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australasian society of clinical immunology and allergy inc.

Allergy in Australia 2014

A submission for allergic diseases to be recognised as a National Health Priority Area



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Fast facts

WHAT ARE THE CURRENT PROBLEMS?

1. Allergic diseases are among the fastest growing chronic conditions in Australia.
2. Almost 20% of the Australian population has an allergic disease and this prevalence is increasing.
3. Hospital admissions for anaphylaxis (severe life threatening allergic reaction) have increased 4-fold in the last 20 years.
4. Food-induced anaphylaxis has doubled in the last 10 years and 10% of infants now have an immediate food allergy.
5. 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 drug.
6. There is a lack of public awareness about the impact and appropriate management of allergic diseases.
7. Access to care is difficult, even in metropolitan areas, due to the high number of patients and low number of appropriately trained health care professionals, resulting in long waiting times to see a specialist.

WHAT ARE THE SOLUTIONS?

1. Allergic diseases should be recognised as a National Health Priority Area and a prioritised chronic disease which will:
    - Enable projects relating to allergic diseases to be eligible to apply for grants specific for National Health Priority Areas and chronic diseases.
    - Improve management and prevention strategies for allergic diseases.
2. Development of a national allergic diseases model of care which will address:
    - Improved access to care and accurate diagnosis for patients with allergic diseases.
    - Access to affordable and cost-effective therapies.

Aim

The aim of this report is to have allergic diseases recognised by government as a National Health Priority Area and a prioritised chronic disease (see table below).

National Health Priority Areas (NHPA)	National Chronic Disease Strategy
Asthma	Asthma
Cancer control	Cancer
Cardiovascular Health	Heart, stroke and vascular disease
Diabetes mellitus	Diabetes
Arthritis and musculoskeletal conditions	Osteoarthritis, rheumatoid arthritis and osteoporosis
Obesity	Chronic and end-stage kidney disease (2013)
Injury prevention and control	
Mental health	
Dementia	
Proposed additional NHPA	**Proposed additional NCDS**
Allergic diseases (2014)	Allergic diseases (2014)

References:
www.aihw.gov.au/national-health-priority-areas/
www.health.gov.au/internet/main/publishing.nsf/Content/chronic

What is ASCIA?

The Australasian Society of Clinical Immunology and Allergy (ASCIA) is a not-for-profit professional medical organisation, comprised predominantly of clinical immunology and allergy medical specialists. These specialists manage patients with allergy and other immune diseases. The ASCIA membership also includes other medical practitioners, scientists and allied health professionals (mainly nurses and dietitians) who work in the areas of allergy and immunology.

The mission of ASCIA is to advance the science and practice of clinical immunology and allergy, by promoting education and the highest standard of ethical medical practice.

ASCIA has provided a range of education resources for physicians and patients since 1999, followed soon after by several position statements, guidelines and action plans. Since 2010, ASCIA has developed a range of online and face to face training courses in response to a growing need for accurate and consistent information. ASCIA consults the ASCIA membership and key stakeholder organisations to ensure all resources developed are evidence based and appropriate to meet the needs of the end-user. To date:

- ASCIA e-training courses have been accessed by over 130,000 participants across Australia.
- ASCIA anaphylaxis training for schools and childcare has been provided as face to face training to school and childcare staff in Western Australia and New South Wales.
- ASCIA anaphylaxis training for health professionals has been provided as face to face training to pharmacists, general practitioners, nurses and paediatricians in most regions in Australia.
- ASCIA allergic rhinitis, immunotherapy and food allergy training courses have also been provided to pharmacists, general practitioners, nurses, paediatricians and dietitians across Australia.

For more detailed information about ASCIA resources including training resources, please refer to the supplementary document "**ASCIA Education Resources Report**" available from the ASCIA website: http://www.allergy.org.au/ascia-reports/ascia-education-resources-report

As a non-government organisation, ASCIA's educational activities are dependent on ASCIA members donating their unpaid time for resource development, funding derived from membership fees, small educational grants from some state governments for specific projects and unrestricted educational grants from industry (providers of unrestricted educational grants have no input into resource content or development). ASCIA does not currently receive any funding from the Australian federal government.

For ASCIA to be able to continue to update existing resources and develop urgently needed new resources, government support is required.

Overview of allergic diseases

Allergic diseases occur when a person's immune system reacts to substances that are normally harmless. These substances are known as allergens and can be found in foods, airborne particles such as dust mite or pollens, insect venoms and medications. Allergic diseases, particularly food allergy, are increasing in prevalence and severity, and are a mounting public health issue in Australia. Refer to Appendix B for more detailed information.

