

national allergy strategy

Improving the health and quality of life of Australians with allergic disease



www.nationalallergystrategy.org.au

An initiative of

ascia

australasian society of clinical immunology and allergy



**Allergy & Anaphylaxis
Australia**

Your trusted charity for allergy support

The leading medical and patient organisations for allergy in Australia

Acknowledgements

Lead organisations



The leading professional organisation for allergy and clinical immunology in Australia and New Zealand
www.allergy.org.au



The leading patient support organisation for allergy and anaphylaxis in Australia
www.allergyfacts.org.au

Members of both of the lead organisations have generously donated their time and expertise to this project, particularly those listed in Appendix F.

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Stakeholder organisations

To ensure that the consultation process is inclusive, extensive and transparent, representatives from as many key stakeholder organisations as possible were invited to participate in the Allergy Summits and the development of the National Allergy Strategy. These organisations are listed in Appendix G.

Supporting organisations

It is important to note that the content of both the Allergy Summits and the National Allergy Strategy has been independently developed and has not been influenced by the following organisations that have provided unrestricted educational grants.

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Contents

	Page
Acknowledgements	1
Foreword	3
Mission, goals and guiding principles	4
<hr/>	
Rationale for the National Allergy Strategy	
Background	5
The case for change	8
<hr/>	
National Allergy Strategy - Strategic Action Plan	
Strategic Action Plan – Goal 1: Standards of Care	
Develop standards of care to improve the health and quality of life of people with allergic diseases.	12
Strategic Action Plan – Goal 2: Access to Care	
Ensure timely access to appropriate healthcare management for people with allergic diseases.	15
Strategic Action Plan – Goal 3: Information, Education and Training	
Improve access to best-practice, evidence-based and consistent information, education and training on allergic diseases for health professionals, people with allergic diseases, consumers, carers and the community.	19
Strategic Action Plan – Goal 4: Research	
Promote patient-focused research to prevent the development of allergic diseases and improve the health and quality of life of people with allergic diseases.	25
Strategic Action Plan – Goal 5: Prioritised Chronic Disease	
Recognition of allergic diseases as a prioritised chronic disease and a National Health Priority Area.	28
<hr/>	
Appendices	
A. Glossary of terms	29
B. What works – a review of existing evidence	33
C. How the National Allergy Strategy aligns with existing government initiatives	37
D. Lead organisations	41
E. Consultation process	42
F. Steering committee and working group members	43
G. Stakeholder organisations	45
H. Public health approach to allergic diseases	47
I. References	50
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Foreword

Allergic diseases have become increasingly important chronic disease and public health issues in Australia and other developed countries over the last two decades, contributing to increased demand for medical services, significant economic cost of care and reduced quality of life of people with allergic diseases and their carers. Currently affecting more than 4 million Australians, the rapid and continuing rise of allergic diseases is therefore a serious public health issue that requires action by all levels of government and the community.

To address these issues, the Australasian Society of Clinical Immunology and Allergy (ASCIA) and Allergy & Anaphylaxis Australia (A&AA), as the leading medical and patient organisations for allergy in Australia, have developed the first National Allergy Strategy for Australia in collaboration with key stakeholder organisations.

ASCIA and A&AA strongly believe that the development and implementation of the National Allergy Strategy is the most effective way to address chronic disease and public health issues and to provide an effective and coordinated plan to guide future actions to optimise the management of allergic diseases in Australia. Cost effective solutions are available and through a coordinated and planned approach many issues can be addressed by collaboration between stakeholders in all regions of Australia. Implementation of these solutions has the potential for significant health and economic gains to be made through prevention, early intervention, community education and awareness as well as better access to diagnostic and therapeutic allergy services.

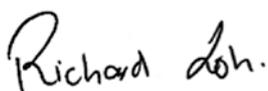
Recommendations contained in the National Allergy Strategy have been developed with extensive consultation involving health professionals, consumers and industry, including an Allergy Summit held in August 2014.

The National Allergy Strategy will help to:

- Address the most important issues in allergic diseases that currently affect patient care.
- Recognise allergic diseases as important chronic disease and public health issues by all levels of government.
- Provide direction to government agencies.
- Prevent allergic diseases, the most cost effective way to address the current allergy epidemic.
- Promote and expand existing best practice healthcare management.
- Ensure consistency in education, training, preventative measures and healthcare policies throughout Australia.
- Reduce unnecessary duplication of effort within and between different regions.
- Focus attention and research efforts on key allergic disease issues.

The National Allergy Strategy is the first comprehensive initiative in Australia that sets out to improve the assessment and treatment of all forms of allergic diseases. It is intended to be a national response to the rise in allergic diseases and will provide a long term plan with realistic directions for short to medium term actions. Our intention is for this document to be used by state and federal governments, healthcare funders, medical practitioners, other healthcare professionals, consumers, researchers and research funders, to guide future policies and actions relating to allergic diseases in Australia.

We look forward to working with all stakeholders in the implementation of the National Allergy Strategy.



A/Prof Richard Loh
Chair
National Allergy Strategy Steering Committee



Maria Said
Deputy Chair

Mission, Goals and Guiding Principles

Mission

The National Allergy Strategy mission is to improve the health and quality of life of Australians with allergic diseases and minimise the burden of allergic diseases on individuals, their carers, healthcare services and the community.

Goals

1. Standards of Care

Develop standards of care to improve the health and quality of life of people with allergic diseases.

2. Access to Care

Ensure timely access to appropriate health care management for people with allergic diseases.

3. Information, Education and Training

Improve access to best-practice, evidence-based and consistent information, education and training on allergic diseases for health professionals, people with allergic diseases, consumers, carers and the community.

4. Research

Promote patient-focused research to prevent the development of allergic diseases and improve the health and quality of life of people with allergic diseases.

5. Prioritised Chronic Disease

Recognition of allergic diseases as a prioritised chronic disease and National Health Priority Area.

Guiding principles

The following principles have guided the development of the National Allergy Strategy:

- All goals need to be '**SMART**':
 - ✓ Specific
 - ✓ Measurable
 - ✓ Achievable
 - ✓ Realistic
 - ✓ Targeted and timely
- Patients and consumers must be at the centre of everything we do, including taking into account quality of life issues, equity of access, optimal care and consideration of carers.
- All remedial actions should be evidence-based (where possible).
- A national collaborative and consistent approach should be taken to identify opportunities.
- There should be a provision of optimal care over efficiency of care.

In understanding the impact of allergic disease in the community it is important to be aware of some important principles:

- People with allergy are not always sick and therefore are not always **patients**.
- **Patients** are people who are currently accessing care for their allergic disease.
- **Consumers** are people who are not currently accessing care for their allergic disease, but may do so in future.
- **Carers** (including parents/guardians, families and other carers) also need consideration as they are not patients, but differ from consumers.

For a full glossary of terms, refer to Appendix A.

The Strategic Action Plan is not an exhaustive list of strategic actions, but rather aims to provide a guide for the implementation phase.

Background

Allergic diseases occur when a person's immune system reacts to substances that are normally harmless to most people. These substances are known as allergens and can be found in foods, airborne particles (e.g. dust mites, pollens or moulds), insect venoms and drugs.

Allergic diseases are amongst the fastest growing chronic disease and public health issues in Australia. They include food, insect and drug allergies (including life threatening severe allergic reactions called anaphylaxis), asthma, allergic rhinitis (hay fever) and eczema. Allergic diseases, particularly food allergy and drug allergy, are increasing in prevalence, complexity and severity. These issues are highlighted by the following facts:

- Almost 20% of the Australian population has a confirmed allergic disease and this prevalence is increasing¹.
- Hospital admissions for anaphylaxis have increased 5-fold in the last 20 years².
- Hospital admissions for food allergy induced anaphylaxis have increased 4-fold in the last 14 years².
- Recent studies show that 10% of infants have an immediate food allergy³.
- Although 5% of adults may be allergic to one or more drugs, up to 15% believe that they have drug allergy, and therefore are frequently unnecessarily denied treatment with an indicated drug⁴.
- Drug allergy induced anaphylaxis deaths have increased by 300%⁵ and drug allergy induced anaphylaxis presentations have trebled over the last 14 years².
- Conditions related to allergy such as food protein-induced enterocolitis syndrome (FPIES) and eosinophilic oesophagitis (EoE) are increasing^{6,7}.
- There are often misunderstandings about "allergy" and a temptation to label many medically unexplained illnesses as being due to an "allergy". This lack of public awareness about the impact and appropriate management of medically confirmed allergic diseases can result in the use of potentially unsafe alternative tests and therapies.
- Access to appropriate and timely medical care for allergic diseases is difficult, even in metropolitan areas, and particularly in rural and remote areas, due to the high number of patients and low number of appropriately trained healthcare professionals, resulting in long waiting times to see a specialist.

The impact of allergic diseases and the wide ranging issues in the current management of allergic diseases support a case for change relating to epidemiology, standards of care, access to care, training, education, research and health policy. The National Allergy Strategy is intended to provide an overarching framework for a national response to the rise in allergic diseases, including short, medium and long term objectives.

The rise of allergic disease

We currently have an incomplete understanding of why allergy, especially food allergy, has increased so rapidly in recent years, particularly in young children. It appears to be a complex interplay between a western lifestyle, environment and a genetic predisposition with no single trigger factor identified. However, the following risk factors are starting to emerge from epidemiological and controlled studies⁸⁻¹¹:

- Development of food allergy due to skin exposure to allergens (e.g. use of nut oil based moisturisers in infants with eczema).
- Filaggrin loss of function gene mutations.
- Delayed introduction of allergenic foods (e.g. egg and peanut).

Other proposed risk factors (with only indirect evidence of an association) include¹²⁻¹⁵:

- The hygiene hypothesis, which proposes that less exposure to infections in early childhood, is associated with an increased risk of allergy. A more recent version of the hygiene hypothesis proposes that the type of microorganisms to which the mother, baby and infant are exposed to and colonised with may alter their risk of developing allergic diseases.
- Methods of food processing (e.g. roasting versus boiling of peanuts).

- Vitamin D status (e.g. deficiency has been linked to higher risk of developing allergic diseases).
- Risk factors linked to socio-economic status, city versus rural residence, or “western lifestyle”.

There are many studies regarding allergy prevention being undertaken, however, to date there are no clear guidelines on how to prevent food allergy. The following infant feeding advice is currently provided by ASCIA¹⁶:

- Breastfeed for at least 6 months.
- There is no evidence that restricting a mother’s diet during pregnancy or during breastfeeding reduces the risk of developing food allergy. Such restrictions can adversely affect growth in babies and is not recommended.
- Continue to breastfeed whilst introducing solid foods from 4-6 months when the infant is ready.
- Do not smoke during pregnancy.
- Avoid exposure to tobacco smoke in the home.

In some cases there are inconsistencies between other Australian guidelines and ASCIA guidelines, particularly in relation to infant feeding, which may result in:

- Confusion regarding infant feeding advice.
- Use of alternative/unorthodox practitioners for advice which is frequently not evidence-based and can result in unnecessary dietary restrictions.
- Delayed introduction of solids which can result in missing developmental milestones and increase problems with growth, texture acceptance and speech.
- Unnecessary dietary avoidance to siblings of food allergic children for fear they will be “allergic” (based on recent evidence, this may increase the risk).

Confirmed allergic disease

Some people consider themselves to be allergic, but do not have confirmed allergy. This may be related to confusion between food allergy, metabolic conditions (e.g. lactase deficiency or fructose intolerance), food aversion, so-called food intolerance or iatrogenic disorders introduced in individuals undertaking unproven forms of “allergy testing” or following consultation with alternative/unorthodox practitioners. The result can be unnecessary dietary restrictions which impact on quality of life, increase the risk of developing new allergies and increases the possibility of malnutrition, particularly in children.

While up to 5% of adults may be allergic to one or more drugs⁸, there is common confusion regarding the differences between drug allergy, side effects or symptoms (e.g. rashes) that may occur due to the condition being treated, rather than the drugs. Some individuals also unnecessarily avoid certain drugs because of an alleged family history of adverse reactions. Within the medical community, there is a low threshold to label any adverse reaction as “allergy”, with many patients inadequately assessed at the time of the incident. This has resulted in a significant proportion of the population (up to 15%) believing that they have “drug allergy”, and therefore they may be unnecessarily denied treatment with the preferred drug¹⁷. Failure to accurately diagnose drug allergy may result in sub-optimal treatment with less effective and/or more expensive drugs. In people labelled as having penicillin allergy this can result in the use of more broad-spectrum antibiotics increasing the risk of antibiotic resistant strains, increased morbidity with more ICU admissions and longer hospital stays¹⁸.

Some consumers and health professionals without training in allergy have a poor understanding of the indication for and limitations of an “allergy test”. Clinical history along with allergy testing is used in the identification of allergen triggers, including foods, dust mites, pollens, moulds, insect venoms and drugs. Tests to identify IgE sensitisation to an allergen include skin prick testing and serum specific IgE (blood testing). Medically supervised allergen challenges may also be undertaken to confirm a diagnosis or determine if a patient has outgrown an allergy.

Complexity of allergy

Allergic diseases commonly occur together in the same individual and frequently affect several organ systems. The genetic influence of allergic diseases frequently results in the clustering of a number of affected individuals in the same family. The so-called “allergic march” may progress from early onset atopic eczema and food allergy, to the development of allergic rhinitis and allergic asthma in an individual.

