Special considerations for asthma diagnosis and management in Aboriginal and Torres Strait Islander peoples, including cultural considerations, differential diagnoses and self-management support
ABBREVIATIONS
CFC  chlorofluorocarbon
COPD  chronic obstructive pulmonary disease
COX  cyclo-oxygenase
ED  emergency department
EIB  exercise-induced bronchoconstriction
FEV₁  forced expiratory volume over one second
FVC  forced vital capacity
FSANZ  Food Standards Australia and New Zealand
GORD  gastro-oesophageal reflux disease
HFA  formulated with hydrofluoralkane propellant
ICS  inhaled corticosteroid
ICU  intensive care unit
IgE  immunoglobulin E
IV  intravenous
LABA  long-acting beta₂-adrenergic receptor agonist
LAMA  long-acting muscarinic antagonist
LTRA  leukotriene receptor antagonist
MBS  Medical Benefits Scheme
NIPPV  non-invasive positive pressure ventilation
NSAIDs  nonsteroidal anti-inflammatory drugs
OCS  oral corticosteroids
OSA  obstructive sleep apnoea
PaCO  carbon dioxide partial pressure on blood gas analysis
PaO₂  oxygen partial pressure on blood gas analysis
PBS  Pharmaceutical Benefits Scheme
PEF  peak expiratory flow
pMDI  pressurised metered-dose inhaler or 'puffer'
SABA  short-acting beta₂-adrenergic receptor agonist
LAMA  long-acting muscarinic antagonist
TGA  Therapeutic Goods Administration

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ENDORSEMENT
The Australian Asthma Handbook has been officially endorsed by:

- The Royal Australian College of General Practitioners (RACGP)
- The Australian Primary Health Care Nurses Association (APNA)
- The Thoracic Society of Australia and New Zealand (TSANZ)

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Asthma in Aboriginal and Torres Strait Islander peoples

In this section

**Cultural considerations**
Cultural and psychosocial considerations when providing care for Aboriginal and Torres Strait Islander people
https://www.asthmahandbook.org.au/populations/atsi-peoples/cultural

**Diagnosis and assessment**
Considerations for diagnosis and assessment in Aboriginal and Torres Strait Islander people
https://www.asthmahandbook.org.au/populations/atsi-peoples/diagnosis

**Management**
Considerations for asthma management in Aboriginal and Torres Strait Islander people
https://www.asthmahandbook.org.au/populations/atsi-peoples/management
Cultural and psychosocial considerations when providing care for Aboriginal and Torres Strait Islander people

Recommendations

Health professionals should ensure that they and their staff have information and training on how to provide culturally secure care to Aboriginal and Torres Strait Islander people.

*How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Where appropriate and possible, work with an interpreter who speaks the person’s first language.

*How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

More information

**Culturally secure asthma care for Aboriginal and Torres Strait Islander people**

Primary care services can aim to deliver healthcare that is culturally secure. However, only the Aboriginal or Torres Strait Islander person themselves can determine whether their care is culturally safe or respectful.¹

Making the healthcare system a secure environment for Aboriginal and Torres Strait Islander peoples involves cultural respect, which involves not only respecting cultural difference but recognition, protection and continued advancement of the inherent rights, cultures and traditions of Aboriginal and Torres Strait Islander peoples.²

Cultural awareness (or ‘cultural sensitivity’) among individual health professionals involves sensitivity to the similarities and differences between different cultures to enable effective communication with members of another cultural group.³

Training in cultural awareness and ‘cultural safety’ is available for non-Indigenous health professionals who provide healthcare for Aboriginal and Torres Strait Islander people.

Go to: Australian College of Rural and Remote Medicine’s [Cultural awareness module for PIP Indigenous Health Incentive](#)

Go to: RACGP’s [Cultural awareness and cultural safety training](#)

**Involvement of Aboriginal and/or Torres Strait Islander health workers and health practitioners in asthma care**

Aboriginal and Torres Strait Islander health workers and Aboriginal and Torres Strait Islander health practitioners can provide self-management education for people with asthma and parents of children with asthma. Culture-specific programs may be more appropriate than mainstream programs for Aboriginal and Torres Strait Islander people.⁴

An education program (three sessions) conducted by Aboriginal and Torres Strait Islander health workers in primary health care in the Torres Strait region reduced the number of school days missed due to wheezing among school-aged children, and increased carers’ knowledge of asthma, the contents of the child’s written asthma action plan, and where the written asthma action plan was kept.⁵ However, it did not reduce the rate of asthma flare-ups, compared with children whose families did not participate.⁵
Aboriginal and Torres Strait Islander health workers and practitioners can provide health care services that are reimbursable through Medicare.\textsuperscript{6,7}

References


Diagnosing and assessing asthma in Aboriginal and Torres Strait Islander people

**Recommendations**

Ask all patients whether they smoke or are exposed to other people’s tobacco smoke.

- *How this recommendation was developed*
  - Consensus
    - Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):
      - Chang *et al.* 2010

For all Aboriginal and Torres Strait Islander adults and children, take a comprehensive respiratory health history.

- *How this recommendation was developed*
  - Consensus
    - Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):
      - Chang *et al.* 2010

For Aboriginal and Torres Strait Islander children and adults, routinely ask about coughing (frequency and type), and carefully observe for cough, even if parents or carers do not mention cough.