Allergies are the fastest growing chronic diseases in Australia and include food, insect and drug allergies (including life threatening severe allergic reactions called anaphylaxis), asthma, allergic rhinitis (hay fever) and eczema.

- 4.1 million Australians (19.6% of the population) have at least one allergic disease[1].
- Allergic diseases most commonly present in children and adolescents[2] and often persist into adulthood.
- 10% of Australian infants have proven food allergy[3], one of the highest incidences internationally.
- Hospital admissions for anaphylaxis have increased 4-fold in the last 20 years[4].
- 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 drug[5].
- Drug-induced anaphylaxis deaths have increased 300% over the last decade in Australia[6].
- Australian hospital admissions data from 1997-2005 indicates that drug allergy accounted for 20% of anaphylaxis deaths with another 38% of deaths likely to be due to drug allergy[6].
- 18% of Australians have allergic rhinitis[1] with significant impact on quality of life[7]. Patients with allergic rhinitis are three times more likely to have asthma and more than 80% of allergic asthmatics have allergic rhinitis[8].
- It is predicted that by 2050 the number of patients affected by allergic diseases in Australia will increase by 70% to 7.7 million[1].

Allergic diseases have a significant cost to the individual and the community:

- In 2005, the total financial cost of allergic diseases was estimated to be approximately AU$30 billion (ASCIA Access Economic Report 2007), comprising $1.1 billion in direct health system expenditure, $7.1 billion due to lost productivity and $21.3 billion due to lost wellbeing (disability and premature death)[1].
- In per capita terms, this amounts to a total cost of approximately $7,400 per person with allergies per annum[1].

Recognition as a prioritised chronic disease

Allergic diseases should be recognised as a prioritised chronic disease group as they align completely with the criteria used by the National Chronic Disease Strategy[9] as exemplified below:

Criteria	Allergic Diseases
Have complex and multiple causes	Multiple genetic and environmental factors. Early feeding/exposures.
Usually have a gradual onset, although they can have sudden onset and acute stages	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.
Occur across the lifecycle, although they become more prevalent with older age	Food allergies and eczema are more common in children but insect and drug allergy, asthma and allergic rhinitis are more common in older individuals. Asthma occurs at all ages.
Can compromise quality of life through physical limitations and disability	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	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	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 at risk of anaphylaxis.

Priority actions

Short term:
- Interim funding to sustain ASCIA education initiatives, particularly e-training. These resources provide a valuable education service and cannot be maintained by ASCIA without further funding.

- Funding for an oral food allergen challenge database. This database would enable the collection of oral food challenge data nationally and enable greater standardisation of protocols and research across centres.

Medium to long term:
- Development of a model of care for allergic diseases to provide a framework for best practice management throughout Australia.

- Funding for new ASCIA education initiatives for health professionals and the community.

Model of care for allergic diseases

Current issues:
- Timely access to appropriate care for allergic diseases improves outcomes and quality of life, whilst delayed diagnosis or inappropriate treatment may lead to permanent complications such as chronic damage to lungs and other body organs.
- A combination of population growth, increasing incidence of allergic diseases, an ageing workforce and limited training places for new specialists have led to longer waiting lists in specialist immunology/allergy services.
- A model of care for allergic diseases is required as a matter of urgency. However, before this can be developed, it is essential that there is formal recognition of allergic diseases as a prioritised chronic disease and a National Health Priority Area.

Objectives of proposed model of care for allergic diseases:
- Provide a national framework for best practice management (care and prevention) in Australia.
- Assist in long term planning of resources to ensure sustainability of appropriate and effective strategies to improve patient outcomes and quality of life for those with allergic diseases.
- Focus on a number of key areas that are based on the National Chronic Disease Action Areas (National Health Priority Action Council 2006) including:
  - Prevention and promotion;
  - Early detection and intervention
  - Integration and continuity of care; and
  - Self management.

Outcome measures need to be developed to evaluate the cost-effectiveness of a model of care for allergic diseases, including process (e.g. education programs) and improvement of patient outcomes. This ideally will include the development of databases for specific conditions (e.g. anaphylaxis) and specialised procedures (e.g. oral food allergen challenges to confirm or exclude food allergy).

