National Asthma Campaign

National Asthma Strategy Implementation Plan 1999

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National Asthma Strategy Implementation Plan Working Group

National Asthma Council (Coordinator)

Department of Health and Aged Care
The Thoracic Society of Australia and New Zealand
The Royal Australian College of General Practitioners
Pharmaceutical Society of Australia
Asthma Australia
Pharmacy Guild of Australia
Australasian Society of Clinical Immunology and Allergy
Australian Divisions of General Practice
Asthma Educators' Associations
Consumers' Health Forum
Asthma New South Wales
Australian Health Ministers' Advisory Council

Foreword

Asthma is a serious problem in Australia. For the last ten years there has been a true collaborative spirit in Australia where organisations and individuals have worked together to achieve better quality of life for people with asthma.

Effective, evaluated interventions for asthma management have been developed, good treatment is available, public awareness of asthma is high and people with asthma have a better understanding of their own asthma management. The number of deaths has declined from 964 in 1989 to 715 in 1997.

Despite this progress we are faced with the challenge of increasing prevalence and possibly with increasing severity. The National Asthma Campaign has worked with stakeholders to develop the National Asthma Strategy, Goals and Targets (1994), the National Asthma Strategy, Strategies and Implementation (1996) and now the National Asthma Strategy Implementation Plan. We now have a forward-looking plan of coordinated asthma activities.

The purpose of this plan is to achieve optimal asthma outcomes for people with asthma. Good asthma management is more cost effective than poor asthma management, so a sustained future effort by all stakeholders in asthma will assist to contain the cost of asthma to the community.

The National Asthma Strategy Implementation Plan brings together current and proposed efforts to improve asthma health outcomes. Energy and resources are to be committed to better health and to illness prevention. Current developments such as the National Public Health Partnership and the Divisional structure supporting general practitioners, are part of this dynamic plan for asthma.

My Department has been delighted to participate as a stakeholder in the development of the National Asthma Strategy Implementation Plan.

The proposal by the Federal Government to make asthma the sixth National Health Priority Area, and to provide $8 million for asthma over the next three years demonstrates our wish to deliver positive health outcomes for asthma.
The National Asthma Strategy Implementation Plan will be an important reference to identify priority activities to be carried out over the next five to six years.

DR MICHAEL WOOLDRIDGE
Minister for Health and Aged Care

Executive Summary

The National Asthma Strategy Implementation Plan has been developed to:

- focus effort, resources and attention on priority areas where return for investment will be greatest;
- provide a means to coordinate and provide direction for asthma activity - Research, education, management; and
- identify gaps in asthma activity which must be filled if our goals are to be achieved.

This Implementation Plan aims for the following outcomes:

- improved quality of life for people with asthma;
- continued reduction in the number of deaths per annum;
- significant improvements in the asthma management practices of adults with asthma;
- increased significant improvements in the asthma management practices of children with asthma;
- continued and faster rates of improvement in the asthma management practices of general practitioners and pharmacists;
- adoption of effective adherence strategies by health professionals and people with asthma, leading to sustained behavioural change and best possible asthma management practices;
- reduction in the annual cost of asthma to the community;
- establishment of coordinated asthma research priorities for Australia.

The high priority strategies identified by the Working Group are set out in the Summary Table, in a form which details:

- current activity being undertaken
- plans already underway
- additional work which needs to be undertaken in the next three years.

The Table further identifies the Lead Agency responsible for each strategy. The Lead Agency (or Agencies) takes on responsibility for specific components of the strategic plan, and is expected to play a major part in resourcing, developing, implementing and monitoring the strategy. This Implementation Plan sets out clear roles for organisations already active in the area, and fosters collaboration and the creation of partnerships across the community, in a diverse range of organisations.

Timelines are stated for most strategies, as well as proposals for monitoring and evaluation, such as baseline measures and broad performance indicators. The NAC will monitor the extent to which the Implementation Plan is activated and establish the extent to which activities outlined are being undertaken. An important aspect of the role of Lead Agencies will be to assist in the development and application of a system to monitor and evaluate the Implementation Plan. The National Asthma Strategy Implementation Plan is designed to meet the problems presented by increasing asthma prevalence and an ageing community as a cost-effective healthcare intervention. Asthma has now been proposed as the sixth National Health Priority Area. The Implementation Plan will serve as a useful reference when activities for this are being considered.

Plan Summary

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY	
Strategy 1.1:	Identify best practice for asthma management
Lead Agency:	The Thoracic Society of Australia and New Zealand (TSANZ) A key element of this strategy is the development of new best practice guidelines, and the systematic promulgation and implementation of these to all target audiences.
Strategy 1.2	Conduct routine audits and set up monitoring and surveillance for the implementation of best practice in the health system
Lead Agency:	National Asthma Campaign (NAC) Regular monitoring of the asthma management practices of health professionals and people with asthma is needed for surveillance of best practice. Evaluation of interventions and collection of relevant data such as trends in hospital admissions, Emergency Department contacts and asthma deaths is also important.
Strategy 1.3	Identify the appropriate structure to facilitate and principles of research into reducing asthma morbidity and mortality
Lead Agency:	Australian Lung Foundation (ALF) Currently, research is not strategically planned nationally and not formally integrated. The development of national asthma research priorities would address this gap and guide funders and researchers.
Strategy 1.6	Examine the factors that contribute to the risk of life-threatening asthma and develop interventions to manage these; and
Strategy 1.7	Establish a system for the identification of those at risk of developing life-threatening episodes of asthma
Strategy 1.9	Ensure that appropriate medical follow-up procedures are put into place for patients leaving hospital after treatment for asthma
Lead Agency:	The Royal Australian College of General Practitioners (RACGP), Australian Divisions of General Practice (ADGP), TSANZ, the Australian Medical Association (AMA) Examination of evaluated, effective, economically feasible discharge models with a view to identifying or developing an NAC-endorsed model involving hospitals, pharmacists, general practitioners and asthma educators.

Strategy 1.10	Investigate and determine the most effective means of establishing asthma education programs for patients during and after a hospital stay, including follow-up from the hospital to the GP
Lead Agency:	RACGP, ADGP, TSANZ, Asthma Educators' Associations (AEAs), Asthma Australia (AA) This involves evaluation of and feasibility studies of various state and territory education programs, and evaluation and revision of current resources.
Strategy 1.11	Work with health authorities to implement these follow-up procedures on a national basis, using the resources of the Divisions of General Practice, if appropriate
Lead Agency:	RACGP, ADGP, AA, TSANZ Consultation with GPs and thoracic physicians would identify current practice in different hospitals. This strategy aims to increase the referral rate from hospitals, GPs and pharmacists to asthma educators and Asthma Foundations.`
GOAL TWO - IDENTIFY AND REDUCE RISK FACTORS FOR ASTHMA	
Strategy S2.2:	Research and implement measures to advise high-risk families about risk factors
Lead Agency:	Australasian Society of Clinical Immunology and Allergy (ASCIA), AA This strategy will involve the evaluation of current resources for families and the production and widespread dissemination of information through outlets such as pharmacies.
Strategy S2.4:	Reduce asthma exacerbations due to tobacco smoke
Strategy S2.5:	Reduce asthma exacerbations due to identifiable trigger factors
Lead Agency:	ASCIA A national awareness program is needed for the public and for health care providers. Further research is needed to identify locally applicable trigger factors in Australia.
Strategy S2.7:	Provide education and resources to health professionals (Relates to all aspects of allergy and immunology relevant to asthma)
Lead Agency:	ASCIA, TSANZ, NAC Surveys will establish the education and resource needs of health professionals, and the merits of different technological formats.

GOAL THREE: ACHIEVE PLANNED AND SHARED RESPONSIBILITY FOR ASTHMA	
Strategy S3.1:	Establish better communication between health professionals and people with asthma and their carers
Lead Agency:	AA, AEAs, TSANZ, RACGP, the Pharmaceutical Society of Australia (PSA) Interventions to aid communication between health professionals and people with asthma, and resources to improve adherence to good asthma management practices need to be trialled and evaluated for a number of different settings and target groups.
Strategy S3.1.2:	Establish better communication between health professionals groups, taking advantage of technological developmentsin communications
Lead Agency:	NAC Communication strategies need to be developed to reach health professionals in rural and remote areas, and further use should be made of technology such as satellite interactive broadcasts. Technological communication between health professional groups needs to be explored.
Strategy S3.2:	Continue to improve the content and availability of information about asthma to the consumer
Lead Agency:	AA, NAC There is a need for evaluated communication campaigns to promote good asthma management that will reach different target groups in metropolitan and rural areas of Australia.
Strategy S3.3:	Provide equitable access to medication and devices
Lead Agency:	Strategies need to be developed, using existing research and further investigation into the cost of medication and devices, to ensure equitable access, particularly for low SES families.

Introduction

The National Asthma Strategy Implementation Plan is the result of widespread consultation and information gathering, and proposes a set of goals, targets and implementation strategies relating to asthma in Australia. It has been developed with a grant from the Department of Health and Aged Care, an important stakeholder in asthma. Implementation of the National Asthma Strategy will bring certain benefits for people with asthma and the community in health, social and economic terms.