Allergic diseases also vary in severity and complexity. For example, allergic rhinitis:

- Can range from mild symptoms responding to self-management to severe symptoms unresponsive to first line treatments and symptoms profoundly affecting work, school performance and quality of life.
- If poorly treated, may at times be complicated by higher rates of middle ear and sinus infections, requiring medical or surgical intervention.

Food allergies can also range from mild symptoms to life threatening allergic reactions (anaphylaxis) and nutritional compromise, particularly if the individual has multiple food allergies.

With the increase in multiple allergies and allergic diseases in individual patients and the increase in food allergies, anaphylaxis and severe asthma, the impact of severe and complex allergies is considerable. Issues arising from this include:

- Patients are often referred to a succession of different medical specialists, potentially resulting in confusion.
- Other medical specialists often fail to recognise and respect the significance of allergic triggers in the overall management of complex allergic disease. For example:
 - A child with peanut allergy will often also have eczema, allergic rhinitis and asthma, so-called ‘multi-system allergic disease’.
 - Poorly controlled asthma in a patient with food allergy is a risk factor for life-threatening and fatal allergic reactions.

- Efficient communication can be difficult due to the complexity and change in food allergies within the individual over time.

There has been a significant increase in the complexity and severity of a range of allergic diseases:

- Within the acute healthcare sector, there is a lack of direct referral or consultation with a clinical immunology/allergy specialist when drug allergy impacts on first line medical management. There is a need for a national drug allergy alert system to register proven drug allergy. Pharmacists, if up-skilled in drug allergy, could make a significant contribution to antibiotic surveillance and appropriate medication prescribing for people with proven drug allergy.
- More severe cases of anaphylaxis in infants are now being seen in hospital emergency departments, with a 3-fold increase in anaphylaxis admissions in children aged 0-1 year from 38 cases in the financial year 1998/99 to 115 in 2011/12, equivalent to a change from 15 to 100 cases per 100,000 population in that age group¹⁹. Comparable data for those aged 1-4 years shows an increase from 7 to 34/100,000 population in that age group over the same time period. This does not take account of the cases treated and discharged without being admitted. In the past, children under one year of age have not been prescribed adrenaline autoinjectors as the likelihood of fatal anaphylaxis was rare. With an increasing number of infants now requiring adrenaline for anaphylaxis, adrenaline autoinjector prescribing practices need to be reviewed.
- The relationship between food allergy and other co-morbid conditions such as asthma and eczema also have implications on management and possibly prevention of allergy progression and/or poor patient outcomes.
- While identification of risk factors (both genetic and environmental) for allergy development are starting to emerge, our ability to prevent the risk of new allergic diseases or intervene in established allergic diseases is currently limited.

The Case for Change

Allergic diseases are amongst the fastest growing chronic disease and public health issues in Australia, currently affecting more than 4 million Australians. The rapid and continuing increase in the prevalence and impact of allergic diseases on the health system and the quality of life of patients and carers demands an urgent response. Development and implementation of a National Allergy Strategy for Australia is the most effective way to address these issues.

There have been significant efforts and advancements in some areas such as the food industry who have worked both with and without government support. However, there are still many areas where improvements are needed.

Impact of allergic diseases

- Allergic diseases have a significant economic impact, estimated at ~AU\$30 billion in 2005¹ with medication costs related to treatment of allergic rhinitis alone estimated to be \$226.8 million in 2010²⁰.
- Current public health policies overlook allergic diseases, causing great cost to society through hospital admissions and lost productivity, and to individuals by diminishing their quality of life.
- Even non life-threatening allergic diseases can lead to absenteeism or lost productivity by those attending work when ill ('presenteeism'), poor academic performance and restricted social interaction due to the symptoms and the need to avoid certain allergens²¹.
- Many patients have increased visits to their primary health care provider, if their allergic diseases are not being managed effectively.
- Allergies to food, insects and drugs can be life-threatening and particularly for food and insect allergy, this can impact greatly on a person's quality of life^{22,23}. Those at high risk of anaphylaxis live with the very real daily fear of a life-threatening severe allergic reaction.
- Optimal management of allergic diseases can help to reduce the likelihood of further development of associated allergic diseases and complications. (e.g. optimal management of allergic rhinitis may reduce the risk of developing asthma or obstructive sleep apnoea).

- Food allergies and eczema disproportionately affect children and teenagers, impacting on their school performance, social life and general quality of life²⁴. Some allergies, particularly food and insect allergies, result in anaphylaxis, which more frequently occur outside the home (e.g. school). Despite this, school staff are often not prepared when facing a child with a severe allergic reaction during school hours.
- Allergic diseases affect not only the patient but also their families in many ways (e.g. time off from work to attend medical appointments, cost of allergy medications many of which are not PBS subsidised, extra time caring for the child with allergic disease).
- Allergic diseases may affect career choices, including those pursuing careers within the Australian Defence Forces, where the presence of food, drug or insect allergy precludes enlistment according to current policies. Allergies to natural latex rubber or food allergy may limit or restrict ongoing careers in nursing, medical or food catering services, respectively.

Access to care issues

It is essential that people with allergic diseases are able to access appropriate care by trained and knowledgeable health professionals. Whilst there are existing issues with access to care, these are likely to worsen with the increasing prevalence of allergic diseases. Existing issues include:

- Access to appropriate care is often delayed with long waiting times to see medical specialists such as clinical immunology/allergy specialists, dermatologists, paediatric gastroenterologists and allied health professionals (e.g. allergy dietitians).
- Long waiting times for clinical immunology/allergy specialist appointments has resulted in patients seeking advice from alternative/unorthodox health practitioners. In a NSW coronial enquiry, the coroner made a recommendation that an awareness campaign regarding the dangers of food and other allergies and anaphylaxis should also target practitioners of homeopathy and naturopathy²⁵.

- Absence of appropriate care carries a significant risk of serious adverse events in a relatively well population and increases healthcare encounters and associated costs.
- There is a lack of allergy and clinical immunology standards related to what a tertiary hospital should be providing as “core business”.
- Patients are not being referred by primary health care providers for assessment by a clinical immunology/allergy specialist, who can accurately diagnose, educate and initiate best practice management (including allergen immunotherapy where indicated).
- Access to care in rural and remote areas is inequitable, particularly as most specialists are based in cities.
- Patient access to prompt specialist follow up after anaphylaxis is currently sub-optimal.
- Individuals at risk of food allergy induced anaphylaxis and their carers have higher than average rates of anxiety²⁶⁻²⁸. Some studies regarding post-traumatic stress²⁹ indicate that some patients may require psychological assessment and support after experiencing anaphylaxis.
- Within allergy services there are resource bottlenecks that can undermine the efficiency of service delivery.
- Use of media to promote evidence-based consumer information on all aspects of allergic diseases is suboptimal.
- While many allergy services are provided outside of hospital ambulatory care settings (e.g. private practice or privatised hospital clinics), tertiary hospital based services are essential to provide:
 - Care for some very complex cases.
 - Inpatient consultation services.
 - Food or drug challenges.
 - Education for medical students, nursing and medical staff.
 - Centres of research from which new interventions may arise.
- Other conditions such as FPIES and EoE are at times difficult to diagnose and may require management by a number of subspecialties and a team approach.

Standards of care issues

Untreated or poorly managed allergic diseases result in preventable morbidity and unnecessary hospital admissions. Optimal clinical care is essential for the diagnosis and management of allergic diseases and to ensure optimal patient outcomes. Current issues relating to standards of care include:

- Inconsistencies in the prevention and management of allergic diseases across Australia, including gaps in:
 - Knowledge of allergic disease management of many health professionals.
 - Anaphylaxis management staff education and policies in schools and childcare.
 - Anaphylaxis management pathway within the acute healthcare setting, inclusive of acute anaphylaxis protocols, discharge planning, provision of an ASCIA Action Plan for Anaphylaxis, adrenaline autoinjector prescription and direct referral to a clinical immunology/allergy specialist from emergency departments.
- Effective transitioning of patients transferring from paediatric to adult care is required.
- Work with food industry to improve communication of risk for packaged food needs to continue.
- Inconsistent food recall processes across regions that can place individuals with food allergy at increased risk.
- A need to continue working with the food service industry to improve education and work practices to enhance the safety of food allergic customers.
- Lack of awareness and understanding of legislation surrounding food, particularly in some parts of the food service industry, consumers with food allergy and carers of children with food allergy.
- Lack of standardised protocols for the diagnosis and management of suspected drug allergy.

Education and training

In order to deliver high quality care and adequate access to care it is imperative to ensure that education in the recognition, diagnosis and management of allergic diseases is improved. There are significant gaps in education in relation to allergic diseases as outlined below:

Health professionals:

- Although allergic diseases negatively impact on many lives, training of health professionals in the management of allergic diseases is still neglected. As a result there are still gaps in knowledge regarding the management of allergic diseases in medical and allied health professionals.
- Increased evidence-based teaching about allergic diseases in medical, nursing, pharmacy, dietetic and paramedical curricula is required.
- Implementation of national programs, improved medical and allied health training and more scientific research to achieve better prevention and management of allergic diseases, is needed in order to limit its evolution and cost to society.
- There are a limited number of training opportunities for specialist and primary healthcare providers.

Community:

- Insufficient community awareness of allergic diseases including the severity of some allergic conditions. Appropriate communication and education of patients is essential and often lacking. For example, some patients are not provided with:
 - Training on how to use adrenaline autoinjector devices or intranasal corticosteroid sprays and are sometimes given erroneous information about the circumstances in which they should be used.
 - Advice on how to avoid allergic triggers, identify high risk foods, interpret food labels or how to recognise mild, moderate and severe allergic reactions.
- There is a lack of evidence-based education regarding food safety for food allergy in the food service sector.

- There is a lack of education in food allergy issues for compliance officers, who are involved in investigating and enforcing current food safety and labelling legislation that considers food hygiene issues to the exclusion of food allergy-related issues³⁰. This has now been addressed in part by the recent endorsement of an “Undeclared Allergen Incident & Investigation Protocol” by the Implementation Subcommittee for Food Regulation (ISFR), which provides guidelines and checklists for allergen investigations at retail/foodservice, manufacturing and food import businesses. For details go to: www.health.gov.au/internet/main/publishing.nsf/Content/foodsecretariat-isc9.htm
- There are inconsistencies in educational resources for health professionals, patients, carers and the broader community.

Allergy research

Whilst research regarding the epidemiology of allergic diseases in early childhood and food allergy is well established, other aspects of allergy research, including the spectrum and impact of allergic diseases in adults are lacking. Research into treatments, drug developments, health outcomes and the dissemination of research findings are important areas that require more resourcing.

In order to prevent and cure allergic diseases, investment and advances in patient focused research relating to allergic diseases is critical. This will help identify and address gaps in knowledge and practice. A coordinated regional approach is the optimal way to progress research. Currently there is:

- Limited funding for allergy research – only 5 out of 607 successful project grants in 2014 NHMRC round were linked with allergic disease³¹.
- No structured reporting system and resources to capture, collate and analyse data on the incidences of anaphylaxis in Australia.
- An urgent need for research translated to practice, including implementation of best diagnostic practice into clinics.

- A need for the development of allergen immunotherapy for people with food or inhaled allergy to be further advanced.
- A need for more assessments of the environment in homes and workplaces for chronic exposure to allergens.
- Insufficient information about the most useful tests to be used to quantify allergens in food products to inform appropriate food labelling regulations and safety.

Health policy and guideline issues

Management of allergic diseases transcends traditional state and territory boundaries of health policy, since it affects multiple government and non-government agencies. This impacts on:

- Breastfeeding, introduction to solid foods and weaning advice for new mothers.
- Infant feeding and dietary guidelines.
- School and childcare health and education policies.
- Food service industry training and awareness.
- Unnecessary use of second choice drugs and/or more broad-spectrum and expensive antibiotics in patients with unverified penicillin allergy.
- First aid treatment standards.
- Recruitment, deployment and retention policies of the defence forces.
- Access to allergen immunotherapy to help decrease the burden of allergic disease (including progression of allergic disease) and improve quality of life.
- Public vaccination campaigns (e.g. egg allergic individuals unnecessarily avoiding vaccines).
- Applications to Pharmaceutical Benefits Scheme (PBS) for new immunomodulating treatments.
- Recognition of allergen immunotherapy as an evidenced based treatment option that is subsidised by PBS or private health funds.

- Encouraging private health funds to substitute rebates for evidence-based therapies (such as allergen immunotherapy) to replace rebates for methods that are unproven and not evidence-based, that claim to test for or treat allergies.
- Review of hospital and government funding of procedures such as ultrarush allergen immunotherapy, intradermal skin testing for drug allergy and food allergen challenges.

There is a significant evidence-practice gap in management (including self-care) of allergic diseases. Innovative community and healthcare educational strategies must be developed to address this gap. This may need to be further supported by national legislative changes that include mandatory training for the food industry and health professional workforce.

Strategic Action Plan - Goal 1: Standards of Care

Develop standards of care to improve the health and quality of life of people with allergic diseases.

Outcomes in allergic disease management will be enhanced through the development of standards of care, including standardised protocols and guidelines, which will assist health professionals with ongoing management and acute care of people with allergic diseases.

Development of a quality improvement process and evaluation system for people with allergic diseases will help maintain an appropriate and optimal standard of care.

Priority objectives

- Improve standards in allergic diseases management by developing national benchmarking of outcomes of pharmacological and non-pharmacological allergic diseases management interventions.
- Ensure quality use of medicines and interventions for allergic diseases management in the community and improve systems to detect and manage unsanctioned use.
- Ensure optimal management of allergic disease processes, potentially helping to reduce the likelihood of further development of associated allergic diseases and complications.