What will a model of care for allergic diseases support?
- Access to early and accurate diagnosis based on best practice evidence and expert opinion including timely access to clinical immunology/allergy specialist services and ensuring that people with allergy receive the right care, at the right time, by the right team, in the right place.
- Access to affordable and cost-effective therapy including novel therapies.

- Community and medical education with access to health promotion and prevention programs for patients, carers and health professionals.
- A consumer-centred approach, the main focus being the improvement of quality of life.
- Monitoring of population trends in risk factors for allergy.
- Local research to develop interventional strategies to reduce the burden of disease in the community.
- Future planning in terms of workforce and resources to ensure sustainability.
- A public health approach including strategies to reduce disease development, manifestation and complications through primary, secondary and tertiary prevention.
- Improved service provision for all allergic conditions. Refer to Appendix D for more detailed information.

Learning from others:
The Finnish National Allergy Programme (FNAP) 2008-2018 is a comprehensive plan with the aim of reducing the burden of allergies. 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 Programme's main goals are to[10]:
- 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 has published a number of papers about the Programme including interim outcomes:
http://www.ncbi.nlm.nih.gov/pubmed/19383025 (open access)
http://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 A: Prevalence data

Allergic diseases affect approximately 1 in 3 Australians and this prevalence is increasing. The table below indicates the current prevalence of common allergic diseases.

Disease	Prevalence
Allergy	
- Anaphylaxis (severe allergic reaction)	3-60/100,000 patient years[4]
- Food allergy	10% of children < 1 year[3] 4-8% of children < 5 years[11] ~2% of adults[9]
- Eosinophilic oesophagitis	1 per 10,000 children[12] ~1% of adults[12]
- Stinging insect allergy	~ 3%[13]
- Drug allergy (e.g. antibiotics, pain killers, anaesthetics)	~1-2%[14]
- Latex allergy	~ 1% and higher in occupational exposure[1]
- Upper airway allergy	~15%[15]
- Asthma	~10%[16]
Allergic and non-immunologic diseases of the nose and eyes	
- Allergic rhinitis (hay fever)	~ 18%[17]
- Nasal polyps	~ 0.5%[1]
- Allergic conjunctivitis	~10%[18]
- Chronic sinusitis	~7%[15]
Allergic and immunologic diseases of the skin	
- Atopic dermatitis (eczema)	~10% of children[1] ~7% of adults[1]
- Contact dermatitis	~1%[1]
- Urticaria and angioedema (hives, swellings)	~ 1/1000[1]

APPENDIX B: Allergic diseases overviews

Allergic rhinitis (hay fever)

Allergic rhinitis, often known as hay fever affects around 1 in 5 people in Australia and New Zealand. It can affect children and adults. Individuals often self-treat allergic rhinitis and many sufferers and doctors and under-estimate its impact on day to day living. Allergic rhinitis in some individuals may lead to impaired concentration, impaired sleep, and reduced work, school, sporting or driving performance. Medications used in allergic rhinitis can be expensive, and although allergen immunotherapy is available as a therapy, many patients do not receive any subsidy.

Anaphylaxis

Anaphylaxis is the most severe form of allergic reaction, usually occurring within 2 hours of exposure to the triggering agent. Food anaphylaxis presentations, particularly in children, to the hospital emergency department have doubled over the last 10 years, although death from anaphylaxis remains rare. This rise of food allergy has already had a significant impact on the food industry and in schools and childcare, where staff are frequently requested or mandated to be educated in the management of allergic reactions. Insect venom anaphylaxis has remained relatively constant however drug related anaphylaxis and deaths from such events have increased in hospitals. It is likely in the next two decades rates of adult nut and shellfish anaphylaxis will rise, given children with these current allergies are unlikely to outgrow these particular food allergies.

Atopic dermatitis (eczema)

Atopic dermatitis (also known as eczema) occurs in around 20% of infants[1], and its prevalence is increasing worldwide. It is a chronic condition, with no cure. Eczema can profoundly affect the quality of life of patients and their families. It can lead to sleep deprivation, mood changes, impaired psychological functioning at work and school, embarrassment, social isolation and restriction of daily activities. The impairment of quality of life caused by eczema has been shown to be greater than other common conditions, such as asthma and diabetes[1]. The financial cost to the individual and family can be significant.

Drug allergy

Allergic reactions to a large number of medicines can occur. Reactions to pain killers or arthritis tablets and antibiotics are the most common, but reactions have been described to many other medicines. Severity may range from mild rashes through to potentially life-threatening anaphylaxis. The inability to accurately diagnose drug allergy may result in the need to use more expensive medication. Allergic or immunologic mechanisms account for 5-10% of all adverse drug reactions[19].