The goals of the National Asthma Strategy are to:

- reduce asthma mortality and morbidity;
- identify and reduce risk factors for asthma;
- achieve planned and shared responsibility for asthma that includes:
  - integrated patient care
  - team asthma management
  - asthma education

This Implementation Plan follows the National Asthma Strategy, Goals & Targets (1994) and the National Asthma Strategy, Strategies and Implementation (1996).
The twenty-two strategies listed in this document were considered by a Working Group of major stakeholders, coordinated by the National Asthma Campaign (NAC) and as a result, sixteen strategies were prioritised. These strategies were identified as those which would most effectively, in the short to medium term,

1. significantly reduce the prevalence and severity of asthma and the risk of asthma;
2. contribute to favourable health outcomes through better understanding, skill and commitment; and
3. reduce the social and economic impact of asthma on the community.

Many people and organisations with an interest and expertise in asthma and the general health field have contributed to this document. This is reflected in the breadth and depth of activity outlined in the National Asthma Strategy Implementation Plan.

The National Asthma Campaign (NAC) coordinated and convened a Working Group comprising representatives from The Thoracic Society of Australia and New Zealand, Department of Health and Aged Care, Asthma Australia, the Australasian Society of Clinical Immunology and Allergy, The Royal Australian College of General Practitioners, Pharmaceutical Society of Australia, Pharmacy Guild of Australia, Asthma Educators' Associations, Consumers' Health Forum, Australian Divisions of General Practice, Asthma New South Wales, Australian Health Ministers' Advisory Council and individual experts. Many other organisations were also consulted to collect information on:

- current activity being undertaken
- plans already underway
- additional work which needs to be undertaken in the next three years.

Part 1 - Asthma in Australia - The Current Situation

Asthma is a major public health problem in Australia. It affects 2,041,400 Australians[1] and costs an annual $585 to $720 million.[2] Asthma is a major cause of school absenteeism[3] and of child admission to hospital.[4] Asthma drugs cost the government $170,000,000 in 1995-1996 and are the third highest drug-group cost.[5] Asthma is one of the ten most common reasons for seeing a general practitioner.

Prevalence is increasing in Australia as in other countries with a western lifestyle.[6] Various theories are proposed for this increase[7] but the complicated interaction of factors responsible has yet to be defined. There also appears to be an increased severity of asthma.

The causes of asthma are not yet known and there is still no cure. However, in most people with asthma, the condition can be successfully managed. The fall in deaths from 964 in 1989 to 715 in 1997[8] may indicate that some of Australia's strategies for asthma management are effective. The 1990 and 1993 national surveys of 22,000 adults and 16,000 children conducted by the National Asthma Campaign showed improved asthma management practices in the three year period. [9]

The third national epidemiological survey of the asthma management practices of children and adults is being conducted at the time of writing (1999). This third survey will indicate developments since 1993 and set the baseline for the Implementation Plan.

The 1990 and 1993 results are as follows:

CHILDREN

SYMPTOMS (%)			
	1990	1993	P Value
Wheeze past 12 months	19.5	20.7	<0.05
Diagnosed as asthma	17.2	17.1	ns

MANAGEMENT PRACTICES (%)			
	1990	1993	P value
Dr meas lung fn	27.7	38.8	<0.001
Has PFM	15.4	26.5	<0.001
Has action plan	16.7	21.7	<0.001
Both AP & PFM	6.2	12.1	<0.001

REGULAR THERAPY (%)			
	1990	1993	P value
Inh b/dilator	48.4	30.2	<0.001
Theophylline	5.3	1.2	<0.001
Inh c/ster	18.1	21.5	<0.05
Cromoglycate	8.9	7.0	<0.05

Dr meas lung fn = doctor measured lung function
Has PFM = has peak flow meter
Both AP & PFM = both action plan and peak flow meter
Inh b/dilator = inhaled brochodilator

ADULTS

SYMPTOMS (%)			
	1990	1993	P Value
Wheeze past 12 months	19.1	18.4	ns
Diagnosed as asthma	7.1	7.2	ns

MANAGEMENT PRACTICES (%)			
	1990	1993	P value
Dr meas lung fn	40.2	44.2	ns
A & E meas lung fn	11.1	7.7	ns
Has PFM	18.7	29.8	<0.001
Has action plan	14.0	19.8	<0.001
Both AP & PFM	7.1	12.9	<0.001

REGULAR THERAPY (%)			
	1990	1993	P value
Inh b/dilator	89.7	89.5	ns
Theophylline	20.5	3.9	<0.001
Inh c/ster	33.4	39.1	<0.01
Cromoglycate	4.6	3.9	ns

Better asthma management means improved health outcomes and quality of life for people with asthma, and reduced costs to the community.[2] More general practitioner consultations may be incurred initially but, with the implementation of appropriate management plans involving a multidisciplinary team, fewer hospital admissions and specialist visits are likely.

A RECENT HISTORY - A Collaborative Approach to a Serious Problem

The problem of asthma in Australia is well documented. The first government report on this was the 1988 Report of the NHMRC Working Party on Asthma Associated Deaths.

Then, in response to the serious concerns about the death rate and the undermanagement of asthma by health professionals and people with asthma, The Thoracic Society of Australia and New Zealand developed the Asthma Management Plan, [10] the guidelines to assist doctors to manage asthma. By the time these guidelines were published, the major bodies concerned with asthma, The Thoracic Society of Australia and New Zealand, The Royal Australian College of General Practitioners, the Pharmaceutical Society of Australia and the Asthma Foundations, had conducted and evaluated the first national public education campaign, Could it be asthma?, using advertising and media to reach patients and doctors.[11]

This led to the formation of the National Asthma Campaign (NAC) in 1990. The NAC was given the tasks of promoting the Asthma Management Plan to health professionals and people with asthma, undertaking epidemiological surveys on asthma, developing policy on asthma issues and conducting national public education campaigns. These national campaigns complemented the local activities of the seven Asthma Foundations and also stimulated asthma education activities in settings such as schools.

In 1995 the NHMRC National Health Advisory Committee Working Party on Asthma issued the report Asthma: Management, Education and Research.[12] This report acknowledged the valuable work being carried out in asthma, advising it be continued and expanded. It acknowledged the NAC as the leading agency in the field of asthma and recommended that it continue to provide a unifying direction for all forms of endeavour in asthma.

The strong intersectoral coalition of interests surrounding asthma has continued to examine issues, develop policies and improve practice. The NAC coordinated the development of the National Asthma Strategy, Goals and Targets and the National Asthma Strategy, Strategies and Implementation with other major shareholders. The National Asthma Strategy Implementation Plan, which follows these reports, examines current asthma activity and indicates areas for future action.

PRINCIPLES OF ASTHMA CARE

In the development of the National Asthma Strategy, and now of its Implementation Plan, the prime focus has been to improve the quality of life of people with asthma.

The NSW Health Expert Panel on Asthma has agreed principles of care which are:

PRINCIPLES OF ASTHMA CARE [13]
1. All people with asthma should have access to timely and ongoing care in order to minimise the impact of asthma on their lives and to minimise the risk of premature death.
2. It is a fundamental right of people with asthma to have access to information, education and skills acquisition to enable them to participate in the management of their asthma.
3. All people with asthma should have access to high quality health services regardless of their financial status, cultural backgrounds and place of residence.
4. Asthma care should be appropriate, tailored and made available to groups of people with asthma who have special needs such as children, pregnant women, Aboriginal and Torres Strait Islander people, people from non-English speaking backgrounds and the elderly.
5. Every public hospital should have protocols for the acute management of asthma which conform with accepted guide lines. The protocols must include adequate documentation of assessment of severity, treatment provided and follow-up.
6. The person with asthma is entitled to: • general education about asthma, its effects and self-management skills; • timely and ongoing clinical care; • participate in the management of their asthma; • appropriate psychosocial support.

These excellent principles must continue to be the guiding force as the asthma stakeholders commence the Implementation Plan.

BENEFITS OF IMPLEMENTING THE NATIONAL ASTHMA STRATEGY

Implementation of the National Asthma Strategy will bring certain benefits for the individual and the community in health, social and economic terms. The person with asthma may experience all or some of a range of unpleasant symptoms - cough, wheeze, chest tightness, shortness of breath and disturbed sleep. Symptoms may be occasional, intermittent or persistent - work, school and social activity can be adversely affected by the condition. Even moderate asthma may be life-threatening. It may be difficult for someone with asthma to accept the potential seriousness of the disease. Most asthma can be well managed with medication and avoidance of trigger factors. Adherence to long-term medication is a problem for many people with asthma, as are the costs of medications and devices.

Further improvements in asthma management and positive health outcomes can be achieved through the implementation of those strategies within the National Asthma Strategy which have been identified by stakeholders as being of highest priority.

Tangible effects of a successful strategy would include:

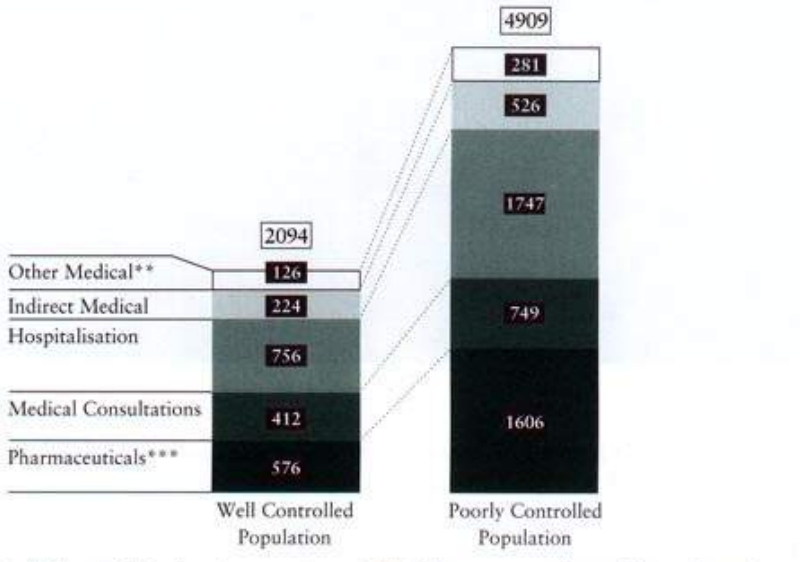
- reduced prevalence of asthma symptoms

- continued decrease in mortality
- fewer hospital admissions
- less school and work absenteeism
- an increased number of GP visits (good asthma management implies more regular medical review)
- systematic asthma education
- follow-up after hospital discharge
- increased use of correct medications
- improved quality of life for people with asthma.