- *How this recommendation was developed*
  - Consensus
    - Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):
      - Morey *et al.* 2013

When cough is present (especially wet or productive cough), consider the possibility of other chronic lung disease (e.g. bronchiectasis, chronic suppurative lung disease and COPD) as an alternative or coexisting diagnosis in Aboriginal and Torres Strait Islander adults and children with respiratory symptoms.

- *How this recommendation was developed*
  - Consensus
    - Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):
      - Chang *et al.* 2003
      - Chang *et al.* 2008
      - Chang *et al.* 2012
      - Craven and Everard, 2013
In Aboriginal and Torres Strait Islander adults in whom bronchiectasis cannot be ruled out, arrange high-resolution computed tomography and offer referral to a specialist if possible.

How this recommendation was developed
Adapted from existing guidance
Based on reliable clinical practice guideline(s) or position statement(s):
- Chang et al. 2008

In children with symptoms and signs that suggest chronic suppurative lung disease, offer referral to a specialist if possible.

How this recommendation was developed
Adapted from existing guidance
Based on reliable clinical practice guideline(s) or position statement(s):
- Chang et al. 2008

Consider and investigate any other comorbid conditions (e.g. diabetes, cardiovascular disease, kidney disease, ear problems).

How this recommendation was developed
Consensus
Based on clinical experience and expert opinion (informed by evidence, where available), with particular reference to the following source(s):
- Australian Institute of Health and Welfare, 2013

Include a thorough respiratory check-up when performing a Health Assessment for Aboriginal and Torres Strait Islander People (MBS Item 715).

More information

Culturally secure asthma care for Aboriginal and Torres Strait Islander people
Primary care services can aim to deliver healthcare that is culturally secure. However, only the Aboriginal or Torres Strait Islander person themselves can determine whether their care is culturally safe or respectful.

Making the healthcare system a secure environment for Aboriginal and Torres Strait Islander peoples involves cultural respect, which involves not only respecting cultural difference but recognition, protection and continued advancement of the inherent rights, cultures and traditions of Aboriginal and Torres Strait Islander peoples.
Cultural awareness (or ‘cultural sensitivity’) among individual health professionals involves sensitivity to the similarities and differences between different cultures to enable effective communication with members of another cultural group. Training in cultural awareness and ‘cultural safety’ is available for non-Indigenous health professionals who provide healthcare for Aboriginal and Torres Strait Islander people.

- Go to: Australian College of Rural and Remote Medicine’s Cultural awareness module for PIP Indigenous Health Incentive
- Go to: RACGP’s Cultural awareness and cultural safety training

**Involvement of Aboriginal and/or Torres Strait Islander health workers and health practitioners in asthma care**

Aboriginal and Torres Strait Islander health workers and Aboriginal and Torres Strait Islander health practitioners can provide self-management education for people with asthma and parents of children with asthma. Culture-specific programs may be more appropriate than mainstream programs for Aboriginal and Torres Strait Islander people. An education program (three sessions) conducted by Aboriginal and Torres Strait Islander health workers in primary health care in the Torres Strait region reduced the number of school days missed due to wheezing among school-aged children, and increased carers’ knowledge of asthma, the contents of the child’s written asthma action plan, and where the written asthma action plan was kept. However, it did not reduce the rate of asthma flare-ups, compared with children whose families did not participate.

Aboriginal and Torres Strait Islander health workers and practitioners can provide health care services that are reimbursable through Medicare.

**Asthma prevalence in Aboriginal and Torres Strait Islander people**

Asthma prevalence is higher among Aboriginal and Torres Strait Islander people than non-Indigenous Australians, based on the findings of various surveys. Based on data from the 2004–2005 National Aboriginal and Torres Strait Islander Health Survey and the Australian Centre for Asthma Monitoring:

- The estimated overall asthma prevalence in Aboriginal and Torres Strait Islander people is 16.5%, compared with 10.2% among non-Indigenous Australians.
- The estimated asthma prevalence in Aboriginal and Torres Strait Islander adults (aged 18 years and over) is 17.5%, compared with 9.8% among non-Indigenous adults.
- The estimated asthma prevalence rates are similar in Aboriginal and Torres Strait Islander children (13.5%) and non-Indigenous children (11.2%).

Fewer Aboriginal and Torres Strait Islander people living in remote areas (9%) report that they have asthma than those living in non-remote areas (17%). Torres Strait Islander people living in the Torres Strait Island region report a relatively low prevalence of asthma (5%). The rate of hospitalisation for asthma is approximately twice as high among Aboriginal and Torres Strait Islander people, compared with other Australians.

**Risk factors for asthma in Aboriginal and Torres Strait Islander people**

Compared with the whole Australian population, Aboriginal and Torres Strait Islander people have higher rates of some risk factors for developing asthma or for poor asthma control.

- See: Primary prevention of asthma
- See: Preventive healthcare in people with asthma

**Smoking and smoke**

RATES OF TOBACCO SMOKING ARE HIGH AMONG ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE.

- Approximately 45% of Aboriginal and Torres Strait Islander people aged 15 years and over smoke daily (more than twice the rate among non-Indigenous Australians).
- Approximately half of Aboriginal and Torres Strait Islander mothers smoked during pregnancy (3.7 times the rate among non-Indigenous mothers).
- Approximately 65% of Aboriginal and Torres Strait Islander children live households with someone who smokes daily (approximately twice the rate among non-Indigenous children).
Many Aboriginal people are also frequently exposed to smoke from outdoor vegetation fires and cooking fires, particularly in remote regions.

