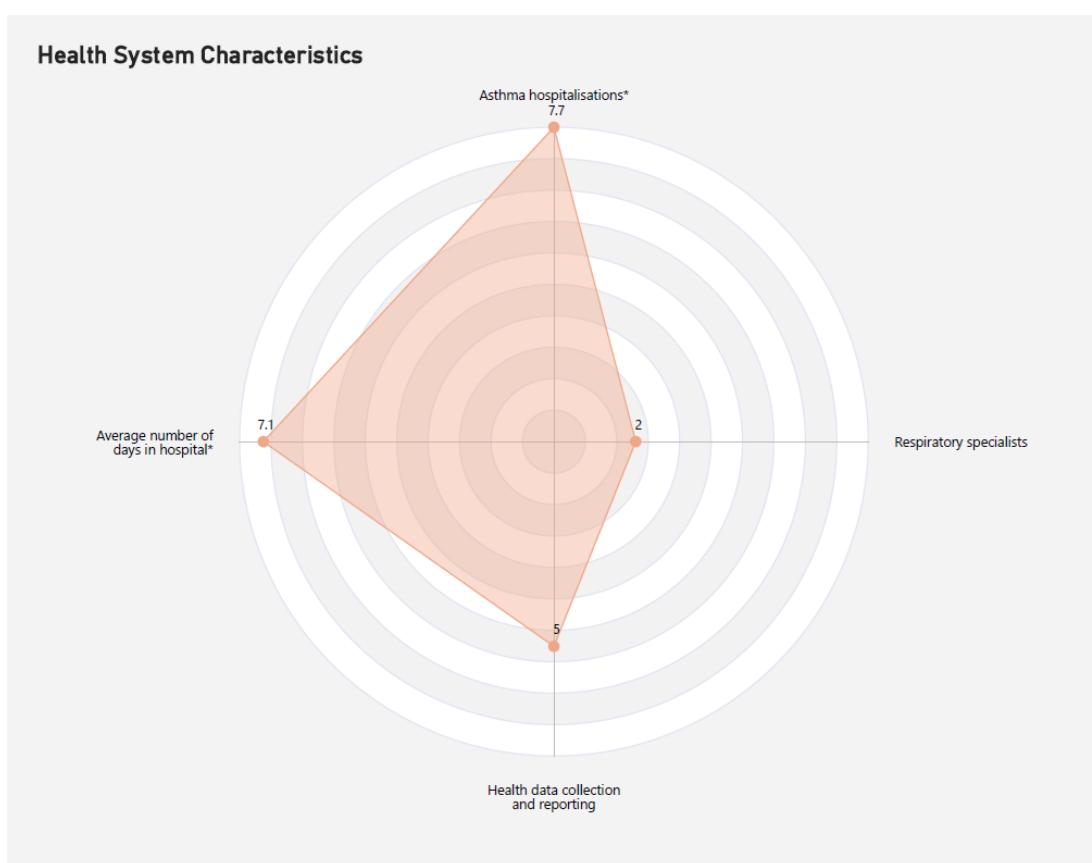
- Availability of specialist care and telemedicine infrastructure
- Asthma programme targeting reductions in hospitalisation, emergency visits, absenteeism, and mortality
- Strong tobacco control legislation

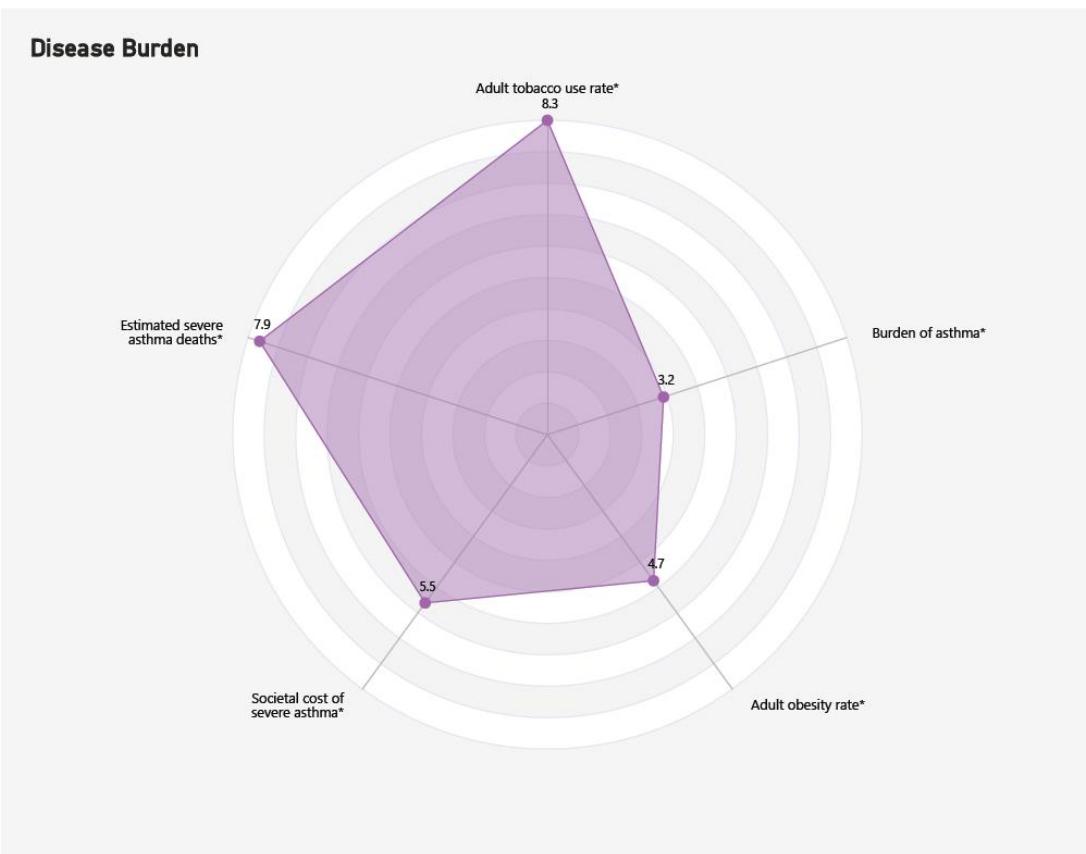
Challenges

- Overreliance on SABAs and underuse of inhaled corticosteroids
- Poor medication adherence and inconsistent follow-up
- Limited insurance coverage for advanced treatment options like biologics
- Absence of a national asthma strategy and incomplete alignment with international guidelines
- High asthma-related disease burden and societal cost despite available care infrastructure

 Policy Context – Score: 52/100



📍 Access and Care Coverage – Score: 55/100

⚙️ Health System Characteristics – Score: 54/100


 **Disease Burden – Score: 59/100**

 **Environmental Factors – Score: 76/100**
