

# Are the components of the Asthma Management Plan important in managing childhood asthma?

## A survey of general practitioners

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**AIM** To gauge the importance and relevance placed by general practitioners on components of the National Asthma Campaign's 'Six step' Asthma Management Plan for childhood asthma.

**METHOD** A cross sectional postal survey of a national randomised sample of 824 GPs.

**RESULTS** Each component was considered to be 'quite' or 'very' important by at least 70% of respondents. All 11 components were rated to be either 'quite' or 'very' important by 44%, and 91% of respondents considered eight or more of the components to be 'quite' or 'very' important. Two characteristics were consistently associated with the rating of importance: gender, (women GPs generally showing higher ratings), and reported frequency of use of the Asthma Management Plan (frequent users rate importance more frequently).

**CONCLUSION** There were high levels of endorsement of the Asthma Management Plan for children with asthma.

The National Asthma Campaign has developed the Asthma Management Plan as a clinical resource primarily for general practitioners. The 1998 edition incorporates recommendations for the management of asthma in childhood.<sup>1</sup> A number of studies have examined whether GPs are adhering to guidelines in their treatment of asthma,<sup>2,3</sup> but there is little information on Australian GPs' opinions on the importance of the 'six steps' of the guidelines, and none on the perceived relevance of the plan to childhood asthma. Unless the users of the guidelines consider its components important and relevant in management,

programs aimed at boosting adherence to the guidelines will be ineffective.<sup>4</sup> We attempted to determine this, and also what GP characteristics predict differing opinions.

### Methods

A sample of 1500 GPs was randomly selected from a list of all GPs registered with a government provider number billing at least 300 Medicare consultations per year, stratified by rural or urban practice. Each doctor was mailed a self report questionnaire and a reply paid envelope. A second questionnaire was sent to those who had not responded after four weeks.

The two page questionnaire took approximately five minutes to complete. It asked GPs to rate the importance (on a five-point scale) of each of the major principles of the Asthma Management Plan in relation to the management of children with asthma (Table 2). It also asked if the GP used the guidelines, and their demographic details.

Ratings of the importance of the components of the plan were expressed as proportions. Logistic regression determined practitioner characteristics associated with ratings of dichotomised guideline components (not at all important, slightly important and reasonably

important were grouped together and compared to quite or very important). We used a significance level of  $\alpha=0.01$ .

## Results

The demographic characteristics of the 824 respondents were very similar to that of Australian GPs (Table 1). There were no significant differences between responders and nonresponders except more women GPs (64%) responded to the questionnaire, than men (54%), ( $p=0.001$ ).

Over 75% of the sample reported having either a paper or electronic version of the Asthma Management Plan; 38% had the latest edition, (29% did not know which edition they owned). The guidelines were used often by 14% of respondents, sometimes by 28%, occasionally by 36%, never by 21%, and 2% of respondents did not answer.

Each component of the guidelines was considered quite important or very important by over 70% of respondents (Table 2). All 11 components were considered to be either quite or very important by 44% of respondents, and 91% considered eight or more components to be quite or very important. A written plan was rated of any importance by 794 GPs; of this group each of the four components of an action plan was rated as quite or very important by >80% (Table 2).

For 11 of the 15 components there was a significant positive association between importance attached to the component and the frequency of use of the plan, and between being a woman GP for eight of the 15 components (Table 2). There were only two other significant associations: GPs with at least one postgraduate qualification were more likely to rate 'maintaining maximal lung function' as quite or very important (OR: 1.5, 95% CI: 1.1–2.1,  $p<0.01$ ); GPs who owned their own copy of the Asthma Management Plan were more likely to consider min-

imising side effects to be quite or very important (OR: 1.6, 95% CI: 1.1–2.3,  $p<0.01$ ).

## Discussion

The response rate of 57%, while not unusual for a postal study of GPs, may have skewed the results, as might the preponderance of women GP respondents. These would exaggerate acceptance of the guidelines.<sup>5,6</sup>

Our findings support previous research that women GPs are more likely than men to favour practice guidelines.<sup>7</sup> We found a higher opinion of the Asthma Management Plan than another study (on the 1993 version).<sup>8</sup> However, this asked for overall, rather than our separate component ratings; asked about the usefulness of the plan to the doctor rather than for the principals in management; and used different rating scales.