Allergies

Limited available data suggest that sensitisation to house dust mite is increasing among rural and remote Aboriginal communities, correlating with adoption of urban lifestyles. Factors contributing to an increase in allergic disease may include dietary changes and reductions in parasitic infestation and exposure to some bacteria.

Dietary factors

Low fruit and vegetables intakes are more common among Aboriginal and Torres Strait Islander people than non-Indigenous Australians. Increasing intake of pro-inflammatory fats and low intake of antioxidant-rich fruits and vegetables may be contributing to an increase in allergic asthma among Aboriginal and Torres Strait Islander people.

Obesity

The rate of obesity among Aboriginal and Torres Strait Islander adults (approximately 34%) is almost twice the rate in non-Indigenous adults (approximately 18%). Among Aboriginal and Torres Strait Islander people aged 18 years and over living in non-remote areas, rates of overweight and obesity increased between 1995 (51%) and 2004–05 (60%).

Socioeconomic risk factors

Traditional markers of socioeconomic status (e.g., education, income, and employment status) are not strongly associated with asthma risk among Aboriginal and Torres Strait Islander peoples, unlike the associations between socioeconomic status and asthma risk in non-Indigenous Australians, and the risk of other chronic diseases such as diabetes and kidney disease in Aboriginal and Torres Strait Islander people.

In the 2000–2002 Western Australian Aboriginal Child Health Survey, Aboriginal children aged 0–17 years living in areas with highest socioeconomic status were more than nine times more likely to have ever had asthma than those living in the lowest socioeconomic status areas. However, when socioeconomic status was measured by parental, family and household indicators rather than by area, it was less strongly associated with asthma.

Respiratory disease in Aboriginal and Torres Strait Islander peoples

Morbidity and mortality from respiratory diseases among Aboriginal and Torres Strait Islander people is higher than among non-Indigenous Australians across all age groups and regions. Among Aboriginal and Torres Strait Islander people living in remote areas, the rate of hospitalisation for respiratory disease is approximately three times the rate among Aboriginal and Torres Strait Islander people living in major cities. However, from 1997 to 2010 there was a 39% reduction in deaths due to respiratory disease among Aboriginal and Torres Strait Islander people.

Detection, diagnosis and management of asthma may be complicated by increased rate of respiratory infections and chronic lung disease in rural remote Aboriginal and Torres Strait Islander communities.

- Approximately 30% of Aboriginal and Torres Strait Islander people report respiratory problems.
- Chronic cough in Aboriginal and Torres Strait Islander children may be under-reported because it is so common that it is considered normal by parents and caregivers.
- Pneumonia and COPD are the most common causes of hospitalisation for respiratory disease among Aboriginal and Torres Strait Islander people. The prevalence of COPD among Aboriginal and Torres Strait Islander people cannot be accurately estimated. The rate of death due to COPD among Aboriginal and Torres Strait Islander people is five times the rate among non-Indigenous Australians.
- The prevalence of bronchiectasis is disproportionately high in remote Aboriginal communities, particularly in Central Australia, but is underdiagnosed. High-resolution computed tomography of the chest is necessary to diagnose...
bronchiectasis in adults.\(^5\) In Aboriginal and Torres Strait Islander adults, it may be difficult to distinguish between asthma, COPD and bronchiectasis.\(^{27}\) Bronchiectasis is associated with relatively rapid decline in lung function.\(^5\)†

- Chronic suppurative lung disease is highly prevalent among Aboriginal and Torres Strait Islander children in remote communities.\(^5\) The diagnosis of chronic suppurative lung disease is made in children who have symptoms and signs of bronchiectasis without radiographic features of bronchiectasis.\(^5\) In Aboriginal and Torres Strait Islander children, it may be difficult to distinguish between asthma and bronchiectasis or chronic suppurative lung disease.\(^{27}\)‡

- Protracted bacterial bronchitis is often misdiagnosed as asthma,\(^7,^{29}\) but can also co-occur with asthma.\(^{29}\) Protracted bacterial bronchitis might precede chronic suppurative lung disease, but this is not yet well understood.\(^{29}\) Inadequate treatment of protracted bacterial bronchitis might put Aboriginal and Torres Strait Islander children at risk for chronic suppurative lung disease.\(^{29}\) Recurrent episodes of protracted bacterial bronchitis that does not resolve after treatment (e.g. a 14-day course of antibiotics) require investigation for chronic suppurative lung disease, bronchiectasis and aspiration.\(^{29}\)

† Chronic suppurative lung disease is defined as a clinical syndrome of respiratory symptoms and signs due to chronic endobronchial suppuration, including continuous, wet or productive cough > 8 weeks, with or without other features (e.g. exertional dyspnoea, symptoms of reactive airway disease, recurrent chest infections, growth failure, clubbing, hyperinflation or chest wall deformity).\(^2\)

‡ Bronchiectasis is diagnosed in patients with both chronic suppurative lung disease and the presence of radiological features on a chest high-resolution computed tomography scan.\(^2\)

See: Diagnosing asthma in children

Go to: Multidisciplinary consensus group position statement Management of bronchiectasis and chronic suppurative lung disease in Indigenous children and adults from rural and remote Australian communities

Go to: Thoracic Society of Australia and New Zealand and Lung Foundation Australia position statement Chronic suppurative lung disease and bronchiectasis in children and adults in Australia and New Zealand

**Notes**

- Protracted bacterial bronchitis might precede chronic suppurative lung disease, but this is not yet well understood.
- Recurrent episodes of protracted bacterial bronchitis that does not resolve after treatment (e.g. a 14-day course of antibiotics) require investigation for chronic suppurative lung disease, bronchiectasis and aspiration.