Asthma is a serious problem for Australia, but the work of the NAC and the other organisations in asthma has proved that when resourced and researched adequately, measurable positive health outcomes can be achieved which improve the health and quality of life of people with asthma. The Australian community benefits from this, as well-managed asthma costs less than poorly managed asthma.

Comparison of potential cost impact of changes in asthma control for very severe asthmatics* ($/Asthmatic/Year)[2]

FIGURE FIVE
COMPARISON OF POTENTIAL COST IMPACT OF CHANGES IN ASTHMA CONTROL FOR VERY SEVERE ASTHMATICS* ($/ASTHMATIC/YEAR)



* *Well controlled asthmatics represent some 5,500 of the very severe asthma sufferers and poorly controlled asthmatics the remaining 8,300*
** *Includes ambulance and allied health consultation costs*
*** *The pharmaceutical regimen for well controlled asthmatics involves a less complex combination of medications (optional use of ipratropium and sodium cromoglycate) and adjusted dosage for β_2 agonist, steroid and theophylline medications*

Source: BCG analysis

A reduction in the cost of asthma can only be calculated approximately, owing to increasing prevalence. If good asthma management is maintained, there is potential to reduce the overall cost.

Comparison of 1991 calculations and potential cost reduction for 2010, expressed in $m in 1991 dollars. This is minimal cost saving assuming a 10% change. The cost of asthma education was not included in the 1991 calculations. It could be included under Medical Consultations and Allied Treatments[14]

Potential Cost Reduction

If the Optimum Indicative Targets are reached the effect would be:

- reduced prevalence and mortality
- fewer hospital admissions
- less school and work absenteeism
- the same number of GP visits, as good asthma management implies more regular medical review
- more asthma education, especially referrals via A&E attendance
- improved quality of-life for asthmatics
- increased use of correct medications

The effect on the cost of asthma in Australia can only be calculated approximately but a re-examination of the total cost of asthma in Australia could be:

Total Cost of Asthma in Australia

Comparison of 1991 calculations and potential cost reduction for 2010 if Optimum Indicative Targets reached, expressed in $m in 1991 dollars. This is minimal cost saving assuming a 10% change. The cost of asthma education was not included in the 1991 calculations. It could be included under Medical Consultations and Allied Treatments.

Total Cost of Asthma in Australia	Low Estimate		High Estimate	
	1991	2010	1991	2010
Travelling time to attend consultations	23	20.7 (-10%)	64	57.6 (-10%)
Reduced effectiveness at work	40	36 (-10%)	96	86.4 (-10%)
Caregiver absenteeism	88	79.2 (-10%)	123	110.7 (-10%)
Direct absenteeism	111	99.9 (-10%)	111	99.9 (-10%)
Ambulance and allied treatments	13	10.4 (-20%)	13	10.4 (-20%)
Indirect medical	34	30.6 (-10%)	58	30.6 (-20%)
Hospitalisation	58	46.4 (-20%)	58	46.4 (-20%)
Medical Consultations*	98	98	98	98
Pharmaceuticals	121	145.2 (+20%)	121	145.2 (+20%)
TOTAL	586	566.4	718	685.2
* unnecessary medical consultations would reduce but regular reviews would increase				

Long-term cost reduction will require some initial investment to implement sustainable asthma management interventions which result in improved health outcomes for people with asthma.

GOALS AND TARGETS

The preceding companion documents to this Implementation Plan - National Asthma Strategy, Goals and Targets and National Asthma Strategy, Strategies and Implementation - make a clear case for what needs to be done to reduce the incidence and impact of asthma in Australia.

To change the face of asthma in Australia we must ensure that:

- those without asthma and who do not have the tendency to asthma remain so. This means raising general awareness of potentially harmful environments and protecting those currently not at risk from situations which may put them at risk. The general strategy is one of environmental control.
- those who don't have clinical asthma, but have the potential to do so do not develop the disease. This includes those who are atopic, those with family history of asthma, hay fever or eczema, and others who have had clinical asthma in the past, but in episodes rather than chronically.
- ill health is reduced among those who currently have clinical asthma. For those in this category, the possibilities for improving health, quality of life and reducing mortality are to move from severe to mild asthma, persistent to episodic asthma or from episodic to no asthma. This requires education, management and risk control.

Part 2 - The Implementation Plan

The Implementation Plan follows on from the National Asthma Strategy, Strategies and Implementation.

The NAC coordinated a Working Group of major stakeholders (The Thoracic Society of Australia and New Zealand, The Royal Australian College of General Practitioners, Pharmaceutical Society of Australia, Pharmacy Guild of Australia, Australasian Society of Clinical Immunology and Allergy, Asthma Australia, Consumers' Health Forum, Asthma Educators' Associations, Australian Divisions of General Practice, Department of Health and Aged Care, the Asthma Foundation of New South Wales and individual experts) to consider the strategies listed in this earlier document.

From the original twenty-two strategies, sixteen strategies were prioritised. In some instances strategies were combined with others.

A decision was made to prioritise strategies which would most effectively, in the short to medium term,

1. significantly reduce the prevalence and severity of asthma and the risk of asthma;
2. contribute to favourable health outcomes through better understanding, skill and commitment; and
3. reduce the social and economic impact of asthma on the community.

Purpose

The purpose of the Implementation Plan is to enable people with asthma to obtain best asthma control, and has been developed to:

- focus effort, resources and attention on priority areas where return for investment will be greatest;
- provide a means to coordinate and provide direction for asthma activity - research, education, management; and
- identify gaps in asthma activity which must be filled if our goals are to be achieved.

Collaboration and Cooperation

The Implementation Plan has been developed from the collaborative effort of the major stakeholders in asthma. The implementation will involve more than forty organisations – non-government consumer organisations, health professional bodies, academic institutions, industry groups and government departments. This collaborative and cooperative strength has led to most of the improvements in asthma management to date.

General developments in health are already assisting asthma programs or have the potential to do so:

- the Department of Health and Aged Care initiative for Quality Use of Medicines

- the work of the Divisions of General Practice (most of which have an NAC Asthma Liaison Officer)

- the National Public Health Partnership (NPHP), which is developing a national approach to public health and coordinating national strategies

- the NPHP Legislation Reform Working Group, which is examining federal and state public health law with the aim of establishing harmony across jurisdictions. This will help to encourage uniform drugs and poisons scheduling, which affects national uniformity on the provision of bronchodilators to settings such as schools and workplaces

- the National Asthma Strategy Implementation Plan should be linked to other relevant national programs and strategies – Active Australia, National Aboriginal Health Strategies, National Rural Health Policy, National Healthy Ageing Strategy.

Balance

Although this is a national plan it has drawn on local and state/territory level expertise and experience for much of its content. In turn the plan has been designed so that it will be relevant to these jurisdictions in its application. Any national plan will require adaptation at local level and sensitive adaptation for specific target groups.

Just as balance between local, state and national activity has been a consideration, so too has the delicate balance between health professionals and people with asthma; mainstream, high priority and special needs groups; rural and urban situations; and research, education and management strategies.

Terminology

Adopting the terminology of the NSW Physical Activity Task Force, the Working Group delineated roles and responsibilities of participating organisations according to the following:

Lead Agency

The collection of information and ideas pertaining to each strategy was coordinated by an agreed Lead Agency (or Agencies) (refer Appendix I) already active in the area, with the willingness and capacity to implement and monitor the strategy when the plan is underway. This provides a clear role for defined agencies in asthma-related tasks, which clarifies and rationalises asthma endeavours, reduces overlap and fosters collaboration.

The lead agency is expected to play a major part in resourcing, developing, implementing and monitoring the strategy in collaboration with other relevant organisations and groups. Being a lead agency means that an organisation accepts the principal and ongoing responsibility for a component of the strategic plan. While the lead agency may work in partnerships to achieve the intended results, it has the main responsibility for:

- articulating the appropriate strategies and, where applicable, targets;

- ensuring formal organisational endorsement and support for these strategies and targets;

- involving organisations identified in the strategic plan as collaborating agencies, other organisations and individuals as appropriate;

- developing a plan (working in partnership with the collaborating agencies) to monitor the implementation of the strategy, develop performance indicators, evaluate the effectiveness

of the strategy in achieving the strategic goals, and report on the implementation and evaluation; and

- making recommendations for monitoring progress in achieving this plan and any agreed targets.