An Australian study published the following data relating to anaphylaxis deaths from 1997-2005[6]:

Cause	Number of deaths	Percentage
Food	7	6 %
Drugs	22	20 %
Probably drugs	42	38 %
Insect stings	20	18 %

It is important to note that deaths from anaphylaxis are likely to be underestimated due to the difficulty of post mortem diagnosis and under-reporting.

Adverse drug events cause a large number of injuries and adverse events caused by medications administered in the face of known allergies represent an important preventable cause of patient harm.

Key factors in drug allergy checking include[14]:

- Appropriate storage of patient allergy data (e.g. computer alerts).
- Being judicious about which allergy warnings to display.
- Conveying the reaction the patient has experienced when exposed to the drug to inform the provider of the importance of the warning.
- Implementing strategies to optimise the likelihood that allergy information will be entered.

Recent research can dramatically improve drug safety by identifying drugs likely to cause potentially fatal genetic-linked hypersensitivity reactions before their use. Many drug hypersensitivity reactions are associated with certain genes (HLA-linked), meaning that they will occur much more often or even exclusively in individuals who have certain variants of the HLA gene. Some gene variants appear to be more commonly associated with drug hypersensitivity[14].

Food allergy and associated syndromes

Food allergy is estimated to affect 1-2% of adults and 4-8% of children under 5 years of age, in Australia[11]. Recent Australian data indicates that up to 10% of children less than one year of age will develop food allergy[3].

IgE mediated immediate food allergy is most commonly caused by 9 foods (cow's milk, egg, peanut, tree nuts, wheat, soy, sesame, fish and shellfish). Many of these foods are common in the Western diet and difficult to avoid. Reactions range from mild to severe (anaphylaxis). There is currently no cure. Although food desensitisation (immunotherapy) trials are in progress, this treatment is still at an investigational stage.

The rate of hospitalisation for food-induced anaphylaxis continued to increase between 1993 and 2004 by 8.8% per annum[20]. The rapidly increasing trend of food induced anaphylaxis hospitalisations in children remains an ongoing concern[20,21].

Non-IgE mediated food allergy can result in poor growth, food restrictions and abnormal eating behaviours and impact on quality of life. Management can be complex, involve a number of health professionals and frequent, invasive investigations. Rates of non-IgE mediated food allergies such as eosinophilic oesophagitis, are rising in Australia[22].

Children with food allergy commonly have atopic dermatitis (eczema) in early childhood[23]. Food allergy may make atopic dermatitis worse for some individuals, but is not the cause. Common triggers include cow's milk, egg, peanut, soy and wheat. Management requires avoidance of food triggers.

Management of food allergy and associated syndromes requires:

- Early diagnosis and dietary avoidance (breastfeeding mothers may also need to avoid the food triggers).
- Access to specialist immunology/allergy physician, gasteroenterologist and specialist dietetic services.
- Access to specialised infant formula. Children with these conditions often have feeding difficulties.

APPENDIX C: Stakeholder consultation

The following stakeholders were consulted in the development of this document:

Organisation	Role	Website
Allergy & Anaphylaxis Australia	Patient support organisation	www.allergyfacts.org.au
Australian Support for Eosinophilic Disorders (AusEE)	Patient support organisation for those with eosinophilic gastrointestinal disorders	www.ausee.org/
Australasian College for Emergency Medicine	Medical College	www.acem.org.au/
Australian College of Rural and Remote Medicine	Medical College	www.acrrm.org.au
Australian Medical Association	Medical association	www.ama.com.au
Australian Society of Ophthalmologists	Medical society	www.aso.asn.au
Australian Society of Otolaryngology Head and Neck Surgery	Medical society	www.asohns.org.au
Dietitians Association of Australia	Professional association	daa.asn.au
Eczema Association of Australasia	Patient support organisation	www.eczema.org.au/
National Asthma Council Australia	National asthma organisation	www.nationalasthma.org.au/
Pharmaceutical Society of Australia	Professional society	www.psa.org.au
Pharmacy Guild of Australia	Professional guild	www.guild.org.au
Royal Australian College of General Practitioners	Medical College	www.racgp.org.au/
Royal Australasian College of Physicians	Medical College	www.racp.edu.au/
Rural Doctors Association of Australia	Medical association	www.rdaa.com.au
Society of Hospital Pharmacists of Australia	Professional society	www.shpa.org.au/
The Australasian Mastocytosis Society (TAMS)	Patient support organisation	http://mastocytosisaustralasia.com/