Non-respiratory comorbidity among Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander peoples have a high burden of chronic diseases that may affect asthma control and management, including:\(^8\)

- diabetes
- cardiovascular disease
- kidney disease
- ear disease
- mental health problems.

See: Comorbid conditions and asthma

**Australian government health initiatives for Aboriginal and Torres Strait Islander people**

Asthma Spacer Ordering System

The Asthma Spacer Ordering System provides Aboriginal and Torres Strait Islander health services with access to low cost asthma spacers for their clients.

Go to: Asthma Australia's Asthma Spacer Ordering System page

Health Assessment Medicare items

The MBS Health Assessment for Aboriginal and Torres Strait Islander People (MBS Item 715) reimburses health professionals for health assessments for (any of):\(^{16}\)

- Aboriginal and Torres Strait Islander children (< 15 years)
- Aboriginal and Torres Strait Islander adults (≥ 15 years and < 55 years)
- Aboriginal and Torres Strait Islander older people (≥ 55 years).

This item is linked to follow-on item numbers to support follow-up care by allied health professionals and Aboriginal/Torres Strait health workers and practitioners to manage asthma and comorbid conditions.

Go to: Medicare Health Assessment for Aboriginal and Torres Strait Islander People

The Indigenous Chronic Disease Package
The Indigenous Chronic Disease Package provides a range of supports to Aboriginal and Torres Strait Islander people with chronic disease or at risk of chronic disease. The package includes:

- subsidy of PBS medicines (reduced copayments for Aboriginal and Torres Strait Islander people with chronic disease)
- orientation and training for Aboriginal and Torres Strait Islander Outreach Workers in Aboriginal community-controlled general practices
- professional development scholarships and clinical placement scholarships for nurses working in Community Controlled Aboriginal/Torres Strait Island Health Services
- general practitioner registrar training posts for Aboriginal Medical Services
- Practice Incentives Program Indigenous Health Incentive to support general practices and Indigenous health services to provide care for people with chronic disease
- increased access to specialist medical and allied health care
- GPs can access these services to overcome barriers to health care for Aboriginal and Torres Strait Islander people.

Go to: Closing the Gap Indigenous Chronic Disease Package

National immunisation program

Additional vaccinations are recommended and reimbursed for Aboriginal and Torres Strait Islander people. Refer to national guidelines.

Go to: Australian Immunisation Handbook

Other resources

Go to: Australian College of Nursing’s Australian Government scholarships web page
Go to: General Practice Education and Training Limited

**Is it asthma, COPD or both?**

The main symptoms of chronic obstructive pulmonary disease (COPD) are breathlessness, cough and sputum production. Chest tightness, wheezing and airway irritability are also common. Patients often attribute breathlessness to ageing or poor cardiopulmonary fitness.

The definitions of asthma and COPD overlap, and asthma and COPD frequently coexist in people aged 65 years and over. Comorbid COPD is often misdiagnosed as asthma in older people, and vice versa.

See: Chronic obstructive pulmonary disease (COPD) and asthma
See: Asthma in older adults

For information on diagnosis and management of COPD, refer to the COPD-X Concise Guide for Primary Care. The Global Initiative for Asthma (GINA) and Global Initiative Obstructive Lung Disease (GOLD) recommend the following stepwise approach for adults presenting with respiratory symptoms:

1. Identify whether the patient has clinical features of, or is at risk of, chronic airway disease. This may be suggested by the clinical history and physical examination.
2. Identify features that favour a diagnosis of typical asthma or typical COPD. If several features of both are present, asthma-COPD overlap is likely.
3. Perform spirometry to confirm airflow limitation.
4. Start treatment, selected according to whether the assessment favoured the single diagnosis of asthma, the single diagnosis of COPD, or asthma-COPD overlap.
5. Refer for specialist assessment and other investigations, if necessary.

**References**


Managing asthma in Aboriginal and Torres Strait Islander people

Recommendations

Consider whether the person has any comorbid conditions that may affect asthma management or be affected by asthma medicines.

*How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Consider using and providing asthma self-management resources that have been designed specifically for Aboriginal and Torres Strait Islander people, where appropriate.

*How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Keep influenza and pneumococcal vaccination up to date, following immunisation guidelines for Aboriginal and Torres Strait Islander children and adults.

Go to: [The Australian Immunisation Handbook](#)

*How this recommendation was developed*

Adapted from existing guidance

Based on reliable clinical practice guideline(s) or position statement(s):


Provide a written asthma action plan that is culturally appropriate for each patient.

*How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

Where possible, involve Aboriginal health workers or Aboriginal and Torres Strait Islander health practitioners in Team Care Arrangements and Multidisciplinary Care Plans.

*How this recommendation was developed*

Consensus

Based on clinical experience and expert opinion (informed by evidence, where available).