Collaborating Agency

The creation of partnerships across the community, in a diverse range of organisations, is critical to the success of the plan. Collaborating agencies are key partners in implementing the strategies coordinated by the lead agency. They are expected to be involved in the development, implementation and monitoring of the strategies on an ongoing basis.[15]

Process

Two major information-gathering and consultation exercises were undertaken in the preparation of this plan. This consultative process extended ownership of the plan as well as generating information and comment:

- An initial exploration of current asthma activity provided a more substantial picture of the depth and breadth of activity, identified gaps or inadequacies and provided a more comprehensive list of organisations, agencies and government departments that could be involved in the National Asthma Strategy and its implementation.

- The second broader consultation presented vested interest groups with the results of the first exercise and requested further comment and input. Lead agencies took responsibility, with some devoting staff to the project and others convening meetings of stakeholders. The National Asthma Campaign coordinated the exercises.

ELEMENTS OF THE PLAN

Implementation Groups

As already stated, each strategy has been assigned a lead agency. These agencies will work with the collaborating agencies listed, but it is understood that others will emerge in the course of the strategy implementation.

Current Situation

Each strategy lists some of the major activities currently being undertaken and by whom. Many activities have the potential to be promulgated nationally, if they are not already.

Planned Activities

Local, state and national organisations are all involved in planning. Where possible, this is incorporated into the Implementation Plan and in some instances extended or expanded.

What Needs to be Done

The plan identifies and describes for each strategy what activity needs to be undertaken, how and by whom. Some of these activities are very specific as they are based on evidence of what is known to be effective. Others are more general, requiring research and trialling or acknowledging differences in interpretation and application across the country.

Timelines

The timeframe for the Goals and Targets document was to the year 2010. The timeframe for the Implementation Plan is three years. Most activities outlined have been given a timeline within this three-year period. Realistically, asthma health outcomes will not change significantly in three years, but this is a reasonable period in which to monitor uptake of the sustainable interventions outlined in the plan.

Monitoring and Evaluation

The National Asthma Strategy Implementation Plan proposes a set of goals, targets and implementation strategies relating to asthma in Australia. It provides where available, baseline measures and broad performance indicators as outlined in the original Goals and Targets document. These are matched with priority strategies throughout the plan. Some of these measures are already in place, some exist but are not applied with any consistency due to funding restraints and the absence of national monitoring mechanisms. For others, measures are yet to be developed. A national evaluation and monitoring strategy will take into consideration measurement of prevalence, mortality, hospital admissions, school and work absenteeism, number of GP visits, extent of systematic asthma education, follow-up after hospital discharge, use of medication and quality of life for people with asthma.

Already in place are the regular national epidemiological surveys of the asthma management practices of adults and children, general practitioners and pharmacists conducted by the NAC.

Specific elements of the National Asthma Strategy have their own evaluation plans. The recent evidence-based review of Step Six of the Asthma Management Plan is an example of this (refer Appendix 2).

Adoption of the Implementation Plan

The NAC will monitor the extent to which the Implementation Plan is activated and establish the extent to which activities outlined are being undertaken.

An important aspect of the role of Lead Agencies will be to assist in the development and application of a system to monitor and evaluate the Implementation Plan.

This monitoring will include:

documentation of the range and number of non-government organisations, government departments and individuals involved in implementing the National Asthma Strategy;

- compilation of information about the nature and extent of activity relating directly and indirectly to the Implementation Plan;

- quantification of contributions to the National Asthma Strategy, including time, materials and money;

- study of the collaborative approach to managing and implementing the strategy, in particular the roles played by lead and collaborating agencies; and

- observation of the relationships developed across the spectrum of asthma activity.

Evidence of the impact of the Implementation Plan may be partly identified through the 2003 national epidemiological survey.

Economic Appraisal

The economic cost of asthma in Australia has been established already and this plan calls for its continued monitoring. To date, however, there has been a lack of economic evaluation of specific inputs and outcomes relating to asthma.

It will be important to ascertain whether or not the Implementation Plan and its content have been 'good value'. It may be technically impossible to isolate Implementation Plan activity from other influences and therefore calculate the benefit. However, it will be possible to conduct cost-related research on tracking Implementation Plan resources and activity together with the broader impacts on people with asthma, on health professionals and on health sector resources.

Summary Table - High Priority Strategies

The table includes strategies which are a combination of:

- doing what is shown by evidence to be effective;
- testing strategies on which there is currently consensus but no hard evidence;
- establishing standards of management and practice; and
- finding out more about interventions that will make a difference.

The table provides an overview of current, planned and needed asthma activities, relevant to the sixteen high-priority strategies. It covers national, state and local level activities to illustrate the serious attempts being made to combat asthma.

The table, however, makes no claim to list all relevant current, planned and needed activities, but aims to provide a comprehensive picture of asthma activities, many of which rely on intensive voluntary commitment. Indicative timelines have been provided but these should be regarded as a guide only.

The many activities listed should not create a false picture of progress. Many planned or needed activities may need funding. These are indicated in bold type. As asthma prevalence increases, more effective, wide-reaching strategies will need to be implemented to ensure optimal asthma management outcomes.

If available, baseline information and indicators have been provided for strategies to assist with planning for monitoring and evaluation.

Abbreviations

AA	Asthma Australia
AACP	Australian Association of Consultant Pharmacists
ABS	Australian Bureau of Statistics
ACEM	Australasian College for Emergency Medicine
ACHS	Australian Council on Healthcare Standards
ACOSH	Australian Council on Smoking and Health
ACPP	Australian College of Pharmacy Practice
ADGP	Australian Divisions of General Practice
AEAs	Asthma Educators' Associations
AHMAC	Australian Health Ministers' Advisory Council
AIHW	Australian Institute of Health and Welfare
ALF	Australian Lung Foundation
AMA	Australian Medical Association
ANSW	Asthma New South Wales
ANT	Asthma Northern Territory
ANZFA	Australia New Zealand Food Authority
ANZSRS	Australia New Zealand Society of Respiratory Science
APRG	Australasian Paediatric Respiratory Group
AQ	Asthma Queensland
ASA	Asthma South Australia
ASCIA	Australasian Society of Clinical Immunology and Allergy
ASH	Action on Smoking and Health
AV	Asthma Victoria
AWA	Asthma Western Australia
CHF	Consumers' Health Forum
DHAC	Department of Health and Aged Care
FECCA	Federation of Ethnic Communities Councils of Australia
HIC	Health Insurance Commission
MAWP	Ministerial Asthma Working Party (Victoria)
MSIA	Medical Software Industry Association
NAC	National Asthma Campaign
NACCHO	National Aboriginal Community Controlled Health Organisation
NCHPE	National Centre for Health Promotion Evaluation
NHMRC	National Health and Medical Research Council
OATSIHS	Office for Aboriginal and Torres Strait Islander Health Services,
DHAC	Department of Health and Aged Care
PGA	Pharmacy Guild of Australia
PSA	Pharmaceutical Society of Australia
RACGP	The Royal Australian College of General Practitioners
RACOG	Royal Australian College of Obstetrics and Gynaecology
RACP	Royal Australian College of Physicians
SERU	Support and Evaluation Research Unit
SHPA	Society of Hospital Pharmacists of Australia
TSANZ	The Thoracic Society of Australia and New Zealand
VAHEA	Victorian Asthma Health Educators' Association
WSAHS	Western Sydney Area Health Service

Goal 1

Strategy 1.1 identify best practice for asthma management

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.1 IDENTIFY BEST PRACTICE FOR ASTHMA MANAGEMENT
Lead Agency: TSANZ
Collaborating and consulting agencies: ACEM, RACGP, ADGP, PSA, PGA, AEAs, AA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
10. The Report on the Cost of Asthma in Australia (1992) has been widely disseminated. Provides useful data on cost effectiveness of good asthma management	NAC		Updating of this report to provide details of current costs	NAC and research institution	2000-2001
			Identify consumer perspective of best practice	AA, CHF, AEAs	2002
			Development of clinical pathways for the hospital settings	AEAs	2004
			Process for identifying best practice	TSANZ	2004
			Evaluation of best practice systems	TSANZ	2005
			Audit post discharge asthma education programs	ADGP, AA, AEAs, RACGP	2002
			Coordinate State Health initiatives	AHMAC	
			Establish best practice discharge model involving pharmacists, asthma educators, Asthma Foundations with the GP as the hub (refer 1.9)	PSA, AEAs, AA, ADGP, RACGP, SHPA, PGA	2001

Lead Agency: TSANZ
Collaborating and consulting agegencies: ACEM, RACGP, ADGP, PSA , PGA, AEAs, AA

Strategy 1.2. Conduct routine audits and set up monitoring and surveillance for the implementation of best practice in the health system

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.2 CONDUCT ROUTINE AUDITS AND SET UP MONITORING AND SURVEILLANCE FOR THE IMPLEMENTAION OF BEST PRACTICE IN THE HEALTH SYSTEM

Lead Agency: NAC

Collaborating and consulting agencies: RACGP, ADGP, AIHW, DHAC, PSA, PGA, TSANZ, AEAs, AA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
1. Education packages for GP Registrars, CME and for update programs disseminated through CHECK and AFP and similar for asthma educators	RACGP, ADGP, AEAs	Ongoing			
2. Development of the GP National Asthma Audit	RACGP, NAC	Dissemination of GP national asthma audit to GPs from 1999 on	Maintenance	RACGP	
3. 'Airwaves' respiratory education and information service (interactive polls, surveys and assessments, case presentations, articles)	RACGP, Internet server, pharmaceutical companies	Ongoing			
3.1. Online GP practice assessment (RACGP accredited)	RACGP, Internet server, pharmaceutical companies	Ongoing			
4. Development of GP asthma outcome measures for Divisions, and national GP asthma health outcomes	ADGP, NAC Public Health SERU	GP health outcomes document will be made available to all Divisions		ADGP Prog, NAC	1999
5. Evaluation of the NSW Asthma Card to assess its effectiveness in improving asthma management practices of pharmacists and patients	PSA (NSW), DHAC, NAC, PGA	Possible introduction to other States	Evaluation against a baseline to be established if introduced to other States	PSA, PGA, NAC State Health Departments	2001
6. 1998 repeat national survey of the asthma management practices of adults and children	NAC	Repeat 1990, 1993, 1998 surveys every five years		NAC	2003