Objectives	Strategic actions
Health care	
Ensure effective management of allergic diseases and optimal patient outcomes.	<ul style="list-style-type: none"> ■ Develop national benchmarking of outcomes for pharmacological and non-pharmacological management interventions to improve standards in allergic disease management. ■ Develop a strategy to collect accurate data with regards to patient outcomes to ensure that benchmarks are achieved. ■ Improve systems to detect and manage off-label use to ensure quality use of medicines for allergic disease management in the community.
Develop and implement a national standardised framework for the prevention, diagnosis and management of allergic diseases to improve consistency and accuracy of information.	<ul style="list-style-type: none"> ■ Facilitate communication across all Australian regions at every level to adopt standardised guidelines: <ul style="list-style-type: none"> - Standardised guidelines for acute management of anaphylaxis to all hospital emergency departments. - Standardised infant feeding advice. - Standardised training and anaphylaxis management guidelines for all staff in schools, childcare and child-based sporting facilities. - Standardised first aid anaphylaxis education and training. - Develop national guidelines for allergy testing including an expansion of the number of subsidised items on any one occasion, and consider subsidies for new and more precise tests using recombinant allergen reagents under specific circumstances. - Standardised guidelines for recognition and management of anaphylaxis in the community.
Adoption of a shared care model.	<ul style="list-style-type: none"> ■ Develop standardised management protocols and clear referral guidelines. ■ Propose shared care models that include data collection and economic analysis.

Objectives	Strategic actions
Health care (continued)	
Develop formal standardised referral guidelines.	<ul style="list-style-type: none"> ■ Develop GP and paediatrician referral guidelines incorporating criteria or 'red flags'. ■ Ensure routine referral to a specialist dietitian for patients with conditions such as multiple food allergies or for patients who need to avoid a food group, within a specialist service multidisciplinary team framework, closely supported by clinical immunology/allergy specialists. ■ Develop a referral guideline for pharmacists (e.g. for patients with suspected severe allergy, food allergy and severe or persistent allergic rhinitis).
Appropriate use and funding for allergy tests and procedures including skin testing and food or drug challenges.	<ul style="list-style-type: none"> ■ Investigate the feasibility of limiting skin allergy testing rebate to clinical immunology/allergy specialists and other medical practitioners who have completed approved training and ongoing education in allergy. ■ Apply for Medicare rebates for food and drug allergen challenges performed or supervised by clinical immunology/allergy specialists.
Food industry including food service sector	
Improve the process for reporting allergic reactions to foods.	<ul style="list-style-type: none"> ■ Identify the stakeholders involved in reporting allergic reactions to foods and encourage consultation with national allergy patient support organisations. ■ Improve consistency of communication regarding food legislation (e.g. Food Standards Code and allergen requirements) across all Australian regions. Liaise with the Implementation Subcommittee on Food Regulation (ISFR) with regards to the dissemination of protocols and the protocols filtering down to compliance officers. ■ Establish a standardised process for reporting allergic reactions to foods eaten in a food service facility when a food allergy has been disclosed, and reactions occurring to packaged foods when the allergen is not declared in an ingredient list, across all Australian regions. <ul style="list-style-type: none"> - Establish a doctor instigated reporting system similar to that of communicable diseases. - Consider a national 1300 number service for reporting food-borne illness, managed by a national body. ■ Establish a standardised and effective communication process for informing consumers about products recalled due to undeclared allergens. ■ Apply for additional resourcing to adequately cover the assessment of allergen management and education of the food service sector. ■ Obtain and communicate data about food recalls and food induced allergic reactions and incidents to regulators and decision makers to assist in policy decisions and priorities.

Objectives	Strategic actions
Food service sector	
Establish the process for inspection and/or auditing food services for food allergy.	<ul style="list-style-type: none"> ■ Develop and implement a national food safety program for food service which includes a nationally standardised food services audit tool that incorporates food safety for food allergy.
Food labelling	
Improve the communication of allergen information.	<ul style="list-style-type: none"> ■ Develop a framework for permissive labelling for food allergy. ■ Develop templates/standardised wording for food service outlets (e.g. information encouraging customers to declare food allergies). ■ Encourage greater use of Product Information Forms (PIF), especially for overseas suppliers.
Improve labelling of imported products.	<ul style="list-style-type: none"> ■ Request a higher priority for checking compliance and accuracy of labelling upon importation, particularly when suppliers may change (e.g. supermarket “home brand” products) or those compiled from local and imported ingredients. Increased education of food importers is required to ensure all allergens are listed. ■ Develop a process for ensuring accurate food labelling stickers (including accurate translations) are placed on the product. Ensuring corrective over-stickers are applied where required.
Develop a nationally consistent approach to precautionary allergy statements (PAS) and risk assessment.	<ul style="list-style-type: none"> ■ Continue to work with Allergen Bureau and Australian Food and Grocery Council (AFGC) to define a uniform meaning and understanding of precautionary allergen statements (e.g. “May contain...”) and level of risk. ■ Develop standardised wording for all food products regarding allergy advice to make it easier for patients and carers to understand the level of risk. ■ Educate small to medium food manufacturers, health professionals and the community on Voluntary Incidental Trace Allergen Labelling (VITAL[®]).
Improve communication of changes to food labelling standards and changes to product composition.	<ul style="list-style-type: none"> ■ Consider developing a notification system to inform professionals and/or consumers of upcoming changes to food allergen labelling or standards currently for consultation (i.e. changes to what must or mustn’t be declared on food labels (a recent example is Lupin as an allergen Proposal P1026). ■ Communicate the need for mandatory declaration of changes to a food product’s composition where the change results in addition or removal of a common food allergen (as listed in food standards 1.2.3) on a food label.

Strategic Action Plan - Goal 2: Access to Care

Ensure timely access to appropriate health care management for people with allergic diseases.

People with allergic diseases will have timely access to best-practice and evidence-based advice and therapy, together with effectively coordinated healthcare and support, as close as possible to where they live.

People with complex allergic diseases will have access to a multidisciplinary team of appropriately skilled health professionals, (virtual or actual), both in community and in hospital settings according to need.

Health services for people with allergic diseases will be developed and evaluated in collaboration with people with allergic diseases and/or their carers.

Priority objectives

- Develop and evaluate patient focused service delivery for allergic disease management at primary, secondary and tertiary levels, which provide multidisciplinary assessment, care and support as a part of comprehensive health care.
- Ensure meaningful and timely communication about patient management between health professionals and also between health professionals and patients.

Objectives	Strategic actions
Access to specialist care	
Measure access to specialised allergy treatment against an agreed standard.	<ul style="list-style-type: none"> ■ Develop a standard of care for referral of patients (children and adults) to access allergen challenge services.
Improve access to clinical immunology/allergy specialists for severe/complex cases and cases where quality of life will be improved by specialist intervention.	<ul style="list-style-type: none"> ■ Increase the number of training positions (public and private practice) for clinical immunology/allergy specialists. ■ Increase the profile of allergy to medical students, interns, residents and registrar trainees. ■ Incorporate private practice training in clinical immunology/allergy specialist training and encourage advanced trainees to work in private practice once they complete training. ■ Increase resources (e.g. funded tertiary hospital based positions) for clinical immunology/allergy specialists to allow for greater training capacity at public hospitals. It is essential to provide experience to all advanced trainees (e.g. GP, ED, dermatology, general medicine and paediatricians). ■ Increase opportunities for more joint hospital and private appointment employment models for clinical immunology/allergy specialists. ■ Provide more opportunities for post-graduate education for GPs and general paediatricians. ■ Provide sessional places for accredited GPs and general paediatricians in public hospital allergy clinics.

Objectives	Strategic actions
Access to specialist care (continued)	
Increase resources to allow clinical immunology/allergy specialists in the private sector to function more efficiently.	<ul style="list-style-type: none"> ■ Apply for Medicare item numbers for allergy treatments such as medically supervised food and drug allergen challenges. ■ Encourage stronger partnership between private and public allergy services. ■ Reduce excessively long waiting times for hospital based food allergen challenge clinics. ■ Increase availability of services in the private sector.
Reduce excessively long waiting times for hospital based food challenge clinics.	<ul style="list-style-type: none"> ■ Research to ascertain food challenge risk so that only moderate to high risk cases are undertaken in hospital clinics. ■ Develop a food challenges at home information sheet for when medically advised to do so by the patient’s clinical immunology/allergy specialist. ■ Develop and implement nurse led food allergen challenge workshops to provide carers with skills to home challenge, where appropriate. ■ Develop and implement patient or carer administered food allergen challenge with nursing supervision for low risk but high anxiety patients.
Access to “fit for purpose” allergy day unit.	<ul style="list-style-type: none"> ■ Standardise allergy clinic facilities and staffing requirements. ■ Create criteria for hospital allergen challenges. ■ Standardise allergen challenge protocols and criteria for positive and negative challenge interpretation.
Develop clear scope of practice and referral guidelines for allergy healthcare providers.	<ul style="list-style-type: none"> ■ Establish a working party comprised of clinical immunology/allergy specialists, general practitioners, physicians, paediatricians and credentialing bodies to define a scope of practice for non-clinical immunology/allergy specialists who work in the area of allergy. ■ Define scope of practice and level of specialist team supervision and integration required for clinical immunology/allergy specialist and non-specialist (medical, nursing and allied health) providers. ■ Develop clear referral pathways for each allergic disease, including need and most appropriate timing of clinical immunology/allergy specialist referral and the role of primary care providers in supporting care of these patients including shared care.
Shared Care Model of Practice	
Improve access to care by developing a shared care model of practice.	<ul style="list-style-type: none"> ■ Develop a shared care model of practice for GPs and other health professionals which needs to define: <ul style="list-style-type: none"> - Training and up-skilling requirements. - Accreditation. - Scope of practice.

Objectives	Strategic actions
Shared Care Model of Practice (continued)	
Provide nursing support to “approved” GPs, paediatricians and physicians.	<ul style="list-style-type: none"> ■ Provide specialist allergy nurses and nurse practitioners from the public sector to “approved” GP practices to assist with diagnosis of less severe cases.
Improve hospital allergy/immunology service structures to improve access and quality of care.	<ul style="list-style-type: none"> ■ Create a multi-disciplinary framework to streamline roles and enhance quality and efficiency of service delivery such as food allergy (clinical immunology/allergy specialists, specialised allergy nurses, allergy dietitians) and drug allergy (clinical immunology/allergy specialists, pharmacists, infectious disease physicians, anaesthetists). ■ Incorporate allergy nurse practitioner roles into clinical team structure. ■ Develop allergy nursing roles within services. <ul style="list-style-type: none"> - Increase the number of nursing positions directly supporting medical staff in clinics to overcome clinical bottlenecks. - Maximise allergy nursing expertise for education, case management, and nurse led interventions in a specialist supported team framework.
Reduce inappropriate referrals to clinical immunology/allergy specialists.	<ul style="list-style-type: none"> ■ Up-skill GPs, paediatricians and physicians to manage cases that do not meet referral criteria (and so fall into their scope of practice) OR to enhance management before or between allergy service appointments. ■ Develop clear referral pathways. ■ Improve communication between GPs, paediatricians and physicians with clinical immunology/allergy specialists and other providers (e.g. dietitians, psychologists). ■ Ensure effective communication of existing patient education resources (including patient support organisations) to assist GPs, paediatricians and physicians. ■ Provide standardised food and drug allergen challenges for paediatric and adult patients including indications for referral.
Improve access to allergy nurse practitioners to allergy training in order to improve access to care.	<ul style="list-style-type: none"> ■ Train nurse practitioners for: <ul style="list-style-type: none"> - Case management of complex patients, shared care of injection allergen immunotherapy reviews. - Initiation and management of sublingual allergen immunotherapy. ■ Implement nurse-led allergic disease clinics for patients with eczema and allergic rhinitis. ■ Train nurse practitioners to support transitioning patients from paediatric to adult care.

Objectives	Strategic actions
Shared Care Model of Practice (continued)	
<p>Improve access to care in rural and remote areas.</p>	<ul style="list-style-type: none"> ■ Promote greater use of Telehealth. ■ Facilitate rural and remote paediatricians and physicians to up-skill or dual train to specialist level, to provide local allergy services. ■ Encourage tertiary units to assist and support regional paediatricians and physicians to gain skills and ongoing professional development by innovative education modules including Telehealth and direct onsite training. ■ Encourage tertiary support of rural and remote allergy clinics with suitably up-skilled and trained nursing staff incorporating inpatient food allergen challenge services with agreed protocols and patient selection. ■ Publish “approved” GPs and paediatricians with appropriate training in allergy. ■ Improve communication between pharmacists, GPs and paediatricians with clinical immunology/allergy specialists and other providers (e.g. clinical nurse specialists, allergy dietitians) through Telehealth to provide guidance on patient management and referral. ■ Offer incentives to clinical immunology/allergy specialists to practice in rural and remote areas.
<p>Improve access to treatments for allergic diseases.</p>	<ul style="list-style-type: none"> ■ Improve affordable access to appropriate medications (e.g. intranasal corticosteroid sprays, allergen immunotherapy, elemental formula for selected adults >18 years with eosinophilic oesophagitis). ■ Develop anaphylaxis aware pharmacy program with access to emergency supplies of adrenaline autoinjectors for patients experiencing anaphylaxis in the community who do not carry an adrenaline autoinjector.
<p>Improve access to allied health professionals with allergy training to improve quality of life.</p>	<ul style="list-style-type: none"> ■ Promote appropriate referral to allied health professionals with expertise in allergy (e.g. dietitians, pharmacists, psychologists) which are linked in and/or closely supported by an allergy specialist team. ■ Under the MBS team care arrangements, extend the rebated allied health service visit to 5 visits per allied health service (not combined). Currently only 5 allied health services visits per calendar year combined are available under this plan which is insufficient for patients with complex medical needs who may need to access more than one allied health provider, or require more than 5 visits. ■ Increase dietetic services at major hospitals and where possible integrate allergy dietitians within the allergy service multi-disciplinary team structure. ■ Investigate the possibility of a process for identifying food allergy skilled dietitians.