More information
Culturally secure asthma care for Aboriginal and Torres Strait Islander people

Primary care services can aim to deliver healthcare that is culturally secure. However, only the Aboriginal or Torres Strait Islander person themselves can determine whether their care is culturally safe or respectful. Making the healthcare system a secure environment for Aboriginal and Torres Strait Islander peoples involves cultural respect, which involves not only respecting cultural difference but recognition, protection and continued advancement of the inherent rights, cultures and traditions of Aboriginal and Torres Strait Islander peoples. Cultural awareness (or ‘cultural sensitivity’) among individual health professionals involves sensitivity to the similarities and differences between different cultures to enable effective communication with members of another cultural group. Training in cultural awareness and ‘cultural safety’ is available for non-Indigenous health professionals who provide health care for Aboriginal and Torres Strait Islander people.

Involvement of Aboriginal and/or Torres Strait Islander health workers and health practitioners in asthma care

Aboriginal and Torres Strait Islander health workers and Aboriginal and Torres Strait Islander health practitioners can provide self-management education for people with asthma and parents of children with asthma. Culture-specific programs may be more appropriate than mainstream programs for Aboriginal and Torres Strait Islander people. An education program (three sessions) conducted by Aboriginal and Torres Strait Islander health workers in primary health care in the Torres Strait region reduced the number of school days missed due to wheezing among school-aged children, and increased carers’ knowledge of asthma, the contents of the child’s written asthma action plan, and where the written asthma action plan was kept. However, it did not reduce the rate of asthma flare-ups, compared with children whose families did not participate. Aboriginal and Torres Strait Islander health workers and practitioners can provide health care services that are reimbursable through Medicare.

Risk factors for asthma in Aboriginal and Torres Strait Islander people

Compared with the whole Australian population, Aboriginal and Torres Strait Islander people have higher rates of some risk factors for developing asthma or for poor asthma control.

Smoking and smoke

Rates of tobacco smoking are high among Aboriginal and Torres Strait Islander people: Approximately 45% of Aboriginal and Torres Strait Islander people aged 15 years and over smoke daily (more than twice the rate among non-Indigenous Australians). Approximately half of Aboriginal and Torres Strait Islander mothers smoked during pregnancy (3.7 times the rate among non-Indigenous mothers). Approximately 65% of Aboriginal and Torres Strait Islander children live households with someone who smokes daily (approximately twice the rate among non-Indigenous children).

Allergies

Limited available data suggest that sensitisation to house dust mite is increasing among rural and remote Aboriginal communities, correlating with adoption of urban lifestyles. Factors contributing to an increase in allergic disease may include dietary changes and reductions in parasitic infestation and exposure to some bacteria.
Dietary factors

Low fruit and vegetables intakes are more common among Aboriginal and Torres Strait Islander people than non-Indigenous Australians.\(^9\)

Increasing intake of pro-inflammatory fats and low intake of antioxidant-rich fruits and vegetables may be contributing to an increase in allergic asthma among Aboriginal and Torres Strait Islander people.\(^{13}\)

▶ See: Healthy eating for asthma

Obesity

The rate of obesity among Aboriginal and Torres Strait Islander adults (approximately 34%) is almost twice the rate in non-Indigenous adults (approximately 18%).\(^9\)

Among Aboriginal and Torres Strait Islander people aged 18 years and over living in non-remote areas, rates of overweight and obesity increased between 1995 (51%) and 2004–05 (60%).\(^9\)

▶ See: Obesity and asthma

Socioeconomic risk factors

Traditional markers of socioeconomic status (e.g. education, income and employment status) are not strongly associated with asthma risk among Aboriginal and Torres Strait Islander peoples,\(^{14}\) unlike the associations between socioeconomic status and asthma risk in non-Indigenous Australians, and the risk of other chronic diseases such as diabetes and kidney disease in Aboriginal and Torres Strait Islander people.\(^{14}\)

In the 2000–2002 Western Australian Aboriginal Child Health Survey, Aboriginal children aged 0–17 years living in areas with highest socioeconomic status were more than nine times more likely to have ever had asthma than those living in the lowest socioeconomic status areas.\(^{15}\) However, when socioeconomic status was measured by parental, family and household indicators rather than by area, it was less strongly associated with asthma.\(^{15}\)

Asthma morbidity and mortality in Aboriginal and Torres Strait Islander people

Among Australians aged 5 years and over, the rate of hospitalisation due to asthma is higher for Aboriginal and Torres Strait Islander people than non-Indigenous people.\(^{16}\) Among Aboriginal and Torres Strait Islander people, asthma is the reason for approximately 11% of all hospitalisations.\(^9\)

The rate of deaths due to asthma is approximately 2.5 times higher among Aboriginal and Torres Strait Islander people than non-Indigenous Australians.\(^{16}\)

Respiratory disease in Aboriginal and Torres Strait Islander peoples

Morbidity and mortality from respiratory diseases among Aboriginal and Torres Strait Islander people is higher than among non-Indigenous Australians across all age groups and regions.\(^{17}\) Among Aboriginal and Torres Strait Islander people living in remote areas, the rate of hospitalisation for respiratory disease is approximately three times the rate among Aboriginal and Torres Strait Islander people living in major cities.\(^{18}\) However, from 1997 to 2010 there was a 39% reduction in deaths due to respiratory disease among Aboriginal and Torres Strait Islander people.\(^9\)

Detection, diagnosis and management of asthma may be complicated by increased rate of respiratory infections and chronic lung disease in rural remote Aboriginal and Torres Strait Islander communities.