Lead Agency: NAC
Collaborating and consulting agencies: RACGP, ADGP, AIHW, DHAC, PSA, PGA, TSANZ, AEAs, AA

Strategy 1.3 identify the appropriate structure to facilitate and co-ordinate principles of research into reducing asthma morbidity and mortality

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.3 IDENTIFY THE APPROPRIATE STRUCTURE TO FACILITATE AND CO-ORDINATE PRINCIPLES OF RESEARCH INTO REDUCING ASTHMA MORBIDITY AND MORTALITY

Lead Agency: ALF

Collaborating and consulting agencies: NHMRC, TSANZ, AA, NAC, State Health Depts, ANSW, AEAs

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. Asthma research is funded by a variety of agencies. Australia is a world leader in asthma research with its researchers recognised as international experts, and 2. Asthma research is not strategically planned nationally and not formally integrated although Australian researchers have many informal discussions	NHMRC, AA, ALF, DHAC, State Health Departments, VicHealth, Healthway, universities, pharmaceutical philanthropic trusts	Revision and adoption of ALF's national asthma research priorities to guide funders and researchers (but not detracting from the inspiration, creativity and enthusiasm of individual researchers)	Identification, coordination and facilitation of research Commitment by research-funding agencies to adopt these ALF priorities as guidelines to maximise the impact of research funding Develop a mechanism for ensuring research activities are strategic, integrated and fit in with this national set of priorities Develop a national register of asthma research projects which is readily accessible Create more funding opportunities for asthma and respiratory research	ALF, NHMRC, AA, ANSW, NAC to coordinate a meeting of research-funding agencies and chief investigators funded for asthma research from which an initial document on research priorities is developed in hard copy and on the Internet. It will consider the ALF's priorities, identify areas of need and how evidence produced by research is incorporated into health practice (This meeting will also have the aims of collaboration and confirmation)	2001

Lead Agency: ALF
Collaborating and consulting agencies: NHMRC , TSANZ, AA, NAC, State Health Depts, ANSW, AEAs

Strategy 1.6 examine the factors which contribute to the risk of life-threatening asthma and develop interventions to manage these; and

Strategy1.7 establish a system for the identification of those at risk of developing life-threatening episodes of asthma

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.6 EXAMINE THE FACTORS WHICH CONTRIBUTE TO THE RISK OF LIFE-THREATENING ASTHMA AND DEVELOP INTERVENTIONS TO MANAGE THESE; AND

1.7 ESTABLISH A SYSTEM FOR THE IDENTIFICATION OF THOSE AT RISK OF DEVELOPING LIFE-THREATENING EPISODES OF ASTHMA

Lead Agency: TSANZ

Collaborating and consulting agencies: ASCIA, ALF

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
1. Some research activities undertaken to examine contributing factors	TSANZ, individual experts		Systematic or evidence-based review of factors contributing to life-threatening asthma and any interventions developed	TSANZ, NAC ASCIA	2000-2002
			Development and validation of an instrument of prediction for life-threatening asthma and application of this	TSANZ, ASCIA, RACGP, ADGP, NAC	2004
			Survey key individuals and conduct a national symposium to establish a research agenda specifically devoted to identifying risk factors and interventions to monitor them. (Linked to 1.3(1))	TSANZ, NAC, ASCIA, ALF	2001
2. 'Fastlane', doctors register 'at risk' patients with AWA. Patients carry a card. A & E and specialists keep details on file	AWA		Evaluation and potential national promulgation	AWA, TSANZ, ACEM, RACGP	2002
			Investigate feasibility of establishing a register of 'at risk' individuals and examine privacy issues	ASCIA, TSANZ, State Health Depts, Privacy Commission	2003

Lead Agency: TSANZ
Collaborating and consulting agencies: ASCIA, ALF

Strategy 1.9 ensure that appropriate medical follow-up procedures are put into place for patients leaving hospital after treatment for asthma

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.9 ENSURE THAT APPROPRIATE MEDICAL FOLLOW-UP PROCEDURES ARE PUT INTO PLACE FOR PATIENTS LEAVING HOSPITAL AFTER TREATMENT FOR ASTHMA

Lead Agency: RACGP, ADGP, TSANZ, AMA
Collaborating and consulting agencies: ADGP, State Health Departments, AEAs, WSAHS, AMA

(National Guidelines to Achieve the Continuum of Quality Use of Medicines Between Hospital and Community (APAC, January 1998, Canberra)
- this is a broad set of principles to assist hospitals to develop and implement standard procedures to ensure continuity of medication management through hospital admission and treatment and post-discharge. APAC plans to monitor and evaluate implementation of these guidelines.)

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. Various follow-up procedures are being trialled, e.g. use of protocols and referral forms between GP and hospital, use of facsimile or e-mail, GP involvement in discharge planning and discharge protocols	ADGP, hospitals, RACGP, TSANZ		Systematic identification of variations in current practice and economic analysis of these	NCHPE	2002
			Development and acceptance of discharge protocols. Routine reporting and dissemination of trials of discharge protocols	TSANZ, ADGP, RACGP, Hospitals, State Health Departments	2001-2004
2. Divisions of GP working with National Hospitals Demonstration Project to develop guidelines for discharge communication and planning. The first two phases looked at models of good practice in relation to scheduling, bed management and elective surgery	ADGP, hospitals, TSANZ	Pilot programs	Third phase will look look at continuity of care and shared care	Divs of GP, Integration SERU, hospitals	1998 onwards
			Build discharge protocols in EQuIP and accreditation processes for hospitals	RACGP, ADGP, TSANZ, AA, AEAs, PGA, PSA, ANSW, ACHS	Complete in 1999

Lead Agency: RACGP, ADGP, TSANZ, AMA
Collaborating and consulting agencies: ADGP, State Health Departments, AEAs, WSAHS, AMA

(National guidelines to achieve the continuum of quality use of medicines between hospital and community (APAC, January 1998, Canberra)

- this is a broad set of principles to assist hospitals to develop and implement standard procedures to ensure continuity of medication managementthrough hospital admission and treatment and post-discharge. APAC plans to monitor and evaluate implementation of these guidelines.)

Strategy 1.10 investigate and determine the most effective means of establishing asthma education programs for patients during and after a hospital stay, including follow-up from the hospital to the gp.

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.10 INVESTIGATE AND DETERMINE THE MOST EFFECTIVE MEANS OF ESTABLISHING ASTHMA EDUCATION PROGRAMS FOR PATIENTS DURING AND AFTER A HOSPITAL STAY, INCLUDING FOLLOW-UP FROM THE HOSPITAL TO THE GP

(The NAC's evidence-based review of Step 6 of the Asthma Management Plan (Educate and Review Regularly) indicates that there appears to be a reduction in repeat visits to the Emergency Department in people who are at a higher risk of experiencing asthma attacks, if they receive any form of education (either information only or self-management)

Lead Agency: RACGP, ADGP, TSANZ, AEAs, AA

Collaborating and consulting agencies: State Health Departments, SHPA, ANZSRS, Respiratory Nurses, AMA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
1. Guidelines for specialist consultation set out in Asthma Management Handbook	NAC	Ongoing			
2. AEAs have established standards of professional practice which guide the development and implementation of professional standards	AEAs, TSANZ, hospitals, State Health Depts, ADGP, RACGP	Ongoing application			
3. Trial interventions in asthma clinics conducted by AEAs, AA and Divs. of GP	AEAs, AA, ADGP				
4. Development of an inpatient asthma education program	VAHEA, Alfred Hospital	Pilot study followed by randomised control		Alfred Hospital, Melb	1999 on
5. One-to-one education, particularly in Northern Territory	ANT	Expansion in NT	Evaluation for potential dissemination	ANT	2002
		Work with the Victorian Centre for Ambulatory Care Innovation to develop a continuum of care for asthma in the community. Currently in planning stage	Evaluate pilot for asthma and promulgate if effective	Education Unit, Depts of Respiratory Medicine & Allergy and Clinical Immunology, The Alfred Hospital, Melbourne	

Lead Agency: RACGP, ADGP, TSANZ, AEAs, AA
Collaborating and consulting agencies:, State Health Departments, SHPA, ANZSRS, Respiratory Nurses, AMA

(The NAC's evidence-based review of Step 6 of the Asthma Management Plan (Educate and Review Regularly) indicates that there appears to be a reduction in repeat visits to the Emergency Department in people who are at a higher risk of experiencing asthma attacks, if they receive any form of education (either information only or self-management))

Strategy 1.11 work with health authorities to implement these follow-up procedures on a national basis,using the resources of the divisions of general practice, if appropriate

GOAL ONE - REDUCE ASTHMA MORTALITY AND MORBIDITY

Strategy 1.11 WORK WITH HEALTH AUTHORITIES TO IMPLEMENT THESE FOLLOW-UP PROCEDURES ON A NATIONAL BASIS, USING THE RESOURCES OF THE DIVISIONS OF GENERAL PRACTICE, IF APPROPRIATE