Strategic Action Plan - Goal 3: Information, Education and Training

Improve access to best-practice, evidence-based and consistent information, education and training on allergic diseases for health professionals, people with allergic diseases, consumers, carers and the community.

Comprehensive education and training in allergic diseases will give medical, nursing and allied health professionals in the public and private sectors, the knowledge, resources and confidence to deliver optimal advice and ongoing care.

Community education will assist people with allergic diseases, their carers and others to have sufficient knowledge and confidence to seek appropriate advice, education and information about evidence-based treatment options, to enable them to better understand and manage their allergic diseases.

Educational and management initiatives will be promoted (if existing), or developed and evaluated in collaboration with patient support organisations.

Priority objectives

- Develop (where required) and disseminate accurate (evidence-based), sustainable, consistent (across all regions of Australia), innovative and accessible resources.
- Train and support health professionals in best-practice evidence-based allergic diseases assessment and management.
- Establish and promote systems and protocols/guidelines to ensure optimal management of allergic diseases.
- Improve community awareness and understanding of the nature of allergic diseases and best practice management.
- Provide easily accessible information and support programs to assist people with allergic diseases, carers and the broader community (e.g. food industry, schools, playgroups, clubs, workplaces), to understand and be more proactively involved in managing allergic diseases. Translated materials for those with English as a second language should be available.

Objectives	Strategic actions
Health professionals	
Incorporate allergic diseases into undergraduate and postgraduate training for health professionals.	<ul style="list-style-type: none"> ■ Include standardised evidence-based teaching in allergic diseases in medical and nursing curriculums and continuing professional development. <ul style="list-style-type: none"> - Liaise with Medical Deans Australia and New Zealand (MDANZ). - Liaise with university and vocational nursing education providers. - Liaise with colleges (e.g. Royal Australasian College of Physicians, Royal Australian College of General Practitioners, Australian College of Rural and Remote Medicine and Australasian College for Emergency Medicine). ■ Include standardised evidence-based teaching in allergic diseases for allied health professionals (e.g. dietitians, pharmacists). <ul style="list-style-type: none"> - Liaise with Pharmacy Guild of Australia and Pharmaceutical Society of Australia regarding Intern Training Program. - Advocate with other health professional bodies. ■ Develop or improve training resources specific to paramedics and ambulance officers.

Objectives	Strategic actions
Health professionals (continued)	
<p>Improve access to accurate and consistent health professional education.</p>	<ul style="list-style-type: none"> ■ Promptly translate research results into practice: <ul style="list-style-type: none"> - Establish national and international networks to share information and post enquiries. - Provide regular multidisciplinary training updates for health care providers. ■ Develop GP and paediatrician referral guidelines. ■ Work with relevant health professional bodies to identify appropriate methods of delivery of CPD material. ■ Promote the use of existing ASCIA e-training courses for health professionals. ■ Develop downloadable resource suitable for health professionals without regular internet access as a shelf resource. ■ Create hub-spoke rural and remote allergy networks with a specialist tertiary centre as the hub (will allow for improved access to care and improved education for GPs, paediatricians and allied health professionals currently providing care in the local region). ■ Educate health professionals on transitioning patients from paediatric to adult care. ■ Provide allergy education of health professionals in all health services. ■ Translate allergy and anaphylaxis research outcomes.
<p>Up-skill general, paediatric nurses, community health nurses, child health nurses, paediatric practice nurses and midwives.</p>	<ul style="list-style-type: none"> ■ Expand allergy component of nursing and midwives training. ■ Increase education for nurses and midwives relating to food/drug allergy safety issues. ■ Promote the use of existing ASCIA e-training courses for health professionals. ■ Develop a mentoring program for nurses and midwives in private and public practice, particularly those newly working in allergy.
<p>Up-skill allied health professionals (e.g. dietitians, pharmacists, psychologists).</p>	<ul style="list-style-type: none"> ■ Expand allergy component of dietetic training. ■ Increase training for dietitians relating to food labelling and food safety issues. ■ Promote the use of existing ASCIA e-training courses for health professionals. ■ Incorporate an allergy component to the pharmacy intern training program. ■ Develop a mentoring program for dietitians in private and public practice, particularly those newly working in allergy.

Objectives	Strategic actions
Schools and childcare	
Provide national evidence-based standardised training for school and childcare staff.	<ul style="list-style-type: none"> ■ Develop and implement national standardised training for school and childcare staff across all Australian regions (this includes face to face (FTF) training provision by first aid training providers). <ul style="list-style-type: none"> - Liaise with Australian Skills Quality Authority (ASQA) to implement auditing processes for courses containing allergy and anaphylaxis. - Liaise with Australian Resuscitation Council regarding guidelines underpinning anaphylaxis courses accredited by ASQA. ■ Create consistent guidelines with regards to training requirements across all Australian regions including pre-service teachers, casual and relief staff. Training requirements should be reasonable in terms of cost and frequency.
Peer education.	<ul style="list-style-type: none"> ■ Develop and implement age appropriate resources including curriculum resources about allergic diseases, for children in schools and childcare.
Resources to assist with day to day management.	<ul style="list-style-type: none"> ■ Develop and disseminate resources such as checklists to assist schools and childcare in the management of anaphylaxis.
Patients and carers	
<p>Improve patient and carer education about the diagnosis and management of allergic diseases.</p> <p>Self-care, informed by authoritative and widely available information and advice from primary care specialists, pharmacists and patient support organisations (with Medical Advisory Boards) offers great scope for patient empowerment in many areas including allergen avoidance, more efficient use of medicines and knowledge of what help is available.</p>	<ul style="list-style-type: none"> ■ Promote self-care which is feasible provided that the patient is equipped with an accurate medical diagnosis and has access to relevant information, including when it is appropriate to seek specialist advice. The lack of good quality advice means that many patients turn to alternative/unorthodox diagnostic and treatment methods which are unproven and in some cases, unsafe. ■ Increase the awareness of health professionals about available patient education resources. ■ Provide information about diagnostic tests including alternative/unorthodox methods. ■ Educate to help patients at risk of anaphylaxis and their carers manage fear and anxiety. ■ Run a high profile media campaign promoting accurate sources of allergy information and patient support. <ul style="list-style-type: none"> - Engage celebrity endorsement/ambassador. - Utilise social media. ■ Provide resources to educate patients and carers about food selection, including eating out. <ul style="list-style-type: none"> - Education about the importance of declaring food allergy when eating out and making prior contact with the food service provider where possible. ■ Develop avenues to receive patient/consumer feedback on information resources to tailor the content and modes of delivery. ■ Translate patient information into languages other than English.

Objectives	Strategic actions
Patients and carers (continued)	
<p>Increase patient, consumers and carer awareness about the need to report suboptimal care.</p>	<ul style="list-style-type: none"> ■ Educate consumers to promptly report to their regional ambulance or other healthcare service when the care of someone experiencing anaphylaxis has been suboptimal (e.g. if call operator has advised not to give adrenaline autoinjector for suspected anaphylaxis, if patient walked during or after anaphylaxis or if patient not transported to hospital for observation following anaphylaxis).
<p>Increase patient, consumer and carer awareness about alternative/unorthodox methods to minimise adverse health outcomes.</p>	<ul style="list-style-type: none"> ■ Improve access to educational resources for health professionals, patients, consumers and carers regarding the limitations and risks of alternative/unorthodox approaches to managing allergic diseases. ■ Improve access to educational resources for health professionals, patients, consumers and carers regarding the practice of unproven and ineffective methods that claim to test for allergy (e.g. IgG4 food allergy tests, Vega testing).
<p>Provide access to high quality, centralised, easily accessible web-based educational resources for patients and carers.</p>	<ul style="list-style-type: none"> ■ Develop a website dedicated to educating and empowering patients with any allergic diseases and their carers, including the availability of educational topic-based webinars. ■ Conduct regular additional national interactive webinars to improve accessibility of specialists for educating and interacting with patients and carers.
<p>Provide education and resources specifically targeting teenagers and young adults.</p>	<ul style="list-style-type: none"> ■ Develop education resources appropriate for this target group including information about eating out. ■ Develop a program for assisting teenagers to transition from paediatric to adult care (e.g. create allergy health passport containing essential information and management plan).
<p>Educate patients, consumers and carers about eating out with food allergy.</p>	<ul style="list-style-type: none"> ■ Educate patients, consumers and carers about managing food allergy when eating out including: <ul style="list-style-type: none"> - Disclosing their food allergy. - Advance planning – contacting the food provider in advance where possible. - Making lower risk choices (restaurants, menu choices). - Always carry their adrenaline autoinjector with them. - Consider creating a database of workplaces and outlets who have participated in food service allergy training OR a symbol to demonstrate that a food outlet has been shown to be compliant with the nationally standardised food premises audit tool (as mentioned previously).
<p>Educate patients, consumers and carers about the reporting process for food-induced allergic reactions.</p>	<ul style="list-style-type: none"> ■ Disseminate high quality education resources to inform patients, consumers and carers about the importance of reporting food allergy-induced reactions to packaged foods and foods provided by food service providers (e.g. cafes, restaurants, take-away, camp facilities). These resources should encourage them to report and provide the process for doing so.

Objectives	Strategic actions
Community	
<p>Increase public awareness about the impact of allergic diseases and the development of innovative prevention strategies.</p>	<ul style="list-style-type: none"> ■ Ensure resources to educate the community about allergic diseases provide appropriate accurate information and are readily available. ■ Provide resources (e.g. posters and patient information) for medical centres, child health clinics and community pharmacies. ■ Educate those who care for children outside of school and childcare (e.g. sports, camps, scouts, playgroup). ■ Incorporate food allergy and anaphylaxis information into school curriculum.
Food service sector	
<p>Improve education and understanding of food allergy in the food service sector.</p>	<ul style="list-style-type: none"> ■ Develop interpretive guides to be easily read and understood by those in the food service sector and food industry. ■ Translate summaries into into several languages. ■ Scope training materials currently available. ■ Review training materials and resources for compliance officers. ■ Increase awareness and up-skill compliance officers, food service dietitians, food service managers, supervisors and members of ISFR where needed. ■ Review training materials and resources for food service providers (e.g. restaurants and cafés) and food industry (e.g. food manufacturers and distributors). ■ Investigate the possibility of linking training to inspection (e.g. include in standard checklist whereby compliance officers can make an assessment of knowledge).
<p>Educate compliance officers and their managers about their role in the food service sector relating to food allergy.</p>	<ul style="list-style-type: none"> ■ Review existing education resources linked to and including: <ul style="list-style-type: none"> - Legislative requirements. - Audit tools and audit processes. - Food reaction investigation pathways. - Consistent investigation process and risk assessment process. ■ Inform relevant state/territory people of the ISFR guidance documents which highlight the course of action when non-compliance is identified (ISFR allergen incident protocol). ■ Educate about indicator tests for allergens. ■ Incorporate food safety for food allergy training at undergraduate and post graduate levels for EHOs and other compliance officers. ■ Develop a mentoring program for newly graduated EHOs and other compliance officers to gain knowledge from more experienced compliance officers.

Objectives	Strategic actions
Food service sector (continued)	
<p>Educate the food service sector and food industry about food allergy.</p>	<ul style="list-style-type: none"> ■ Review and develop (where required) nationally consistent, affordable and easily accessible education resources for owners, managers and catering staff regarding food safety for food allergens. <ul style="list-style-type: none"> - Resources should be translated into several languages. ■ Improve education and awareness of food allergy for food importers. ■ Work in partnership with key industry associations to help raise awareness and educate.
<p>Educate food service sector and food industry about product recall processes.</p>	<ul style="list-style-type: none"> ■ Review existing resources to educate small businesses about their rights and obligations when products are recalled, regarding: <ul style="list-style-type: none"> - The process for product recalls. - Refund, replacement and credit from suppliers.
<p>Educate food service sector and food industry about food labelling.</p>	<ul style="list-style-type: none"> ■ Review, develop (where required) and implement an easy to understand food allergy labelling and declaration compliance training package working with key industry associations.

Strategic Action Plan - Goal 4: Research

Promote patient-focused research to prevent the development of allergic diseases and improve the health and quality of life of people with allergic diseases.

A patient focused research agenda for allergic diseases will be developed and supported to identify and address gaps in knowledge and practice including clinical, social and economic aspects of allergic diseases.

Promoting research will lead to allergic disease prevention, more accurate diagnostic techniques, improved treatment, management and potential curative therapies.

Implementation of strategies to ensure translation and dissemination of research results into professional and community education, clinical practice and public health policy.

Research findings will be communicated to consumers, with particular attention to health literacy issues.

Priority objectives

- Enable allergic diseases research at a national level.
- Identify research gaps underpinning all National Allergy Strategy objectives.
- Improve training of research professionals in multidisciplinary areas of allergy research.