- Approximately 30% of Aboriginal and Torres Strait Islander people report respiratory problems.\(^{19}\)
- Chronic cough in Aboriginal and Torres Strait Islander children may be under-reported because it is so common that is considered normal by parents and caregivers.\(^{20}\)
- Pneumonia and COPD are the most common causes of hospitalisation for respiratory disease among Aboriginal and Torres Strait Islander people.\(^{18}\) The prevalence of COPD among Aboriginal and Torres Strait Islander people cannot be accurately estimated.\(^{21}\) The rate of death due to COPD among Aboriginal and Torres Strait Islander people is five times the rate among non-Indigenous Australians.\(^{22}\)
- The prevalence of bronchiectasis is disproportionately high in remote Aboriginal communities, particularly in Central Australia, but is underdiagnosed.\(^{19,23}\) High-resolution computed tomography of the chest is necessary to diagnose
bronchiectasis in adults. In Aboriginal and Torres Strait Islander adults, it may be difficult to distinguish between asthma, COPD and bronchiectasis. 

Chronic suppurative lung disease is highly prevalent among Aboriginal and Torres Strait Islander children in remote communities. The diagnosis of chronic suppurative lung disease is made in children who have symptoms and signs of bronchiectasis without radiographic features of bronchiectasis. In Aboriginal and Torres Strait Islander children, it may be difficult to distinguish between asthma and bronchiectasis or chronic suppurative lung disease.

Protracted bacterial bronchitis is often misdiagnosed as asthma, but can also co-occur with asthma. Protracted bacterial bronchitis might precede chronic suppurative lung disease, but this is not yet well understood. Inadequate treatment of protracted bacterial bronchitis might put Aboriginal and Torres Strait Islander children at risk for chronic suppurative lung disease. Recurrent episodes of protracted bacterial bronchitis that does not resolve after treatment (e.g. a 14-day course of antibiotics) require investigation for chronic suppurative lung disease, bronchiectasis and aspiration.

Notes
† Chronic suppurative lung disease is defined as a clinical syndrome of respiratory symptoms and signs due to chronic endobronchial suppuration, including continuous, wet or productive cough > 8 weeks, with or without other features (e.g. exertional dyspnoea, symptoms of reactive airway disease, recurrent chest infections, growth failure, clubbing, hyperinflation or chest wall deformity).
‡ Bronchiectasis is diagnosed in patients with both chronic suppurative lung disease and the presence of radiological features on a chest high-resolution computed tomography scan.

Non-respiratory comorbidity among Aboriginal and Torres Strait Islander peoples
Aboriginal and Torres Strait Islander peoples have a high burden of chronic diseases that may affect asthma control and management, including:
- diabetes
- cardiovascular disease
- kidney disease
- ear disease
- mental health problems.

Written asthma action plans for adults
Every person with asthma should have their own written asthma action plan.

When provided with appropriate self-management education, self-monitoring and medical review, individualised written action plans consistently improve asthma health outcomes if they include two to four action points, and provide instructions for use of both inhaled corticosteroid and oral corticosteroids for treatment of flare-ups. Written asthma action plans are effective if based on symptoms or personal best peak expiratory flow (not on percentage predicted).

How to develop and review a written asthma action plan
A written asthma action plan should include all the following:
- a list of the person’s usual medicines (names of medicines, doses, when to take each dose) – including treatment for related conditions such as allergic rhinitis
- clear instructions on how to change medication (including when and how to start a course of oral corticosteroids) in all the following situations:
  - when asthma is getting worse (e.g. when needing more reliever than usual, waking up with asthma, more symptoms than usual, asthma is interfering with usual activities)
  - when asthma symptoms get substantially worse (e.g. when needing reliever again within 3 hours, experiencing increasing difficulty breathing, waking often at night with asthma symptoms)
  - when peak flow falls below an agreed rate (for those monitoring peak flow each day)
  - during an asthma emergency.
- instructions on when and how to get medical care (including contact telephone numbers)
the name of the person writing the action plan, and the date it was issued.

Table. Options for adjusting medicines in a written asthma action plan for adults
Please view and print this figure separately: https://www.asthmahandbook.org.au/table/show/42

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<th>Options for adjusting medicines</th>
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<td>• Adjusting controller medications</td>
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<td>• Adjusting reliever medications</td>
</tr>
<tr>
<td>• Adding a controller medication</td>
</tr>
<tr>
<td>• Adding a reliever medication</td>
</tr>
<tr>
<td>• Changing the dose of a controller medication</td>
</tr>
<tr>
<td>• Changing the dose of a reliever medication</td>
</tr>
<tr>
<td>• Adding maintenance therapy</td>
</tr>
<tr>
<td>• Adding reliever therapy</td>
</tr>
<tr>
<td>• Adding both maintenance and reliever therapy</td>
</tr>
</tbody>
</table>

Table. Checklist for reviewing a written asthma action plan

- Ask if the person (or parent) knows where their written asthma action plan is.
- Ask if they have used their written asthma action plan because of worsening asthma.
- Ask if the person (or parent) has had any problems using their written asthma action plan, or has any comments about whether they find it suitable and effective.
- Check that the medication recommendations are appropriate to the person's current treatment.
- Check that all action points are appropriate to the person's level of recent asthma symptom control.
- Check that the person (or parent) understands and is satisfied with the action points.
- If the written asthma action plan has been used because of worsening asthma more than once in the past 12 months: review the person's usual asthma treatment, adherence, inhaler technique, and exposure to avoidable trigger factors.
- Check that the contact details for medical care and acute care are up to date.