Lead Agency: RACGP, ADGP, AA, TSANZ

Collaborating and consulting agencies: State Health Departments, AEA, AMA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. Consulting with GPs to identify ways to improve continuity of care in the community	State Health Depts. ADGP	Ongoing	Consultation with AEAs And AA	RACGP, ADGP, DHAC, PSA, PGA, SHPA	1998-2000
2. Encouraging uptake of computer use by GPs in clinical practice over 3 years to facilitate GP/hospital link-in	RACGP, State Health Depts, DHAC, ADGP, PSA, SHPA, MSIA, PGA	Ongoing	Facilitation of links	AA, RACGP, ADGP	1999 on
3. Asthma Foundations work with GPs to assist with patient information on asthma management	AA, AEAs	Ongoing	Sustained production and distribution of AA consumer brochures		
4. Asthma Foundations work with GPs to assist with patient information on asthma management					
5. Support of asthma clinics in general practice and hospitals where asthma educators work with doctors	AEAs, ADGP, AA	Ongoing	Increase referral rate from hospitals, GPs and pharmacists to asthma educators and the Asthma Foundations by informing hospital staff, GPs and pharmacists of the benefit of the programs offered by the Asthma Foundations and asthma educators. Start this process with a meeting of stakeholders	State Health Depts, hospitals, ADGP, RACGP, AEA, AA, TSANZ	2000 on
6. Asthma Education Projects, A Guide for Divisions of General Practice is a comprehensive guide drawing on the evaluated experience of Divisional projects developed for GP-conducted asthma education programs	Public Health and Health Promotion SERU Ongoing	Publication and dissemination			

Lead Agency: RACGP, ADGP, AA, TSANZ
Collaborating and consulting agencies: State Health Departments, AEAs, AMA

Goal 2

Strategy s2.2 research and implement measures to advise high-risk families about risk factors

GOAL TWO - IDENTIFY AND REDUCE RISK FACTORS FOR ASTHMA

Strategy S2.2 RESEARCH AND IMPLEMENT MEASURES TO ADVISE HIGH-RISK FAMILIES ABOUT RISK FACTORS
Lead Agency: ASCIA, AA
Collaborating and consulting agencies: PSA, PGA, State Health Depts, RACOG, RACGP, ADGP, TSANZ, AEAs

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
1. Development of plain-English pamphlet outlining measures to help reduce the expression of atopy in high-risk families	ASCIA		Evaluation of applicability with consumer. Production and dissemination of pamphlet	ASCIA, NAC, RACGP, AA, AEAs	2001
			Inclusion of information for high-risk families in the Asthma Management Handbook and other GP publications and prescribing software	NAC	1999 on
			Discharge summary highlighting the problem sent from hospital to patient's named pharmacy. Pharmacy Home Visits along lines of DVA medication reviews	Hospitals, PSA, PGA, AACP	2002

Lead Agency: ASCIA, AA
Collaborating and consulting agencies: PSA, PGA, State Health Depts, RACOG, RACGP, ADGP

Strategy s2.4 reduce asthma exacerbations due to tobacco smoke

GOAL TWO - IDENTIFY AND REDUCE RISK FACTORS FOR ASTHMA

Strategy S2.4 REDUCE ASTHMA EXACERBATIONS DUE TO TOBACCO SMOKE
Lead Agency: ASH
Collaborating and consulting agencies: State Quit bodies, TSANZ, NAC, AA, AEAs, RACGP, PSA, PGA, ADGP, ACOSH, AMA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
1. With the exception of health departments, most agencies do not have an effective strategic plan, performance targets, or committed resources with regard to asthma and smoking. They do have brochures and some contact with other stakeholders	ASH, Quit, State Health Depts, NAC, AA, Cancer Foundations and Societies, AEAs		Each stakeholder needs a strategic plan and each of these needs to be part of a unified national plan	Strategic planners	2002
			Concerted effort to achieve improved collaboration, lobbying and national guidance by building a national coalition	ASH, Quit	2002
2. There seems to be more focus on quitting than on prevention strategies					1999-2002
3. Develop and implement strategies to ensure all indoor public places are smokefree by 2000	ASH, Quit, State Health Depts, Cancer Foundations and Societies, National Heart Foundation	Ongoing. State-based legislation for smoke-free public places			
4. Development of paper outlining key elements of exposure reduction legislation in response to NHMRC Report on Passive Smoking	ASH, Nat. Heart Foundation, Quit, individual experts		Raising and maintaining increased awareness of the harm associated with active and passive smoking using all relevant strategies	ASH, Quit, media	1999 on
5. Smoking cessation package developed for Pharmacy Specialty Practice	PSA	Ongoing			
			Liaise with peak Aboriginal and ethnic organisations to develop effective strategies to communicate to the relevant community groups that passive and active smoking are asthma triggers and should be avoided	ASH, Quit, FECCA, AA, OATSIHS, NACCHO	2003

Lead Agency: ASH
Collaborating and consulting agencies: State Quit bodies, TSANZ, NAC, AA, AEAs, RACGP , PSA, PGA, ADGP, ACOSH, AMA

Strategy s2.5 reduce asthma exacerbations due to identifiable trigger factors

GOAL TWO - IDENTIFY AND REDUCE RISK FACTORS FOR ASTHMA

Strategy S2.5 REDUCE ASTHMA EXACERBATIONS DUE TO IDENTIFIABLE TRIGGER FACTORS
Lead Agency: ASCIA
Collaborating and consulting agencies: TSANZ, RACGP, ADGP, PSA, PGA, AEAs, AMA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
2. Asthma and the Environment: Perspectives on the Prevention of Asthma, NSW Health 1997, published in hard copy and on Internet, evidence-based review of the effect of environmental factors on asthma	NSW Health Asthma Expert Panel	NSW Health Asthma Expert Panel NSW Health and NSW Housing working on Low Allergen Public Housing Project to examine whether low-cost housing design changes can significantly reduce allergens NSW Health and NHMRC investigating the effectiveness of strategies for reducing the onset of asthma	More evidence in the Australian situation required before advice can be given to people with asthma	NSW Health, NHMRC, ASCIA, TSANZ	2002

Lead Agency: ASCIA
Collaborating and consulting agencies: TSANZ, RACGP , ADGP, PSA, PGA, AEAs, AMA

Strategy s2.7 provide education and resources to health professionals
(Relates to all aspects of allergy and immunology relevant to asthma)

GOAL TWO - IDENTIFY AND REDUCE RISK FACTORS FOR ASTHMA

Strategy S2.7 PROVIDE EDUCATION AND RESOURCES TO HEALTH PROFESSIONALS
(Relates to all aspects of allergy and immunology relevant to asthma)

Lead Agency: ASCIA, TSANZ, NAC
Collaborating and consulting agencies: RACGP, ADGP, AA, AEA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	GROUPS INVOLVED				
1. Seminars, workshops distance education, training and inservice programs for health professionals	ASCIA, NAC, PSA, PGA, AA, AEAs, RACGP, ADGP, tertiary institutions, TSANZ	Ongoing	RACGP and PSA run interactive workshops with specialist speakers for GPs and pharmacists	ASCIA, NAC, RACGP, PSA	2000 onwards
2. Resources such as the Asthma Management Handbook are available in hard copy and on the internet	NAC, PSA	Ongoing			Ongoing
3. Interactive CD-ROM on asthma being developed for GPs which includes allergy in case studies	NAC	1998 Launch			
			Survey education and resource needs of physicians, GPs and asthma educators. Include questions on the most useful format(s) for information, e.g. hard copy and/or IT. (Build on RACGP experience in other specific health areas)	Postal survey to members of TSANZ, RACGP, ASCIA, and sample survey of GPs	2002

Lead Agency: ASCIA, TSANZ, NAC
Collaborating and consulting Agencies: RACGP, ADGP, AA , AEAs

Goal 3

Strategy s3.1 establish better communication between health professionals and people with asthma and their carers

GOAL THREE - ACHIEVE PLANNED AND SHARED RESPONSIBILITY FOR ASTHMA

Strategy S3.1 ESTABLISH BETTER COMMUNICATION BETWEEN HEALTH PROFESSIONALS AND PEOPLE WITH ASTHMA AND THEIR CARERS

Lead Agency: AA, AEAs, TSANZ, RACGP, PSA

(The NAC's evidence-based review of Step 6 of the Asthma Management Plan (Educate and Review Regularly) indicates that the provision of information alone about asthma and its management does not improve asthma outcomes in adults. Optimal self-management education, which is a structured program conducted over time with the essential components of information about asthma, self-monitoring, individualised written action plan and regular review (involves assessment of medications and severity), does result in a reduction in hospitalisations, Emergency Department visits and unscheduled doctor visits as well as statistically significant improvements in lung function.)