Objectives	Strategic actions
Priority research areas.	<ul style="list-style-type: none"> ■ Quantitate anaphylaxis deaths, near miss and hospital presentations which will provide an important future benchmark. ■ Develop trials of potential therapeutics in allergic disease: there are several candidate therapies, some of which are Australian. ■ Improve the efficiency of diagnostic allergy testing.
Anaphylaxis	
Anaphylaxis – including prevention onset and of further reactions.	<ul style="list-style-type: none"> ■ Structure a reporting system to capture fatalities and near misses as a result of anaphylaxis to enable focused research. Create a list of standard questions to be asked that would help with future direction of management and treatment including emergency response. ■ Research incidence, advice given, posture, how many require adrenaline including second or third dose, where and how adrenaline is given, and whether signs and symptoms that guide paramedics are in line with ASCIA Action Plans. Are people ever told they should not have administered adrenaline or that they do not need transport to hospital? ■ Develop a system that captures food products that trigger severe allergic reactions promptly so that foods can be investigated and recalled promptly if indicated, to avoid further reactions from same product. ■ Evaluate the implementation of regional guidelines for anaphylaxis for schools and childcare. Results will assist in improving anaphylaxis management practices in all Australian schools and childcare. ■ Investigate educators' knowledge and support needs in the management of anaphylaxis in schools and childcare to prevent risks of food allergy and promote safe learning environments for children.

Objectives	Strategic actions
Anaphylaxis (continued)	
	<ul style="list-style-type: none"> ■ Survey the implementation of e-training strategies and identify and assess educators' training and support requirements. ■ Investigate issues and support needs of diverse Australian parents affected by their children's food allergy to develop guidelines to address parents' anxiety and quality of life. ■ Research on issues surrounding the allergic children's educational transitions to develop national guidelines to promote childrens' safe start to school and their holistic health. ■ Research biomarkers for risk of anaphylaxis.
Drug allergy.	<ul style="list-style-type: none"> ■ Develop standardised practical protocols for allergies to common drugs and measure the health and economic outcomes. ■ Investigate the prevalence of reported drug allergy and true prevalence of confirmed drug allergy. ■ Translate and implement efficient, safe and reliable diagnostic practice into clinics. ■ Support research into the development of in vitro diagnostic tests for drug allergy. ■ Support research into the immune mechanism of drug hypersensitivity and predictive testing. ■ Establish a national registry for severe cutaneous adverse reactions. ■ Develop standardised management protocol for drug hypersensitivity reactions other than anaphylaxis such as ACE inhibitors and non-steroidal anti-inflammatory drug (NSAID) hypersensitivity, acute management of severe cutaneous adverse reactions.
Food allergy	
Food allergy diagnosis.	<ul style="list-style-type: none"> ■ Research relationship between circumstances surrounding first reaction (e.g. hospitalisation, reaction recognised as anaphylaxis, appropriate referral, length of time to definite diagnosis, appropriate guidance, support and information) and level of anxiety. ■ Research gaps in diagnosis. ■ Translate and implement best diagnostic practice into clinics.
Food allergy prevalence and management.	<ul style="list-style-type: none"> ■ Capture real incidence of food allergy in adults including young adults. <ul style="list-style-type: none"> - How many have been properly diagnosed? - How many have an adrenaline autoinjector? - How many have an ASCIA Action Plan? - Of those who have adrenaline autoinjectors and ASCIA Action Plans, how many carry them? - How many have appropriate strategies in place to minimise the risk of a reaction?

Objectives	Strategic actions
Food allergy (continued)	
Non-IgE mediated food allergy.	<ul style="list-style-type: none"> ■ Research and communicate best methods to identify and manage non-IgE mediated food allergy.
Prevention of food-induced allergic reactions.	<ul style="list-style-type: none"> ■ Develop strategies for environmental allergen exposure assessment in homes and workplaces (e.g. occupational allergies). ■ Establish best practice for food allergen testing methods in food products in conjunction with the Analytical Testing Special Interest (ATSI) Group sponsored by the National Measurement Institute (NMI). ■ Monitor the incidence of allergic reactions caused by allergen cross-contamination in food products in Australia. ■ Investigate the impact of food processing on the stability of food allergens and sensitivity of current detection methods.
Food allergy treatment.	<ul style="list-style-type: none"> ■ Support research into the development of immunotherapeutics for food allergy. ■ Research into the underlying immunological mechanisms of achieving tolerance to food allergens.
Respiratory allergy	
Respiratory allergy prevention.	<ul style="list-style-type: none"> ■ Research on respiratory allergy prevention, diagnosis, treatments and cures (e.g. relevance of the respiratory microbiome in allergic disease, clinical tools to screen for patients with non-allergic rhinitis and early allergen immunotherapy in high risk individuals in primary prevention of allergic disease).
General	
More information about confirmed allergic diseases.	<ul style="list-style-type: none"> ■ Undertake epidemiological studies to assess the true burden of allergic diseases. ■ Research to identify biological markers of life-long compared to short term sensitisation to food allergens. ■ Research into rare conditions such as systemic mastocytosis.
Research funding	<ul style="list-style-type: none"> ■ Encourage fundraising for foundations that support allergy research such as the Allergy and Immunology Foundation of Australasia (AIFA). ■ Request funding of allergic disease research from government.

Strategic Action Plan - Goal 5: Prioritised Chronic Disease

Recognition of allergic diseases as a prioritised chronic disease and National Health Priority Area

Recognition and optimal management of people with allergic diseases will be pursued as a prioritised chronic disease and National Health Priority Area to increase awareness of allergic diseases and encourage a coordinated national approach to management.

Priority objectives

- Achieve federal, state, and local government collaboration and consistent policy implementation across jurisdictions.
- Achieve recognition by government and non-government organisations of ASCIA and A&AA as the leading medical and patient organisations for allergy in Australia.
- Ensure cost effective use of resources.
- Reduce unnecessary duplication of resources through collaborative development.

Objectives	Strategic actions
Achieve federal and state government recognition of allergic diseases as a prioritised chronic disease and National Health Priority Area.	<ul style="list-style-type: none"> ■ Develop an advocacy strategy.
Achieve recognition of allergic diseases as a prioritised chronic disease and recognition of ASCIA and A&AA as the leading medical and patient organisations for allergy in Australia by government and non-government organisations (e.g. FSANZ, NHMRC, TGA, PBAC).	<ul style="list-style-type: none"> ■ Develop relationships with these organisations. ■ Develop a robust process for reviewing documents from organisations that involves ASCIA, A&AA and other relevant stakeholders.

Appendix A: Glossary of terms

Allergen

A substance that can cause an allergic reaction.

Allergen immunotherapy (also known as desensitisation)

A series of subcutaneous injections or sublingual (under the tongue) drops or tablets are administered which contain the allergen to which the patient is allergic, such as bee venom, pollen, dust mite or animal dander. At first the amount given is a low dose, then the amount is increased at regular intervals, with a maintenance period of 3-5 years to reduce the risk of relapse when treatment is ceased. Allergen immunotherapy alters the way in which the immune system reacts to allergens, by 'switching off' allergy and is established as a cost-effective way to treat respiratory allergic diseases and stinging insect allergy.

Allergic reaction

An adverse reaction whereby the immune system responds to exposure to an allergen inhaled, ingested or touched by a person who is sensitised to the allergen.

It can also follow injections of drugs, insect stings or bites. Allergic reactions can be mild, moderate or severe (anaphylaxis). Whilst touching an allergen can cause mild or moderate symptoms, it rarely triggers anaphylaxis.

Allergic rhinitis (also known as 'hay fever')

An inflammation of the lining of the nose caused by inhaling allergens (e.g. dust mites, pollens, moulds or animal dander) and also by eating certain foods. Symptoms may include itching, sneezing, blocked nose, runny nose and in the case of allergic rhinoconjunctivitis, itchy and watery eyes.

- Perennial allergic rhinitis is when allergic symptoms occur throughout the year, usually caused by dust mite, animal dander or mould allergies.
- Seasonal allergic rhinitis is when allergic symptoms occur during a particular season (e.g. Spring and Summer) and are usually caused by pollen allergies.

Angioedema

A swelling of the deeper layers of the skin, usually occurring in soft tissues such as the eyes, lips, tongue and groin area.

Allergy

An immune system response to a foreign substance that is harmless to most people.

Anaphylaxis

This is the most severe type of allergic reaction resulting in potentially life threatening respiratory and/or cardiovascular symptoms. If untreated anaphylaxis can cause death or permanent brain damage. It is usually caused by severe allergy to foods, drugs or insects.

Anaphylaxis involves many organs of the body, including:

- upper airways - swelling of the tongue or throat leading to difficulty breathing.
- nose - sneezing, blocking, watering, runny nose.
- lungs - wheezing and asthma.
- cardiovascular system - a fall in blood pressure and collapse/loss of consciousness.
- skin - welts and hives (urticaria)

If untreated anaphylaxis may cause death or permanent brain damage. It is usually caused by foods, medicines or insects to which a person has developed an allergy.

Atopic dermatitis (also known as eczema)

An inflammation of the skin which is dry, reddened, swollen, itchy and sometimes weeping. It may arise as early as the first few weeks or months of life. It may occur on its own, or in association with food allergy, allergic rhinitis or asthma.

Antibodies

Substances produced by the body to protect itself against foreign substances including infection. Immunoglobulin E (IgE) antibodies are produced by the body when a person is sensitised to an allergen.

Antihistamines

Medications which block the action of histamine and relieve allergy symptoms, which are readily available from pharmacies.

Asthma

An inflammation of the airways, often triggered by allergy, producing swelling, narrowing and the build up of mucus within the airway, leading to difficulty breathing.

Carers

Those who care for individuals with allergic diseases including parents/guardians, families and other carers. They need consideration as they are not patients, but differ from consumers.

Clinical immunology/allergy specialist

These medical specialists undertake general training in medicine followed by postgraduate training in immunology and allergy. They will normally have a Fellowship of the Royal Australasian College of Physicians (FRACP) and membership of ASCIA. If they have also trained in immunopathology they will have an additional Fellowship of the Royal College of Pathologists of Australasia (FRCPA).

Compliance officers

Encompasses environmental health officers, auditors and authorised officers, who undertake inspections and audits of food premises.

Consumers

People who are not currently accessing care for their allergic disease, but may do so in future.

Corticosteroids

A group of medications used to prevent or suppress the symptoms of severe inflammation due to any cause, and prevent the tissue damage that may otherwise result. These should not to be confused with body building steroids.

Desensitisation (see allergen immunotherapy)**Drug allergy**

Allergic reactions to pain killers, arthritis tablets and antibiotics are the most common drug allergies. Allergic reactions have also been described to herbal medicines. Severity ranges from mild rashes through to potentially life-threatening anaphylaxis. Failure to accurately diagnose drug allergy may result in the unnecessary use of less optimal medication. Allergic or immunologic mechanisms account for 5-10% of all adverse drug reactions¹⁹.

Dust mite

These are widely distributed in homes and are invisible to the naked eye. Dust mite sensitivity is linked to the development of asthma and is a trigger for allergic rhinitis (hay fever) and skin irritation in eczema.

Eczema (See Atopic Dermatitis)**Eosinophils**

Cells that circulate in the blood, that may accumulate in tissues at the site of an allergic reaction, causing damage.

Food allergy

An adverse reaction to foods (e.g. peanuts, tree nuts, fish, shellfish, egg, soy, wheat, sesame and cow's milk) that involves the immune system.

Food industry

Food industry includes food that is manufactured or otherwise prepared, or distributed, transported or stored; and not intended for further processing, packaging or labelling.

Food intolerance

An adverse reaction by the body to ingested foods or chemicals not involving the immune system.

Food service

Food service includes food supplied to catering establishments, restaurants, canteens, schools, hospitals, and institutions where food is prepared or offered for immediate consumption.

Histamine

A substance occurring in mast cells in the body. In an allergic reaction, it is one of the many substances released which causes symptoms such as itching, sneezing, wheezing, runny nose and watery eyes.

Hives (See Urticaria)**Iatrogenic disorders**

Any adverse condition in a patient resulting from treatment by a physician or surgeon (e.g. side effects from prescribed antibiotics).

IgE (Immunoglobulin E) (See antibodies)**Immune system**

The immune system is a complex network of cells and proteins that defend the body against infection. Clinical immunology/allergy specialists identify and treat the diseases that result from abnormalities of the immune system.

- Underactivity of the immune system, also called immunodeficiency, predisposes people to infections and cancer.
- Overactivity of the immune system, include allergic diseases (where the immune system makes an excessive response to allergens such as pollens or dust mites) and autoimmune diseases (where the immune system mounts a response against normal components of the body, such as rheumatoid arthritis).

In-vitro

In vitro tests and studies are performed with cells outside the body (e.g. blood tests and test tube experiments).

In-vivo

In vivo tests and studies are performed on whole living organisms (e.g. in humans, animals and plants).

Intradermal skin testing

May be used to test for allergies to antibiotic drugs or stinging insect venom, when greater sensitivity is needed. Intradermal testing should not be used to test for allergy to inhalants or foods.

Non-steroidal anti-inflammatory drug (NSAID)

These reduce pain and inflammation and are often in analgesics, anti-inflammatory medications, cold and flu medications. Some individuals will be allergic to only one NSAID such as aspirin or ibuprofen, whereas others will be allergic to all NSAIDs.

Occupational allergens

Allergens encountered in the course of a person's work include western red cedar (may cause asthma in saw millers and carpenters), seafood (may cause asthma in processing staff), animal dander allergy in veterinarians and laboratory workers and latex allergy in healthcare professionals.