APPENDIX D: 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	Governments, communities, physicians, other health care professionals and patient organisations commit to an educational plan to implement evidence based practices for prevention of allergic diseases.	Adopt, distribute and implement peer endorsed best practice guidelines for the diagnosis and management of allergic diseases and ensure application of these guidelines. These guidelines should ensure: • Appropriate testing and interpretation of results; • Appropriate treatment; • Appropriate education. Individual to be assessed by an appropriately trained specialist in a timely manner based on specific needs. Universal access to clinical immunology/allergy specialist services. Universal access to written advice and other specialist services. Access to evidence based screening testing if shown to be cost effective.	Adopt, distribute and implement peer endorsed best practice guidelines for allergic diseases and ensure application of these guidelines which should include: • Timely access to appropriately trained specialist • Need-specific patient referral and timely access to allied health professionals. Provision of consumer support group information. Develop identified pathways and/or service delivery models to enact a smooth transition from paediatric to adult immunology/allergy services.
Anaphylaxis	National communication and application of best practice prevention strategies such as infant feeding guidelines.	Confirmation of allergy and identification of causative allergens. Access to oral food challenges (food allergy) to prove/disprove disease resolution and immunotherapy (stinging insect allergy only at this time).	On the day of discharge, the patient's general practitioner should receive: • Appropriate communication of patient information. • Acute medical specialist opinion and advice. • A discharge summary.

		Enhance access to immunotherapy to treat anaphylaxis to the Australian Jack Jumper ant venom (very limited availability at this time without government subsidy).	• A copy of the individual's ASCIA Action Plan for Anaphylaxis. • Allergy/immunology referral for assessment and education. Appropriate intervention strategies should be employed: • Immunotherapy for patients with severe insect sting allergy.
Food allergy and associated syndromes	National communication and application of best practice prevention strategies including infant feeding guidelines to reduce the risk of disease development.	Confirmation of food allergy/associated disorder and identification of causative allergens (where appropriate). Access to oral food challenges.	Access to ongoing screening for complications of the disease. Access to oral food challenges. Access to "immunotherapy'" for food allergic individuals when available (probably within 5 years).
Drug allergy	Current prevention strategies include: • HLA typing of patients considered at risk of drug allergy/adverse drug reactions. • Sensible antibiotic prescribing practices.	Prior to administration of drugs HLA typing of patients considered at risk of drug allergy. Access to specialist assessment and if required drug challenges to prove safety of alternative medication and perhaps of implicated drug to prove/disprove allergy.	On the day of discharge, the patient's general practitioner should receive: • Appropriate communication of patient information, • Acute medical specialist opinion and advice, • A discharge summary. Implement strategies to prevent further exposure: • Computer alerts. • Medical bracelet worn by patient. • Addition of data to the PCEHR.
Allergy (excluding food and drug allergy)	Appropriate intervention strategies should be employed: • Immunotherapy for patients with allergic rhinitis in the prevention of asthma.	Appropriate treatment of one allergic disease may prevent the development of other diseases and/or complications (e.g. appropriate treatment 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).	Immunotherapy for insect venom and aeroallergens if required.

Workforce development and training All allergic diseases	Increase the number of clinical immunology/allergy specialists.		
	Improved level of education and training provided to all health professionals regarding primary, secondary and tertiary care of allergic and immunologic diseases.		
	Incorporate appropriate training about allergic diseases into undergraduate training for health professionals as well as teachers, education assistants and childcare staff.		
	Improve workforce capacity including general paediatricians/physicians with an interest in allergy.		
Food allergy and anaphylaxis	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.		Education and reinforcing activities regarding the acute management of anaphylaxis to improve quality and safety. 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.
		Australian hospitals and other institutions (e.g. aged care facilities) should provide allergy appropriate meals with confidence. 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.	
Education, Health Promotion and Awareness • **Allergic Individuals** • **Parents and 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.
Food allergy and anaphylaxis	Develop a sustainable education and awareness campaign that informs community	Education of food providers about reading labels, cross contamination and	Individuals at risk of anaphylaxis to be provided with an adrenaline autoinjector and

	members about food allergy and anaphylaxis and teaches appropriate management, response behaviour and available therapies.	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 update of and compliance with risk management advices as provided by health professionals. Labelling of foods and availability of substitute foods.	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. Evaluation of the effectiveness of current resources aimed at people with allergic diseases.

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