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. Development of Asthma Adherence: A Guide for Health Professionals	NAC	Adherence education included in basic training and continuing education of health professionals (GPs, physicians, asthma educators, pharmacists)	Facilitate development of adherence education package for health professionals, taking into account education already being undertaken	NAC, TSANZ, RACGP, PSA, PGA, AEAs, AA, ADGP	2000 on
			Development of adherence interventions suitable for rural and remote area health professionals and consumers	NAC, TSANZ, RACGP, PSA, AEAs, AA, Rural Divs of GP, PGA	2001 on
			The trialling and evaluation of interventions which enable health professionals to communicate and motivate people with asthma to adhere to good asthma management practices	NAC, TSANZ, RACGP, PSA, AEAs, AA, Rural Divs of GP, PGA	2001 on
			Specialised training programs for Aboriginal and ethnic health workers to facilitate communication on asthma	NAC, TSANZ, RACGP, PSA, AEAs, AA, FECCA, OATSIHS, NACHO	2002

Lead Agency: AA, AEAs, TSANZ, RACGP, PSA
Collaborating and consulting agencies: NAC , CHF, State Health Depts, ADGP, PGA

Strategy s3.1.2 establish better communications between health professional groups, taking advantage of technological developments in communications

GOAL THREE - ACHIEVE PLANNED AND SHARED RESPONSIBILITY FOR ASTHMA

Strategy S3.1.2 ESTABLISH BETTER COMMUNICATIONS BETWEEN HEALTH PROFESSIONAL GROUPS, TAKING ADVANTAGE OF TECHNOLOGICAL DEVELOPMENTS IN COMMUNICATIONS

Lead Agency: NAC

Collaborating and consulting agencies: RACGP, ADGP, PSA, PGA, AEAs, TSANZ, ASCIA, AA, AMA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. Emphasis on integrated team management of asthma by patient, GP, pharmacist, Asthma Foundations and Asthma Educators	NAC, AA, AEA, RACGP, PSA, TSANZ, PGA	Ongoing	Working party of groups involved to discuss technological developments		2001
2. Involvement of health professional organisations on asthma issues working groups, e.g. introduction of CFC-free inhalers	NAC, RACGP, TSANZ, PSA, ASCIA, PGA, AEA	Ongoing			
3. Revised Asthma Management Handbook 1998 for GPs and pharmacists in hard copy, on the Internet and on CD-ROM	NAC				
4. The South Australian Asthma Project, an evaluated integrated comprehensive statewide program including communication strategies, school asthma management, health professional resources	ASA, Living Health, South Australian Asthma Reference Panel	Ongoing	Consideration given to adaptation by other States		
5. Availability of information from health professionals' conferences and meetings in hardcopy and increasingly on the Internet	TSANZ, RACGP, PSA, AEAs, AA, PGA, NAC	Use of the Rural Health Education Foundation to provide interactive satellite broadcasts on asthma to rural health professionals	Advertise access to reports, abstracts, etc.		1999 on
		As these do not reach remote areas, use communication strategies of Top End Division of General Practice and the Clinical School of Royal Darwin Hospital			2000 on

Lead Agency: NAC
Collaborating and consulting agencies: RACGP, ADGP, PSA, PGA, AEAs , TSANZ, ASCIA, AA, AMA

(The NAC's evidence-based review of Step 6 of the Asthma Management Plan (Educate and Review Regularly) indicates that the provision of information alone about asthma and its management does not improve asthma outcomes in adults. Optimal self-management education, which is a structured program conducted over time with the essential components of information about asthma, self-monitoring, individualised written action plan and regular review (involves assessment of medications and severity), does result in a reduction in hospitalisations, Emergency Department visits and unscheduled doctor visits as well as statistically significant improvements in lung function.)

Strategy 3.2. Continue to improve the content and availability of information about asthma to the consumer

GOAL THREE - ACHIEVE PLANNED AND SHARED RESPONSIBILITY FOR ASTHMA

Strategy S3.2 CONTINUE TO IMPROVE THE CONTENT AND AVAILABILITY OF INFORMATION ABOUT ASTHMA TO THE CONSUMER

Lead Agency: AA, NAC

Collaborating and consulting agencies: CHF

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. National Media Strategy	NAC, AA	Ongoing	Develop and conduct regular evaluations	NAC, AA	Ongoing
1.1 Strong proactive media presence on asthma issues to use the media effectively for the benefit of consumers	NAC, AA	Ongoing			Ongoing
1.2 National community education campaigns on topical issues for the consumer, e.g. NSAIDs, nocturnal asthma, CFC-free MDIs, under 5s, schools, over 60s, sports trainers, workplace. (Health professionals to be briefed as an integral element of each campaign. — refer 3.1, point 4)	AA, NAC	Ongoing	Develop a program of annual evaluated communication campaigns to address major management issues. Each campaign to address specifically identified target groups, e.g. older persons, adolescents Use evaluated programs such as Teenage Asthma Project (AWA) as models. Where possible, link these campaigns to adherence strategies taken up as a result of the NAC's adherence guide (Asthma Adherence: A Guide for Health Professionals)	AA, NAC	2000 on
1.3 Media training for asthma spokespeople	NAC, pharmaceutical companies	Ongoing	Improve, evaluate and better coordinate stakeholder involvement		
2. National Asthma Week annual theme national launch with States/territories	AA, NAC	Ongoing			
3. Asthma Education Resources Database (MAWP Compendium)	AV, MAWP	Keep up to date Sell nationally		AA in consultation with stakeholders	

Lead Agency: AA , NAC
Collaborating and consulting agencies: CHF

Strategy s3.3 provide equitable access to medication and devices

GOAL THREE - ACHIEVE PLANNED AND SHARED RESPONSIBILITY FOR ASTHMA

Strategy S3.3 PROVIDE EQUITABLE ACCESS TO MEDICATION AND DEVICES
Lead Agency: NAC
Collaborating and consulting agencies: AEAs, ADGP, RACGP, TSANZ, AA, AMA

CURRENT SITUATION		PLANNED ACTIVITIES	WHAT NEEDS TO BE DONE?	WHO AND HOW?	TIMELINES
ACTIVITY	**GROUPS INVOLVED**				
1. Ad hoc advocacy on asthma	NAC, AA, AEAs		Examine and investigate existing evaluations of cost effects of medication and devices on lower SES families		2002
2. 2.2 million elderly receive subsidised health care	Commonwealth Govt		Stakeholders' meeting to investigate feasible ways to provide equitable access to devices and medications. Strategies will need to create a win/win for all stakeholders	NAC, DHAC, AA, PSA, PGA, AEAs	2002
			Continue to inform people with asthma on the most effective use of medications and devices. Take into account the needs of rural, Aboriginal, ethnic, lower SES and remote area patients	NAC, AA, AEAs	Ongoing
			Investigate claims allowed by private health funds	AA	2001

Lead Agency: NAC
Collaborating and consulting agencies: AEAs, ADGP, RACGP, TSANZ, AA , AMA

Conclusion

The National Asthma Strategy Implementation Plan is designed to meet the problems presented by increasing asthma prevalence and an ageing community as a cost-effective healthcare intervention. There is a need to accelerate and expand effective asthma management interventions and research efforts. The focus is on best use of Australia's finite healthcare resources through asthma prevention and good health promotion.

The Federal Government's proposal to make asthma the sixth National Health Priority Area will enable the Implementation Plan to serve as a reference for a three-year asthma program. Asthma stakeholders work collaboratively, have already achieved measurable, positive health outcomes and have demonstrated the ability to develop cost-effective interventions and initiatives.

The organisations in asthma and the relevant professional bodies have already risen to the occasion and many positive developments are occurring. A recent significant development in asthma has been the establishment of a Cooperative Research Centre for Asthma (CRC) with funding from the Department of Industry. The CRC will conduct research into the causes and prevention of asthma, examine cost-effective interventions for people with asthma and the development and commercialisation of technologies for asthma management. Further improvements and positive health outcomes can be achieved through the implementation of those strategies within the National Asthma Strategy which have been identified by stakeholders as being of greatest importance.

An important emphasis of the Implementation Plan will be to put in place sustainable interventions which would produce ongoing, improved health outcomes. Extra financial resources will be needed for this implementation. Establishing asthma as the sixth National Health Priority Area would give recognition to the magnitude of the asthma problem, enable consideration of implementation of some of the National Asthma Strategy, and give deserved incentive and support to the organisations in asthma, which have already demonstrated great willingness to continue working collaboratively to improve the quality of life of people with asthma.

Appendix 1

NATIONAL ASTHMA STRATEGY IMPLEMENTATION PLAN WORKING GROUP

DR CHRISTINE JENKINS
(CHAIR)
Chairman, National Asthma Campaign

DR JOHN ALOIZOS
Chairman, Australian Divisions of General Practice

DR MICHAEL ACKLAND
Representative, Australian Health Ministers' Advisory Council

MR SIMON APPEL
Pharmacy Guild of Australia

PROF. ADRIAN BAUMAN
Professor of Public Health, University of New South Wales

MS LINDSAY CANE (from February, 1998)
Chief Executive Officer, Asthma New South Wales

ASSOC. PROF. DON CAMPBELL
The Thoracic Society of Australia and New Zealand

MS MAREE DAVIDSON
Davidson Consulting, Consultant

MS PENNY GRAHAM
Assistant Director, Primary Prevention Section
Department of Health and Aged Care

DR CONNIE KATELARIS
Australasian Society of Clinical Immunology and Allergy

DR ROGER MECOY, OAM (till July, 1998)
Director, NAC, representing The Royal Australian College of General Practitioners

MS ROBYN PATON
Asthma Educators' Associations

MR YOGAN SATHIANATHAN (from February, 1998)
Consumers' Health Forum representative

MS LEANNE SMILEY (till January, 1998)
Consumers' Health Forum representative

DR RON TOMLINS (from August, 1998)
Director, NAC, representing The Royal Australian College of General Practitioners

DR KEVEN TURNER
Director, NAC, representing the Asthma Foundations
President, Asthma Australia

DR JOHN WARE
Director, NAC, representing the Pharmaceutical Society of Australia

MS KRISTINE WHORLOW
Chief Executive Officer, National Asthma Council

Appendix 2

ORGANISATIONS

Lead Agencies

National Asthma Campaign (and overall coordinator)
Action on Smoking and Health
Asthma Australia
Asthma Educators' Associations
Australian Lung Foundation
Australian Medical Association
Australasian Society of Clinical Immunology and Allergy
Australian Divisions of General Practice
Pharmaceutical Society of Australia
The Royal Australian College of General Practitioners
The Thoracic Society of Australia and New Zealand

Collaborating and Consulting Agencies (includes the Lead Agencies)

Asthma New South Wales
Australasian College for Emergency Medicine
Australian Council on Smoking and Health
Australia and New Zealand Society of Respiratory Science
Australian Institute of Health and Welfare
Consumers' Health Forum
Department of Health and Aged Care
National Health and Medical Research Council
Pharmacy Guild of Australia
Respiratory Nurses
Society of Hospital Pharmacists of Australia
State/Territory Departments of Health
State/Territory Quit bodies
The Royal Australian College of Obstetricians and Gynaecologists
Western Sydney Area Health Service

Other Agencies

These were consulted and/or are likely to play a role in the implementation of the plan.