Patients

People who are currently accessing care for their allergic disease.

Patient-centred care

Patient-centred care is healthcare that is respectful of, and responsive to, the preferences, needs and values of patients and consumers. The widely accepted dimensions of patient-centred care are respect, emotional support, physical comfort, information and communication, continuity and transition, care coordination, involvement of family and access to care. In addition to recognising and valuing an individual's role in decision making about their healthcare, patient-centred care actively supports and empowers the individual in their own self-care and monitoring.

Pollen

The pollen grain is a tiny particle carried by insects or wind to fertilise the female flower. Breathing in pollen causes allergic rhinitis (hay fever) and asthma in some people.

Primary Healthcare

The term 'primary healthcare' is commonly used to refer to the first level of care or the entry point to the healthcare system for consumers. It includes (but is not limited to) services delivered by GPs, practice nurses, nurse practitioners, community nurses, allied health providers, Aboriginal health practitioners, pharmacists and dentists³².

Patch testing

This is useful for testing for allergic contact dermatitis, such as that triggered by metal, cosmetic preservatives or various plants. Using hypoallergenic tape, commercial standardised allergen paste is applied to a rash-free area of skin, most commonly the individual's back. The tapes are left in place for 48 hours and kept dry for the entire time. The test site is then read at different time intervals. An eczema-like rash can indicate sensitivity to a particular allergen.

Oral allergen challenge testing

This may sometimes be required to confirm diagnosis when the cause of a severe allergic reaction has not been confirmed or to disprove persistent allergy, where resolution of allergy is suspected. This will normally only be performed using foods or medications under the supervision of a clinical immunology/allergy specialist with appropriate resuscitation facilities immediately available.

Secondary Healthcare

Services provided by practitioners who don't normally have first contact with a patient, such as medical specialists, intermediate between primary healthcare and that available at a tertiary facility³².

Specific IgE blood allergy test (also known as RAST)

A blood test for allergen specific Immunoglobulin E (IgE) antibodies which identifies sensitivity to specific allergens such as dust mite, pollen, animal dander, moulds, foods and some insect venoms.

Skin prick test

A skin test to identify sensitivity to specific allergens. A positive test is one where a raised itchy lump (wheal) surrounded by a flat red area (flare) develops within 15-20 minutes.

Sinusitis

Inflammation of the sinuses (air cavities connected to the nasal passages), which can become infected.

Standards of care

These provide a consistent statement of the level of clinical care that a patient should be offered from a health service for a specific clinical condition.

Steroids (see Corticosteroids)**Tertiary Healthcare**

Care provided in a centre that has the personnel and facilities required for specialist investigation and treatment, such as within a teaching hospital³².

Unproven methods.

There are several methods that claim to test for allergy. These include cytotoxic food testing, kinesiology, Vega testing, IgG food testing, electrodermal testing, pulse testing, iridology, reflexology and hair analysis. These tests have not been scientifically validated and may lead to unnecessary, costly and (in the case of some changes in diet) dangerous avoidance strategies. No Medicare rebate is available in Australia for these tests and the use of these methods is not recommended. Further information is available on the ASCIA website: www.allergy.org.au/patients/allergy-testing/unorthodox-testing-and-treatment

Urticaria (also known as hives)

Itchy, raised lumps that can vary in position from hour to hour or day to day. Some, but not all, urticaria is associated with allergy.

Wheal

A raised whitish itchy lump, which occurs after a positive skin prick test or after contact with an allergen. This term is also used to describe the individual lump seen in hives.

Appendix B: What works - a review of existing evidence

Knowledgeable, empowered consumers and carers

There is good evidence that having consumers, carers and other supporters armed with knowledge can reduce healthcare costs and the impact of illness^{33,34}. For example, there is solid evidence that the use of mass media and social media to deliver health messages to the general community works as a preventative health strategy, and can be much more cost effective than strategies that focus on individual patients or health care professionals.

There is also evidence that:

- Education can have a positive effect on ability to manage an acute allergic reaction³⁵.
- Patient support groups can play a valuable role for people with allergic diseases, carers and other supporters, assisting with support, practical day-to-day management and meeting needs that health professionals are often not appropriate or able to provide³⁶.
- Patients engaged in 'active' self-management programs (those which involve the patient taking responsibility for carrying out the treatment), suffer less disability than those receiving 'passive' treatments (where the treatment is carried out by the health professional)³⁷.

The self-management approach encourages patients and their carers or other supporters to take an active part in the management of their conditions. Allergy nurses have made a significant contribution to empowering patients and their carers to manage allergic conditions.

Self-care, informed by authoritative and widely available information and advice from primary care specialists and pharmacists offers great scope for patient empowerment in many areas including allergen avoidance, more efficient use of medicines and knowledge of what help is available. Self-care is feasible provided that the patient is equipped with an accurate diagnosis and has access to relevant information including when it is appropriate to seek specialist advice³⁸.

Skilled professionals and evidence-based care

General practitioners, paediatricians, physicians

Considering the existing high incidence and likelihood of continued increasing prevalence of allergic diseases, a Shared Care Model for allergy management is optimal. The training and development of GPs with a special interest in allergy who are then linked to specialist allergy centres should be considered. Clinical immunology/allergy specialists would need to continue their existing dual role of diagnosis and management of complex cases, but also support the development of increased capacity within primary healthcare.

Knowledge among some primary providers regarding recognition and management of allergic conditions is limited. Improving the knowledge/skill among primary healthcare providers and allied health can enhance patient care by improving appropriate referral rates to specialist services and the timing of these and by implementing key treatments ahead of or between appointments.

Structured allergy training has been shown to improve health outcomes in a primary healthcare patient population whilst improving the confidence and competence in health professionals in managing allergic diseases³⁹.

Improving access to care through a Shared Care Model must not be at the expense of optimal care. Ensuring safety and quality standards for primary healthcare by using appropriate training and clearly defined referral pathways) will help to ensure optimal care is maintained.

A Shared Care Model is beneficial for a subset of patients with allergic disorders. If formalised nationally, this would require:

- Supporting continuous improvement in performance, safety and quality.
- Using the best available evidence-base.
- Providing guidelines and referral pathways to guide appropriate practice.

An example of a Shared Care Model is the Obstetric/GP antenatal Shared Care model⁴⁰ which has worked well in a number of regions of Australia. The basic model is outlined below:

- GPs with appropriate training are registered as approved Shared Antenatal Care practitioners in conjunction with Antenatal Outpatient Clinics at local public hospitals.
- GPs provide basic antenatal care to non-complex obstetric patients as per strict protocols.
- Referral guidelines are in place for complex antenatal care patients.
- GPs must apply for re-accreditation every three years.
- GPs must undertake a minimum amount of relevant educational activities in order to be re-accredited.

Nurses and other allied health professionals

The up-skilling of nurse practitioners, nurses and allied health professionals will also greatly assist people with allergic diseases and their carers. The services of dietitians, pharmacists and psychologists in particular, are often required to optimally manage allergic diseases^{41,42}. Utilising the emerging allergy nurse practitioners within tertiary allergy services can provide innovative models of care.

Specialist services

Whilst a Shared Care Model can improve access to care, it is important to note that a clinical immunology/allergy specialist is the most appropriate medical professional to assess a severe allergic reaction⁴³, facilitate individualised patient decisions on insect venom allergy^{44,45} and assess and manage patients with multiple comorbidities. Further to this, the ability to liberalise a child's diet, and therefore improve nutrition and quality of life is more likely after evaluation by a clinical immunology/allergy specialist⁴⁶.

Appropriately timed access to clinical immunology/allergy specialist services for accurate diagnosis is the cornerstone to providing optimal care to patients with allergic disorders. As the rise in allergy rates continues, there is an ongoing need to boost capacity of specialist services (in public and private sectors) but also a need to

structure these services in a way that enhances efficiency. The development of a multi-disciplinary team structure is emerging as a mechanism to enhance both the quality and the efficiency of services.

Access to effective treatments and prevention strategies

A number of treatments are available for some allergic diseases, such as allergen immunotherapy for aeroallergen and insect allergies for which there is strong evidence regarding effectiveness. Accurate diagnosis of cases is essential, underpinning the need for appropriate access to specialist services.

The implementation of such treatments in routine clinical practice requires timely access for those with allergic disease, as well as healthcare providers who are skilled in the provision of appropriate treatment options. It is important to recognise that patients need to be selected for the appropriate level of care. This can reduce wastage and maximise the impact of treatments.

There is growing consumer demand for specific oral tolerance induction (SOTI) for food allergic individuals. The evidence regarding the effectiveness and safety of this treatment is still emerging and is currently limited to hospital based research studies due to safety issues. Access to such treatments in the future will be underpinned by the adequate resourcing of teaching hospital based allergy/immunology units providing clinical services, teaching and undertaking research.

Multidisciplinary care at all levels

Another key theme that emerges from the literature is that the effective assessment and management of chronic allergic disease often require a continuum of care involving a range of healthcare disciplines working in collaborative partnerships with people with allergic diseases. There is increasing evidence that multidisciplinary team-based healthcare contributes to improved health outcomes⁴⁶. This evidence also indicates that a multidisciplinary healthcare approach improves the consumer experience of care and reduces the need for hospital and emergency care which is expensive and avoidable⁴⁶. Clear clinical pathways and multidisciplinary team models of care are critical to effective and efficient care.

Multidisciplinary allergy clinics (or clustered services including relationships between those in private clinics, community or hospital-based services) are essential for dealing with more complex and chronic cases for as long as clinically indicated. For some allergy conditions, both diagnosis and long term management are best provided by a specialist allergy team. For other conditions, primary care management (with clear best practice guidelines) can provide comprehensive, high standard care, until/unless severity/complexity cut-offs are reached. For other patients, a Shared Care Model, which allows for timely specialist team diagnosis to be made and treatment to be initiated with care then returned to the local community level (and the individual patient) for maintenance. Thus, these resources should be provided in a way that matches the patient's needs. A limitation to transferring patients back to their GP is their capacity and clinical ability to facilitate a complex management plan.

Access to multidisciplinary care can positively impact on parental knowledge and the prevention of subsequent allergic reactions⁴⁷. In a study of families with children with food allergy, reduced subsequent reactions were achieved when the families attended a multidisciplinary centre comprising of a paediatric allergist, clinical nurse specialist and dietitian⁴⁸.

Quality improvement and evaluation

The development of national clinical standards and guidelines for allergic diseases is consistent with the approach of the National Primary Health Care Strategy⁴⁶, but needs to extend beyond primary care to consider all aspects of allergic disease management. Quality assessment of healthcare services may provide incentives for implementation of allergy management guidelines, including patient and carer education.

Standards of care provide a national consistent statement of the level of clinical care that a patient should be offered from a health service for a specific clinical condition. Standards of care for allergic diseases are essential as there is a known gap between the current situation and best practice outcomes and improvement strategies exist that are evidence based and achievable. These standards of care will inform policy discussion and the development of targeted education⁴⁹.

Standards of care for allergic diseases will support:

- People who are receiving care by assisting them to know what to expect from their healthcare system.
- Healthcare professionals to make decisions about appropriate care.
- Measureable and auditable performance parameters to allow healthcare services to examine the performance of their organisation and make improvements in the care they provide⁴⁹.

The standards should utilise the following definitions throughout⁴⁹:

- “Must” – The standard is a requirement. There is research to support the standard or there is a clear risk of harm to patients if the standard is not followed.
- “Should” – The standard is a recommendation. The standard is based on best practice guidelines and expert consensus.
- “May” – There is scope for the health service to consider alternatives to what is suggested.

An example of a comprehensive national approach to allergies is the Finnish National Allergy Programme (FNAP) 2008-2018, a comprehensive plan with the aim of reducing the burden of allergies⁵⁰. The FNAP recognises allergy as a public health issue and this is reflected in the Programme's approach to improving the burden of allergic disease.

The FNAP main goals are to:

- Prevent the development of allergic symptoms.
- Increase tolerance against allergens.
- Improve the accuracy of diagnostic tests.
- Decrease work-related allergies.
- Allocate resources to manage and prevent exacerbations of severe allergies.
- Decrease costs caused by allergic diseases.

The FNAP is overseen by a multidisciplinary group and includes the following key components to work towards achieving the above mentioned goals:

- Increase awareness, communication and education of allergic people and the general public. This is being achieved by engagement with three non-government organisations.
- Education of health care professionals including primary care and hospital staff.
- Standardised advice regarding allergy prevention (primary, secondary and tertiary prevention).
- Development of guidelines for allergy in children
- Review of allergy testing centres and development of a skin prick testing handbook and other diagnostic tools.
- Development of guided self-management tools for patients.

The FNAP has published a number of papers including interim outcomes:

www.ncbi.nlm.nih.gov/pubmed/19383025 (open access)

www.ncbi.nlm.nih.gov/pubmed/18445181 (open access)

<http://onlinelibrary.wiley.com/doi/10.1111/j.1399-3038.2012.01273.x/abstract>

<http://onlinelibrary.wiley.com/doi/10.1111/j.1399-3038.2012.01298.x/abstract>

Appendix C: How the National Allergy Strategy aligns with existing government initiatives

The National Allergy Strategy is offered at a time when allergic diseases are associated with a high use of healthcare services, contributing to major funding pressures in Australian healthcare that are expected to rise over decades as prevalence increases.