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Templates for written asthma action plans

Templates are available from National Asthma Council Australia:

- National Asthma Council Australia colour-coded plan, available as a printed handout that folds to wallet size and as the Asthma Buddy smartphone application
- Asthma Cycle of Care asthma action plan
- A plan designed for patients using budesonide/formoterol combination as maintenance and reliever therapy
- Remote Indigenous Australian Asthma Action Plan
- Every Day Asthma Action Plan (designed for remote Indigenous Australians who do not use written English – may also be useful for others for whom written English is inappropriate).

Some written asthma action plans are available in community languages.

Software for developing electronic pictorial asthma action plans is available online.

Go to: National Asthma Council Australia’s Asthma Action Plan Library
Download: Imperial College London’s Electronic Asthma Action Plan (ZIP/9.9 MB)

Asthma self-management resources for Aboriginal and Torres Strait Islander people

Templates for written asthma action plans have been specifically designed for Aboriginal and Torres Strait Islander people. These include:

- Remote Indigenous Australian Asthma Action Plan
- Every Day Asthma Action Plan (designed for remote Aboriginal Australians who do not use written English).

Go to: National Asthma Council Australia’s Library of written asthma action plan templates

Short wind resources (booklets and flip chart) developed by Asthma Foundation Northern Territory explain:

- how asthma medicines are used
- how to take asthma medicine
- how to use puffers and spacers.

Go to: Asthma Foundation Northern Territory Short wind resources

An online library of health promotion resources designed for Aboriginal and Torres Strait Islander people is available through LungInfoNet. LungInfoNet is the respiratory health stream of the Australian Indigenous HealthInfoNet from Edith Cowan University.
Australian government health initiatives for Aboriginal and Torres Strait Islander people

Asthma Spacer Ordering System
The Asthma Spacer Ordering System provides Aboriginal and Torres Strait Islander health services with access to low cost asthma spacers for their clients.

Go to: Asthma Australia’s Asthma Spacer Ordering System page

Health Assessment Medicare items
The MBS Health Assessment for Aboriginal and Torres Strait Islander People (MBS Item 715) reimburses health professionals for health assessments for (any of): 8

- Aboriginal and Torres Strait Islander children (<15 years)
- Aboriginal and Torres Strait Islander adults (≥15 years and < 55 years)
- Aboriginal and Torres Strait Islander older people (≥ 55 years).

This item is linked to follow-on item numbers to support follow-up care by allied health professionals and Aboriginal/Torres Strait health workers and practitioners to manage asthma and comorbid conditions.

Go to: Medicare Health Assessment for Aboriginal and Torres Strait Islander People

The Indigenous Chronic Disease Package
The Indigenous Chronic Disease Package provides a range of supports to Aboriginal and Torres Strait Islander people with chronic disease or at risk of chronic disease. The package includes: 31

- subsidy of PBS medicines (reduced copayments for Aboriginal and Torres Strait Islander people with chronic disease)
- orientation and training for Aboriginal and Torres Strait Islander Outreach Workers in Aboriginal community-controlled general practices
- professional development scholarships and clinical placement scholarships for nurses working in Community Controlled Aboriginal/Torres Strait Island Health Services
- general practitioner registrar training posts for Aboriginal Medical Services
- Practice Incentives Program Indigenous Health Incentive to support general practices and Indigenous health services to provide care for people with chronic disease
- increased access to specialist medical and allied health care
- GPs can access these services to overcome barriers to health care for Aboriginal and Torres Strait Islander people.

Go to: Closing the Gap Indigenous Chronic Disease Package

National immunisation program
Additional vaccinations are recommended and reimbursed for Aboriginal and Torres Strait Islander people. Refer to national guidelines.

Go to: Australian Immunisation Handbook

Other resources
Go to: Australian College of Nursing’s Australian Government scholarships web page
Go to: General Practice Education and Training Limited

Health system initiatives that support asthma care
Chronic Disease Management Medicare items
Patients with asthma are eligible for Chronic Disease Management Medicare items. 7 These include:

- Preparation of a GP Management Plan (Item 721)
- Review of a GP Management Plan (Item 732)
- Coordination of Team Care Arrangements (Item 723) for patients who need ongoing care from a multidisciplinary team of at least three health or care providers
- Coordination of a Review of Team Care Arrangements (Item 732)
- Contribution to a multidisciplinary care plan being prepared by another health or care provider (Item 729)
• Contribution to a multidisciplinary care plan being prepared for a resident of an aged care facility (Item 731).

GPs can be assisted by practice nurses, Aboriginal and Torres Strait Islander health practitioners, Aboriginal health workers and other health professionals.7

Asthma cycle of care

The Asthma cycle of care is an Australian Government initiative to support primary care health professionals (GPs, other medical practitioners and trainees) to provide asthma care. It is implemented through the Practice Incentives Program (PIP) Asthma Incentive and applies to the clinical care of people with moderate-to-severe asthma, generally defined as people with (any of):32

• symptoms on most days
• use of preventative medication
• bronchodilator use at least three times per week
• hospital attendance or admission following an acute asthma flare-up.

The Asthma cycle of care involves at least two asthma-related consultations within 12 months for a patient with moderate-to-severe asthma, of which at least one visit is a planned asthma review. Each consultation includes:

• documenting the diagnosis, assessing asthma severity and assessing level of recent asthma symptom control
• reviewing the patient’s use of and access to asthma medicines and inhaler devices
• providing a written asthma action plan (or documented alternative, if the patient is unable to use a written action plan)
• providing asthma self-management education
• reviewing the written or documented asthma action plan.