Australia New Zealand Food Authority
Australian Association of Consultant Pharmacists
Australian College of Pharmacy Practice
Australian Council on Healthcare Standards
Australasian Paediatric Respiratory Group
Australasian College of Paediatrics
Divisions of General Practice Programs, Department of Health and Aged Care
Federation of Ethnic Communities Councils Hospitals
National Aboriginal Community Controlled Health Organisation
National Centre for Health Promotion Evaluation
National Heart Foundation
Newcastle Area Health Outcomes Council
Office for Aboriginal and Torres Strait Islander Health Services, Department of Health and Aged Care
Pharmaceutical companies
Primary Prevention Unit, Department of Health and Family Services
Royal Australian College of Physicians
Public Health Support and Evaluation Research Unit
Rural Health Education Foundation

Appendix 3

EVIDENCE-BASED REVIEW OF THE ASTHMA MANAGEMENT PLAN

The Asthma Management Plan published by The Thoracic Society of Australia and New Zealand in 1989 has been the basis of the National Asthma Campaign's activities. This six-step consensus plan is the accepted template for asthma management in Australia. An evidence-based review is underway.

Step 1: Know how severe your asthma is

Step 2: Achieve your best lung function

Step 3: Avoid asthma triggers

Step 4: Stay at your best

Step 4: Have an action plan

Step 6: Educate and review regularly

Methods:

A National Asthma Campaign (Australia) working party, funded by NSW Health is currently examining and grading the evidence behind the recommendations of the Asthma Management Plan. Clinically relevant questions have been generated for the recommendations made in Step 6. These have been investigated in a series of systematic reviews undertaken by members of the Cochrane Airways Group. A full description of the methods and results is available on the Cochrane Database of Systematic Reviews. The system of grading the evidence is detailed in Appendix 2.

1. Education to Improve Asthma Knowledge in Adults

Question: Does the provision of information about asthma and its management improve asthma outcomes in adults?

Answer: In eleven randomised controlled trials, no clinically important differences were demonstrated in hospitalisation, FEV1, PEF or unscheduled visits to the doctor for asthma, between those who were provided education (using information only) and those who were not. Some improvement was noted in self-reported symptoms of asthma.

Level of Evidence: Level 1b

Clinical Comment/Recommendation: Careful consideration is required in planning interventions for asthma to ensure that they enable patients to acquire skills and not simply information about asthma.

2. Optimal Self-Management versus Usual Care

Optimal self-management education is a structured program conducted over time which teaches people about asthma, how to detect and manage deteriorating asthma, and encourages optimal use of medications. Essential components are:

- Information about asthma
- Self-monitoring
- Regular review which involves assessment of medications and assessment of severity
- Individualised written action plan

Question: Does the provision of optimal self-management education improve asthma outcomes in adults with asthma?

Answer: Optimal self-management education leads to a clinically significant reduction in hospitalisations, emergency room visits, and unscheduled visits to the doctor for asthma. Statistically significant (but not clinically significant) improvements also occurred in lung function as measured by FEV1 and PEF.

Successful completion of an optimal self-management education program by 20 patients prevents one hospitalisation, whereas successful completion by eight patients prevents one emergency department visit.

Level of Evidence: Level 1a

Clinical Comment/Recommendation: Optimal self-management involves the doctor and the patient in a therapeutic alliance which conveys knowledge, ensures the acquisition of self-management skills and use of a tailored self-management plan, and entails regular review and optimising of medication. Barriers to this comprehensive approach to asthma management need to be identified in order to secure better outcomes and greater cost benefit for interventions.

3. Symptoms versus Peak Flow Self-Monitoring:

Question: Is there a difference using peak flow or symptoms as the basis of self-monitoring in conjunction with optimal self-management?

Answer: No difference has been demonstrated in the four studies which compared these two forms of self-monitoring. However, there is limited data available on this topic.

Level of Evidence: Level 1b

Clinical Comment/Recommendation: Action Plans and self-monitoring should be tailored to patient skill levels and lifestyle and may be based on either peak flow or symptoms.

4. Doctor Managed versus Self-Managed:

Question: Is there a difference between subjects who are managed by regular review with their doctor and those who are instructed in optimal self-management?

Answer: Five studies compared subjects who managed their own asthma using optimal self-management (peak flow or symptoms) with subjects who regularly visited the doctor for their management. The doctors provided periodic, structured, clinical review visits which involved assessment of medication use and asthma severity based on symptoms and lung function. There was no reported difference between the two groups.

Level of Evidence: Level 1b

Clinical Comment/Recommendation: The clinical relevance of these results is that patients who are unsuitable for self-management education can still achieve benefit from a structured program of regular medical review.

5. Education versus No Education in Patients Presenting to the Emergency Department:

Question: Do patients who receive asthma education during visits to an emergency department, experience improvements in their asthma outcomes?

Answer: There appears to be a reduction in repeat visits to the emergency department in those subjects who are at a higher risk of experiencing asthma attacks, if they receive any form of education (either information only or self-management).

Level of Evidence: Level 1b

Clinical Comment/Recommendation: The population of patients who present to casualty may be at high risk for asthma exacerbations and hospital admission. Provision of even brief education before discharge can reduce re-presentation rates.

RESEARCH REQUIRED:

The evidence-based review of the sixth step of the Australian asthma management plan has already highlighted areas where further research is needed. The other five steps are currently under review and it is clear that many simple questions in asthma management have not been addressed by randomised controlled trials. The evidence-based review is enabling us to better identify the areas of clinical management that require ongoing research and also highlights those hitherto accepted principles of management which lack quality evidence. The real challenge is to translate the results of the evidence-based approach into guidelines which are succinct, user-friendly, reflect the findings and can be implemented to achieve better outcomes for asthma.

There are many pressing unanswered questions in asthma and in Australia at present there are varieties of funding avenues and diverse expertise, with no coordinated system for establishing priorities in research funding. The National Asthma Strategy Implementation Plan has established priorities for asthma research, but individual funding bodies tend to allocate funds according to track record and merit rather than by establishing the vital areas in need of further investigation.

Primary prevention of asthma remains only a theoretical possibility at present. We do not understand how to control early life allergen exposure and there may be important allergens which are not yet recognised. Further research is needed to delineate the reasons for the rise in asthma prevalence, the change in pathophysiology which accounts for the transition of asthma from childhood to adult life, the events which cause a return of symptoms in adults after long symptom-free intervals and the factors which determine long-term lung function decline. This is crucial to understanding how we might effectively intervene and reduce the morbidity of asthma in adults and children. The research agenda for the millennium must include adherence as a major issue, i.e. investigation of the most effective adherence interventions for health professionals and people with asthma.

More funding of public health initiatives is needed. Although an assessment of the cost of asthma in Australia has been undertaken, this is now dated and another is required, accurately detailing the burden of disease. We do not have a system for collecting information on asthma presentations to general practice and emergency departments, nor to track hospital admissions and follow-up. This is needed in order to argue the case for funding and resources to tailor the health care system to more appropriately intervene and identify problem areas. Although real efforts are being made in the area of evidence-based medicine, we need to undertake research to better understand the optimal process by which evidence-based medicine is translated into guidelines and implemented to effect better health outcomes.

The quality of strength of evidence for the guideline intervention is coded from highest to lowest as follows:

Levels of evidence for classifying the quality of studies assessment interventions #

Level of Evidence	Description of Study Types from which Evidence is Derived	Risk of Bias
I	Systematic review of all relevant randomised controlled trials Large multicentre RCTs	(a) Low No unexplained heterogeneity of effect between studies or centres (b) Moderate Unexplained heterogeneity of effect between studies or centres or where heterogeneity of effect is not explored.
II	One or more randomised controlled trials and studies	(a) Low (b) Moderate
III	Controlled trials without randomisation Cohort, case-control Analytic studies[1] Multiple time series Before and after studies (preferably from more than one centre or research group)	(a) Low (b) Moderate*
IV	Other observational studies	
V	Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.	

Further research is underway to examine if there is variation in the levels of evidence provided by analytical observation studies and a range of quasi experimental studies.

1. If more than one randomised controlled trial or study is available, the results can be combined in a meta-analysis. The combined results would change the level of evidence from II to I.

* Hospital based case-control studies would not be rated higher than IIIb.

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