Given the dramatically increasing incidence and prevalence of allergic disease and the enormous associated personal, social and economic cost to the community, a public health approach to the management of allergic diseases is essential to improve the quality of life of patients and carers as well as ensure efficient use of healthcare services. The National Allergy Strategy will guide policy at the Australian government and non-government level to greatly improve the management of allergic diseases.

A wide range of Australian Government programs and initiatives provide assistance in the area of chronic disease, including:

- Programs to increase access to care and medicines
- Initiatives to promote best-practice care
- Research programs
- Programs providing support to people with specific chronic diseases with the aim of reducing the overall burden in these areas

Allergic diseases potentially fall into a number of government policies and initiatives including:

- National Preventative Health Strategy/Australian National Preventative Health Agency
- National Health Priority Areas
- National Chronic Disease Strategy
- National Health Priority
- NHMRC Reform Agenda
- National Primary care reform
- National Quality & Safety Healthcare Standards

The above initiatives could deliver many of the changes required to improve the care for people with allergic diseases, if they are implemented with patient needs in mind.

Allergic Diseases in the context of The National Preventative Health Strategy

The National Preventative Health Strategy, launched in September 2009 by the Australian Government, has provided a blueprint for tackling the burden of chronic disease currently caused by obesity, tobacco, and excessive consumption of alcohol. It is directed at primary prevention and addresses all relevant arms of policy and all available points of leverage, in both the health and non-health sectors.

Key functions of the Australian National Preventive Health Agency include the provision of evidence-based advice on national preventive health issues and supporting behaviour change in the community through education and awareness programs. Allergy prevention is the most cost effective way to manage the current allergy epidemic. Strategies for primary, secondary and tertiary prevention of allergic diseases have been considered in this National Allergy Strategy. An important example of where primary prevention can have a substantial impact on allergic disease is the implementation of national consistent, evidence-based infant feeding advice for food allergy prevention.

National Quality & Safety Health Care Standards applies criteria and requires evidence of actions to address standards relating to healthcare providers accreditation and is transferral to allergic diseases.

Prevention of allergic diseases needs to be translated into standard practice across the healthcare system.

Allergic Diseases in the context of The National Chronic Disease Strategy

The National Chronic Disease Strategy, was launched in 2005 under the auspices of National Health Priority Action Council and endorsed by the Australian Health Ministers' Council.

Allergic diseases should be recognised as a prioritised chronic disease group as they align completely with the criteria used by the National Chronic Disease Strategy⁵¹ as exemplified below:

Criteria	Allergic Diseases
Have complex and multiple causes	<ul style="list-style-type: none"> ■ Multiple genetic and environmental factors. ■ Early feeding/exposures.
Usually have a gradual onset, although they can have sudden onset and acute stages	<ul style="list-style-type: none"> ■ Allergic rhinitis and eczema can have a gradual onset and can worsen with time. ■ Anaphylaxis or non-anaphylactic allergic reactions and asthma usually have a sudden onset of symptoms but the risk of accidental exposure and relapse is chronic and often unpredictable.
Occur across the lifecycle, although they become more prevalent with older age	<ul style="list-style-type: none"> ■ Food allergies and eczema are more common in children, however, insect, drug allergy and allergic rhinitis are more common in older individuals. ■ Asthma occurs at all ages.
Can compromise quality of life through physical limitations and disability	<ul style="list-style-type: none"> ■ Food allergy can have a psycho-social impact on individuals. ■ The effect of eczema on quality of life in children has been rated more significant than childhood diabetes. ■ Eczema and food allergy can also impact on growth, development and quality of life. ■ In adults, conditions such as allergic rhinitis and eczema can impact significantly on a person's ability to work.
Are long term and persistent, leading to gradual deterioration of health	<ul style="list-style-type: none"> ■ With the exception of some food allergies (e.g. egg, milk, wheat), most allergic diseases are long term and persistent, and can significantly compromise quality of life.
While usually not immediately life threatening, they are the most common and leading cause of premature mortality	<ul style="list-style-type: none"> ■ Anaphylaxis is the most severe form of allergic reaction and can be immediately life threatening. Individuals with severe allergies to foods, insects or drugs are considered to be at risk of anaphylaxis.

Allergic asthma is associated with both increased morbidity and mortality^{52,53}. Further to this, those with food allergy and asthma appear to be at highest risk of death^{52,53}.

A national chronic disease strategy, a blueprint for a national surveillance system and national service improvement frameworks needs to be developed to encourage coordinated action in response to the growing impact of allergic disease.

Allergic Diseases in the context of the NHHRC recommendations

The National Allergy Strategy fits well within the four major themes of the National Health and Hospitals Reform Commission (NHHRC) reform agenda:

Theme 1: Taking responsibility

Currently, community knowledge about allergic diseases is limited, which means there is potential for initiatives in this area to make a big impact.

The National Allergy Strategy proposes self-management programs to improve knowledge among individuals, carers, communities, health professionals, employers and health funders. A central message of the strategy is that 'allergy is everybody's problem'.

Theme 2: Connecting care

A Model of Care for allergic diseases will provide a national framework for best-practice management (care and prevention) in Australia. The existing fragmentation is costly for both people with allergic diseases and the healthcare system, with many people receiving ineffective treatments, and many others under-treated.

The NHHRC's recommendations for primary healthcare and chronic conditions could improve access to effective treatments for people with allergic diseases and health professionals who are up-skilled in allergic disease management.

Primary care, particularly in rural/remote areas, could substantially improve access to care by providing best-practice management through comprehensive primary healthcare centres. This could start building capacity in the locale, working with other health professionals including pharmacists, dietitians and medical specialists. The educator position could be connected to the proposed national health promotion and prevention agency and implement programs in early prevention of allergic diseases and prevention of progression of allergic diseases.

To underpin improved coordination of care, the National Allergy Strategy supports the development of systems, including e-Health records, to ensure adequate communication between consumers and health professionals, between treating health professionals, and on transition from one care setting to another.

Theme 3: Facing inequities

Access to interdisciplinary allergy services is restricted for rural and remote residents, and to some degree, other culturally and linguistically diverse (CALD) populations.

Some written materials on allergic disease self-management have been translated into different languages, but this is very limited to date.

There is also inequity in access to treatment for allergic diseases, with considerable regional and state to state variation in access to private and publically funded allergy/immunology services and almost no access to specialist services outside major metropolitan areas¹.

Provision of interdisciplinary allergy management services in the community, linked to interdisciplinary allergy clinics as proposed by the National Allergy Strategy, would do much to improve access to care for lower income groups. The Strategy proposes that the proposed Model of Care for allergic diseases should be flexible enough to enable delivery through locally available services where appropriate, and with triage criteria for referral to interdisciplinary allergy clinics. It further proposes that innovative models of service provision and evaluation be developed to meet the needs of people in rural and remote areas.

Theme 4: Driving quality performance

The National Allergy Strategy proposes that a comprehensive quality improvement process is developed and implemented for allergy management services across Australia. Such a process is particularly important in the area of allergic disease management because:

- Education and training in allergic diseases for health professionals is currently limited and inconsistent, and needs a competency-based framework across disciplines.
- The evidence-base for many allergy interventions is limited, creating a need to track patient outcomes and standardise treatment protocols.
- Patient satisfaction with allergic disease care varies greatly, and consumers have little access to rigorous information about care options and service quality.

The Strategy advocates the smart use of data to monitor, evaluate and improve patient outcomes and system performance.

Allergic Diseases in the context of the National Primary Health Care Strategic Framework

The National Primary Healthcare Strategic Framework is the first national statement, endorsed by the Standing Council on Health, which presents an agreed approach for creating a stronger, more robust primary health care system in Australia. It was launched in 2010.

A key objective of the National Allergy Strategy is to reduce waiting times for clinical immunology/allergy specialists by improving access to effective management in the primary healthcare sector, and use of triage criteria for referral to secondary and tertiary specialists.

The following aspects of the National Primary Health Care Strategic Framework would advance this objective:

- A skilled workforce consisting of integrated interdisciplinary teams, with improved understanding of other practitioners' roles and infrastructure to support interdisciplinary care, group activities and co-location of services.
- Strengthened regional primary healthcare partnerships and organisations.
- Supplementary funding to target traditional areas of market failure.
- Standardised evidence-based approaches to chronic conditions with flexible tailored care, supported self-management and personalised shared care plans.
- Information and technology infrastructure for decision support and outcomes measurement.
- An increased focus on prevention and early intervention.

The management of people with allergic diseases should be considered in the implementation of the National Primary Health Care Strategic Framework.

Appendix D: Lead organisations

Australasian Society of Clinical Immunology and Allergy

The Australasian Society of Clinical Immunology and Allergy (ASCIA) was established in 1990 as a not for profit, peak professional medical organisation for allergy and clinical immunology in Australia and New Zealand. ASCIA members include clinical immunology/allergy specialists, other medical practitioners, scientists, researchers and allied health professionals who work in the areas of allergy and immunology.

The mission of ASCIA is to advance the science and practice of allergy and clinical immunology, by promoting the highest standard of medical practice, education and research, to improve the health and quality of life of people with allergic diseases, immunodeficiencies and other immune diseases.

ASCIA is a member society of the World Allergy Organisation (WAO) and the Asia Pacific Association of Allergy, Asthma and Clinical Immunology (APAAACI). ASCIA is also affiliated with the Royal Australasian College of Physicians (RACP) as a specialty society.

It is our pleasure to have been the driving force in partnership with Allergy & Anaphylaxis Australia (A&AA) in the development of the National Allergy Strategy.



Dr Melanie Wong
President

Allergy & Anaphylaxis Australia

Allergy & Anaphylaxis Australia (A&AA) was established in 1993 as a charitable, not for profit organisation, to improve awareness of allergy and anaphylaxis in the Australian community, by sharing current information, education, advocacy, research, guidance and support.

A&AA is primarily a volunteer based organisation that is supported by membership fees, sale of resources and donations. Their outreach extends to individuals, families, school, workplaces, health professionals, government, food industry and all Australians.

A&AA is part of an international alliance of like-minded organisations and works closely with peak medical bodies, including ASCIA. The A&AA medical advisory board comprises ASCIA members who are clinical immunology and allergy specialists from across Australia.

We believe that this patient centred National Allergy Strategy will greatly improve patient outcomes and quality of life when implemented.



Maria Said
President

Appendix E: Consultation process

Allergy Summit

The consultation process was initiated by holding an Allergy Summit in Sydney on 8th August, 2014.

Key stakeholder organisations were invited to provide a representative to attend the Allergy Summit and were given the opportunity to contribute to the issues discussed at the Allergy Summit.

National Allergy Strategy Steering Committee

A steering committee was formed, comprising the co-chairs of each of the National Allergy Strategy Working Groups. The role of this committee has been to oversee the development of the National Allergy Strategy including defining goals, guiding working groups and assisting with the finalisation of the National Allergy Strategy.

National Allergy Strategy Working Groups

- The decision to establish National Allergy Strategy Working groups was made at the Allergy Summit in August 2014.
- All Allergy Summit participants were invited to nominate for membership of a working group.
- Stakeholder organisations that were unable to participate in the Allergy Summit were also invited to nominate for membership of the working groups.
- The working groups were established to undertake a gaps analysis and assist with the development of the National Allergy Strategy.

Further consultation

All key stakeholder organisations, including National Allergy Strategy Working Group members, were invited to provide feedback on draft versions of the National Allergy Strategy. Feedback was compiled and incorporated. Revised drafts were circulated for further review.

Stakeholder organisations will be involved in implementation of the National Allergy Strategy commencing with the 2nd Allergy Summit in August 2015.

Further information

For a list of steering committee members, working group members and stakeholders refer to Appendix F and Appendix G.