The Personally Controlled eHealth Record System

The eHealth record is an electronic record for a patient that contains a summary of their health information. Patients can choose to register for an eHealth record. Authorised healthcare professionals can access a patient’s record and upload information to the record if their healthcare organisation has registered for the eHealth record system.

Health system initiatives for Aboriginal and Torres Strait Islander people

Health system initiatives to support the care of Aboriginal and Torres Strait Islander people include:

• Health Assessment Medicare items
• The Indigenous Chronic Disease Package
• The Asthma Spacer Ordering System.

References


### Table. Options for adjusting medicines in a written asthma action plan for adults

<table>
<thead>
<tr>
<th>Usual treatment</th>
<th>Options for adjustments when asthma worsening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 1</td>
</tr>
<tr>
<td><strong>Any treatment (applies to all regimens)</strong></td>
<td>Increase reliever as needed in response to symptoms</td>
</tr>
<tr>
<td><strong>Short-acting beta\textsubscript{2}-agonist reliever only (no preventer)</strong></td>
<td>If symptoms continue to worsen, start short course prednisone (e.g. 37.5–50 mg each morning for 5–10 days)</td>
</tr>
<tr>
<td><strong>ICS-only preventer</strong></td>
<td>Increase dose early (e.g. multiply dose by 4) for 7–14 days §</td>
</tr>
<tr>
<td><strong>ICS/LABA combination</strong></td>
<td>Take extra doses of budesonide/formoterol as needed to relieve symptoms, up to a maximum of 72 mcg formoterol per day (12 actuations of 100/6 mcg or 200/6 mcg via dry-powder inhaler or 24 actuations of 50/3 mcg or 100/3 mcg via pressurised metered-dose inhaler per day) No more than 6 actuations at one time</td>
</tr>
<tr>
<td><strong>Budesonide/formoterol (Symbicort) maintenance-and-reliever regimen</strong></td>
<td>Increase dose of budesonide/formoterol up to a maximum of 72 mcg formoterol daily for 7–14 days</td>
</tr>
<tr>
<td><strong>Budesonide/formoterol (Symbicort) conventional maintenance regimen</strong></td>
<td>If using medium dose (100/25 mcg): Replace with highest strength formulation of</td>
</tr>
<tr>
<td>Usual treatment</td>
<td>Options for adjustments when asthma worsening</td>
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<tr>
<td>-----------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Option 1</td>
</tr>
<tr>
<td></td>
<td>same medicine (fluticasone furoate/vilanterol 200/25 mcg one inhalation once daily) for 7–14 days</td>
</tr>
<tr>
<td><strong>Fluticasone propionate/formoterol (Flutiform)</strong></td>
<td>If using 50/5 mcg: Replace with highest strength formulation of same medicine (fluticasone propionate/formoterol 250/10 mcg) for 7–14 days</td>
</tr>
<tr>
<td></td>
<td>If using 125/5 mcg: Increase dose (e.g. multiply dose by 2) to achieve equivalent of highest strength formulation of same medicine (fluticasone propionate/formoterol 250/10 mcg) for 7–14 days</td>
</tr>
<tr>
<td></td>
<td>If using 250/10 mcg: Increase ICS dose (e.g. multiply ICS dose by 4) by adding a separate fluticasone propionate inhaler for 7–14 days §</td>
</tr>
<tr>
<td><strong>Fluticasone propionate/salmeterol (Seretide)</strong></td>
<td>Increase ICS dose (e.g. multiply ICS dose by 4 †) by adding a separate fluticasone propionate/salmeterol inhaler for 7–14 days §</td>
</tr>
<tr>
<td></td>
<td>Increase fluticasone propionate/salmeterol if necessary to achieve total daily dose of salmeterol 100 mcg</td>
</tr>
</tbody>
</table>

* Second-line options for clinicians to consider when writing instructions for patients. The individual’s written asthma action plan should contain only one clear action for each situation.
† Increase only the fluticasone propionate dose (e.g. by prescribing a separate fluticasone propionate inhaler for 7–14 days in addition to the combination inhaler). The salmeterol dose should not be increased above 100 mcg/day.
§ This option may be preferred over oral corticosteroids for patients who experience significant mood effects or other significant side-effects (e.g. hyperglycaemia) with oral corticosteroids. It is unsuitable for patients who cannot tolerate increased risk of dysphonia (e.g. singers, actors, teachers) or who cannot afford an additional inhaler. For fluticasone furoate (Arnuity), the dose increase should take into account the fact that available formulations are medium and high doses, and that the inhaler must be discarded one month after opening.

**Notes**

The table provides options for adjustments the patient can make when asthma is getting worse (needing more reliever than usual, waking up with asthma, more symptoms than usual, asthma is interfering with usual activities, or when the use of
eliever is not achieving rapid relief from symptoms). After choosing the most suitable strategies for the individual, the clinician should translate these into clear, easy-to-follow instructions in the person’s written asthma action plan.

For some preventer formulations, the suggested option may result in doses above those recommended in TGA-approved product information. If high doses are needed, they should be continued for only 7–14 days then reduced.

Templates for written asthma action plans (including templates designed for people using various preventer regimens) are available from the National Asthma Council Australia.

Sources


Note: PBS status as at October 2016: Fluticasone furoate is not subsidised by the PBS, except in combination with vilanterol.

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