Appendix F: Steering Committee and Working Group members

Steering Committee

Richard Loh - Chair
Maria Said - Deputy Chair
Katie Allen
Dianne Campbell
Jo Douglass
Merryn Netting
Wendy Norton
Sally Voukelatos
Brynn Wainstein
Melanie Wong
ASCIA staff: Sandra Vale, Jill Smith

Education and Training Working Group

Co-chairs

Dianne Campbell (ASCIA) and Wendy Norton (A&AA)

Members

Joanne Adams (A&AA)
Betina Altavilla (ASCIA)
Kathy Beck (ASCIA)
Geraldine Dunne (ASCIA)
Lotta Ekstrom (ASCIA)
Naomi Fenton (ASCIA)
Tracy Kidd (ARC)
David Mayne (TAMS)
Mary McNab (ASCIA)
Mahila Namasivayam (ASCIA)
Leanne Neal (ACN)
Val Noble (ASCIA)
Michael Nuttal (APPA)
Jane Peake (ASCIA)
Janet Rimmer (NAC)
Debby Savage (A&AA)
Wendy Stuart-Smith (DAA)
Anna Stubbs (ASCIA)
Margot Treloar (ASCIA)
Brynn Wainstein (A&AA)
Melanie Wong (ASCIA)

Care Working Group

Co-chairs

Richard Loh (ASCIA) and Brynn Wainstein (A&AA)

Members

Geraldine Batty (A&AA)
Wendy Birks (ASCIA)
Ana Dosen (ASCIA)
David Gillis (ASCIA)
Peter Goss (RACP)
Kelly Gourlay (PGA)
Sarah Gray (AusEE)
Pam Hudson (ASCIA)
Carl Kennedy (ASCIA)
Nina Kingon (ASCIA)
Jeremy McComish (ASCIA)
Margaret Nicholson (ARC)
Joanne Smart (ASCIA)
Dean Tey (CFAR)
Susan Towns (AAAH)
Briony Tyquin (ASCIA)
Sally Voukelatos (A&AA)
Melanie Wong (ASCIA)
Andy Woodard (GP)
Christine Ziegler (ASCIA)
Celia Zubrinich (ASCIA)

Research Working Group

Co-chairs

Jo Douglass (ASCIA) and Maria Said (A&AA)

Members

Katie Allen (CFAR)

Simon Brown (ACEM)

Richard Harvey (ANZRS)

Bob Heddle (ASCIA)

Mercedez Hinchcliff (AusEE)

Andreas Lopata (ASCIA)

Vicki McWilliam (ASCIA)

Susan Prescott (ASCIA)

Prathyusha Sanagavarapu (UWS/A&AA)

Debby Savage (A&AA)

Melanie Wong (ASCIA)

Food Service/Food Industry Working Group

Co-chairs

Merryn Netting (ASCIA) and Maria Said (A&AA)

Members

John Boland (IHHC)

Fiona Fleming (AFGC)

Kirsten Grinter (Allergen Bureau)

Jennifer Koplín (CFAR)

Fiona MacGillivray (A&AA)

Kristy McCreadie (EHA)

Mark Nolan (EHA)

Bill Porter (A&AA)

Ingrid Roche (ASCIA)

Maryanne Silvers (Monash Health)

Melanie Wong (ASCIA)

Evidence and Data Working Group

Co-chairs

Katie Allen (ASCIA), Sally Voukelatos (A&AA)

Members

Michael Ackland (VIC Dept of Health)

Shyamali Dharmage (CFAR)

Lara Ford (ASCIA)

Caroline Lodge (CFAR)

Raymond Mullins (ASCIA)

Mary Panjiri (MCRI)

Maria Said (A&AA)

Sandra Salter (ASCIA)

Melanie Wong (ASCIA)

Appendix G: Stakeholder organisations

List of stakeholders consulted

- Allergen Bureau
- Allergy & Anaphylaxis Australia (A&AA)
- Australian Support Network for Eosinophilic oEsophagitis (AusEE)
- Australasian College for Emergency Medicine (ACEM)
- Australasian Society of Clinical Immunology and Allergy (ASCIA)
- Australia and New Zealand Rhinologic Society (ANZRS)
- Australian and New Zealand Anaesthetic Allergy Group (ANZAAG)
- Australian Association for Adolescent Health (AAAH)
- Australian Breastfeeding Association (ABA)
- Australian Camps Association (ACA)
- Australian Children’s Education & Care Quality Authority (ACECQA)
- Australian College of Dermatologists (ACD)
- Australian College of Nursing (ACN)
- Australian College of Rural and Remote Medicine (ACRRM)
- Australian Food and Grocery Council (AFGC)
- Australian Hotels Association (AHA)
- Australian Medical Association (AMA)
- Australian Nursing & Midwifery Federation
- Australian Primary Principals Association (APPA)
- Australian Psychological Society (APS)
- Australian Restaurant & Catering Association
- Australian Resuscitation Council (ARC)
- Australian Secondary Principals Association (ASPA)
- Australian Society of Otolaryngology Head and Neck Surgery (ASOHNS)
- Centre for Food & Allergy Research (CFAR)
- Clubs Australia
- Defence Force Recruiting
- Department of Health Northern Territory
- Department of Health Queensland
- Department of Health South Australia
- Department of Health Tasmania
- Department of Health Victoria
- Department of Health Western Australia
- Dietitians Association of Australia (DAA)
- Eczema Association of Australia (EAA)
- Environmental Health Australia (EHA)
- Food & Beverage Importers Association (FBIA)
- Food Standards Australia New Zealand (FSANZ)
- Ilhan Foundation (now known as the Australian Food Allergy Foundation)
- Institute of Hospitality in HealthCare Ltd (IHHC)
- Medical Deans Australia and New Zealand
- National Asthma Council Australia (NAC)
- National Health Medical Research Council (NHMRC)
- National Prescribing Service (NPS)
- NSW Ministry of Health
- Pharmaceutical Society of Australia (PSA)
- Pharmacy Guild of Australia (PGA)
- Playgroup Australia
- Restaurant and Catering Association (RCA)
- Royal Australasian College of Physicians (RACP)
- Royal Australian College of General Practitioners (RACGP)
- Rural Doctors Association of Australia (RDAA)
- Society of Hospital Pharmacists of Australia (SHPA)
- St John Ambulance
- Surf Lifesaving Australia
- The Australasian Mastocytosis Society (TAMS)
- Thoracic Society of Australia & New Zealand (TSANZ)

List of stakeholders who attended the Allergy Summit 2014

- Allergen Bureau
- Allergy & Anaphylaxis Australia (A&AA)
- Australian Support Network for Eosinophilic oEsophagitis (AusEE)
- Australasian College for Emergency Medicine (ACEM)
- Australasian Society of Clinical Immunology and Allergy (ASCIA)
- Australia and New Zealand Rhinologic Society (ANZRS)
- Australian and New Zealand Anaesthetic Allergy Group (ANZAAG)
- Australian Association for Adolescent Health (AAAH)
- Australian Camps Association (ACA)
- Australian Children's Education & Care Quality Authority (ACECQA)
- Australian College of Dermatologists (ACD)
- Australian College of Nursing (ACN)
- Australian Food and Grocery Council (AFGC)
- Australian Psychological Society (APS)
- Australian Resuscitation Council (ARC)
- Australian Society of Otolaryngology Head and Neck Surgery (ASOHNS)
- Centre for Food & Allergy Research (CFAR)
- Department of Health Victoria
- Dietitians Association of Australia (DAA)
- Environmental Health Australia (EHA)
- Food & Beverage Importers Association (FBIA)
- Food Standards Australia and New Zealand (FSANZ)
- Pharmaceutical Society of Australia (PSA)
- Pharmacy Guild of Australia (PGA)
- Royal Australasian College of Physicians (RACP)
- The Australasian Mastocytosis Society (TAMS)

Appendix H: Public health approach to allergic diseases

				LEVEL OF INTERVENTION		
				Primary prevention	Secondary prevention	Tertiary prevention
				STAGE OF DISEASE CONTINUUM		
				Well population	Affected, not symptomatic	Affected and symptomatic (established disease)
Management and coordinated care All allergic diseases		<p>Governments, communities, physicians, other healthcare professionals and patient organisations commit to an educational plan to implement evidence-based practices for prevention of allergic diseases.</p>	<p>Adopt, distribute and implement peer endorsed best practice guidelines for the diagnosis and management of allergic diseases and ensure application of these guidelines.</p> <p>These guidelines should ensure:</p> <ul style="list-style-type: none"> • Appropriate testing and interpretation of results; • Appropriate treatment; • Appropriate education. <p>Individual to be assessed by an appropriately trained specialist in a timely manner based on specific needs.</p> <p>Universal access to clinical immunology/allergy specialist services.</p> <p>Universal access to written advice and other specialist services.</p> <p>Access to evidence based screening testing if shown to be cost effective.</p>	<p>Adopt, distribute and implement peer endorsed best practice guidelines for allergic diseases and ensure application of these guidelines which should include:</p> <ul style="list-style-type: none"> • Timely access to appropriately trained specialist • Need-specific patient referral and timely access to allied health professionals. <p>Provision of consumer support group information.</p> <p>Develop identified pathways and/or service delivery models to enact a smooth transition from paediatric to adult immunology/allergy services.</p>		
	Anaphylaxis	<p>National communication and application of best practice prevention strategies such as infant feeding guidelines.</p>	<p>Confirmation of allergy and identification of causative allergens.</p> <p>Access to oral food challenges (food allergy) to prove/disprove disease resolution and allergen immunotherapy (stinging insect allergy only at this time).</p> <p>Enhance access to immunotherapy to treat anaphylaxis to the Australian Jack Jumper ant venom (very limited availability at this time without government subsidy).</p>	<p>On the day of discharge, the patient's general practitioner should receive:</p> <ul style="list-style-type: none"> • Appropriate communication of patient information. • Acute medical specialist opinion and advice. • A discharge summary. • A copy of the individual's ASCIA Action Plan for Anaphylaxis. • Allergy/immunology referral for assessment and education. • Patient support group information <p>Appropriate intervention strategies should be employed:</p> <ul style="list-style-type: none"> • Immunotherapy for patients with severe insect sting allergy. 		
	Food allergy and associated syndromes	<p>National communication and application of best practice prevention strategies including infant feeding guidelines to reduce the risk of disease development.</p>	<p>Confirmation of food allergy/ associated disorder and identification of causative allergens (where appropriate).</p> <p>Access to oral food challenges.</p>	<p>Access to ongoing screening for complications of the disease.</p> <p>Access to oral food challenges.</p> <p>Access to "immunotherapy" for food allergic individuals when available (probably within 5 years).</p>		

<p>Drug allergy</p>	<p>Current prevention strategies include:</p> <ul style="list-style-type: none"> • Human leukocyte antigen (HLA) typing of patients considered at risk of drug allergy/adverse drug reactions. • Appropriate antibiotic prescribing practices including appropriate referral for drug allergy testing. 	<p>Prior to administration of drugs HLA typing of patients considered at risk of drug allergy.</p> <p>Access to specialist assessment and if required drug challenges to prove safety of alternative medication and perhaps of implicated drug to prove/disprove allergy.</p>	<p>On the day of discharge, the patient's general practitioner should receive:</p> <ul style="list-style-type: none"> • Appropriate communication of patient information, • Acute medical specialist opinion and advice, • A discharge summary. <p>Implement strategies to prevent further exposure:</p> <ul style="list-style-type: none"> • Computer alerts. • Medical bracelet worn by patient. • Addition of data to the personally controlled electronic health record.
<p>Allergy (excluding food and drug allergy)</p>	<p>Appropriate intervention strategies should be employed:</p> <ul style="list-style-type: none"> • Immunotherapy for patients with allergic rhinitis in the prevention of asthma. 	<p>Appropriate treatment of one allergic disease may prevent the development of other diseases and/or complications (e.g. allergen immunotherapy for allergic rhinitis may prevent chronic sinusitis, reduce the risk of developing allergic asthma and may reduce the risk of new sensitisation); appropriate treatment of atopic dermatitis may prevent infected eczema).</p>	<p>Immunotherapy for insect venom and aeroallergens if required.</p>
<p>Workforce development and training</p> <p>All allergic diseases</p>	<p>Increase the number of clinical immunology/allergy specialists.</p> <p>Improved level of education and training provided to all health professionals regarding primary, secondary and tertiary care of allergic and immunologic diseases.</p> <p>Incorporate appropriate training about allergic diseases into undergraduate training for health professionals as well as teachers, education assistants and childcare staff.</p> <p>Improve workforce capacity including general paediatricians/physicians with an interest in allergy.</p>		
<p>Food allergy and anaphylaxis</p>	<p>Education and training of food service industry and Environmental Health Officers regarding allergens, allergic customers, accurate food labelling, complete disclosure of food ingredients and possible avenues of cross contamination with allergens.</p>		<p>Education and reinforcing activities regarding the acute management of anaphylaxis to improve quality and safety.</p> <p>Pathology laboratories in Australia should retain blood samples, stomach contents and food samples in all cases of known or suspected fatal anaphylaxis and asthma deaths.</p>
		<p>Australian hospitals and other institutions (e.g. aged care facilities) should provide allergy appropriate meals with confidence.</p> <p>Review food service issues in relation to the provision of meals for food allergic individuals, and for standardised training for food service/catering staff, catering managers and dietitians across Australian hospitals and other institutions.</p>	

				LEVEL OF INTERVENTION		
				Primary prevention	Secondary prevention	Tertiary prevention
				STAGE OF DISEASE CONTINUUM		
				Well population	Affected, not symptomatic	Affected and symptomatic (established disease)
Education, Health Promotion and Awareness • Allergic Individuals • Carers • Community All allergic diseases	Develop a sustainable education and awareness campaign that informs community members about allergic diseases.			Increase awareness of treatments available to prevent further disease (e.g. immunotherapy).		Education of patient/carer regarding the management of allergic diseases.
	Develop a sustainable education and awareness campaign that informs community members about food allergy and anaphylaxis and teaches appropriate management, response behaviour and available therapies.			Education of food providers about reading labels, cross contamination and recognition of allergic reactions including anaphylaxis. Facilitate access to appropriate information to reduce the nutritional impact of food allergies and reduce the risk of accidental exposure. Educate people at risk of anaphylaxis and their carers about anaphylaxis and how to minimise the risk of exposure to known allergens and how to use the adrenaline autoinjector. Strategies to change consumer and carer behaviour to increase the uptake of and compliance with risk management advices as provided by health professionals. Labelling of foods and availability of substitute foods.		Individuals at risk of anaphylaxis to be provided with an adrenaline autoinjector and ASCIA Action Plan for Anaphylaxis to carry with them at all times. Facilitate access to appropriate information to reduce the nutritional impact of food allergies and reduce the risk of accidental exposure. Individual/carer to receive appropriate education, including how and when to use the adrenaline autoinjector. Facilitate access to information on available therapies including immunotherapy where appropriate.
Research and Evidence Base All allergic diseases	Continue to support and foster advances in the care and understanding of allergic diseases.					
	Promote further research where there are gaps in knowledge.		Improved availability and consistency of application of evidence based guidelines for diagnosis and management of individuals with allergic diseases.		Develop comprehensive clinical information systems or databases/ registers for oral food allergen challenges and anaphylaxis. Use translational research across multiple phases, including dissemination/ implementation research and outcome based studies to measure effectiveness of public health strategies for allergic disease management.	

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