It is difficult to interpret the not surprising association between using the guidelines and rating them highly. The causal direction (if any) could be in either direction.

The two components least well supported by the GPs were 'developing a written action plan', and 'review' patients regularly, even when well. Yet there is good evidence that these improve health outcomes of adults with asthma, with significant reductions in resource use and improvements in morbidity.<sup>9,10</sup> If we assume that this generalises to the parental management of childhood asthma, this is a concern.

Similarly the relative greater endorsement of the importance of avoiding trigger factors seems inappropriate in the light of evidence showing that avoiding trigger factors does not affect outcomes.<sup>9</sup> Since most GPs believe that guidelines should be evidence based,<sup>11</sup> perhaps either the doctors in the present study were not aware of the evidence or that other factors outweigh it.

Nevertheless, it seems that the first essential step – gaining GP approval of its

**Table 1. Comparison of study sample to Australian National GP statistics, 1998–1999**

	Study sample n=824 %	Australia* %
Male	69	66
Aged over 40 years	81	69
Graduated in Australia	78	77
<b>State of practice</b>		
New South Wales and ACT	37	36
Victoria	27	24
Queensland	16	18
South Australia	8	9
Western Australia	10	10
Tasmania	3	3
Northern Territory	1	1
<b>Place of graduation: Australia</b>		
Sydney	20	21
New South Wales	13	11
Newcastle	2	2
Melbourne	15	17
Monash	10	10
Queensland	16	17
Adelaide	11	10
Flinders	2	2
Western Australia	7	7
Tasmania	4	3
<b>Area classification</b>		
Urban	74	78
Rural	24	20
Remote	2	2

\*Source: Commonwealth Department of Health and Aged Care: General Practice Statistics. December 1999.  
<http://www.health.gov.au/hsdd/gp/stats/index.htm>

components – has been gained in implementing the Asthma Management Plan.

**Table 2. Ratings of importance for each component, and associations\* between these ratings and reported frequency of use, and with sex**

Component of Asthma Management Plan	% rating quite or very important n=824	Odds ratio (95% CI) for association of rated importance with reported frequency of use of AMP <sup>†</sup>	Odds ratio (95% CI) for association of rated importance with GP's sex <sup>††</sup>
1. Accurately assess the severity of asthma	97	1.3 (1.1–1.6)	–
2. Achieve maximal lung function	96	–	–
3. Avoid trigger factors	88	–	–
4. Maintain maximal lung function	97	–	–
5. Use the least medications possible	83	–	–
6. Minimise side effects	90	1.3 (1.1–1.5)	1.8 (1.3–2.5)
7. Develop a written asthma action plan	74	1.6 (1.4–1.8)	–
– develop the action plan in discussion with the patient and family	86**	1.5 (1.3–1.8)	1.8 (1.3–2.5)
– include details of dosage increases in the action plan	88**	1.6 (1.4–1.9)	2.0 (1.4–2.8)
– include details of when and how to obtain medical care in the action plan	90**	1.6 (1.4–1.9)	1.8 (1.3–2.6)
– provide the patient/family with a written copy of the action plan	83**	1.5 (1.3–1.8)	1.9 (1.4–2.7)
8. Ensure patients and families have an understanding of asthma	95	1.4 (1.2–1.7)	2.1 (1.5–3.0)
9. Ensure patients and families understand the differences between reliever and 'preventer' medications	99	1.3 (1.1–1.6)	1.9 (1.2–3.0)
10. Ensure patients and families understand the rationale for treatment	96	1.5 (1.3–1.8)	2.3 (1.6–3.3)
11. Review patients regularly, even when well	72	1.2 (1.1–1.4)	–

\* Associations with p<0.01 are reported

\*\* Responses of subset whose response to question 7 was slightly, reasonably, quite or very important (n=794)

<sup>†</sup> The reference category is occasionally/never use

<sup>††</sup> The reference category is male

### Implications of this study for general practice

- GPs report considerable support for the components of the Asthma Management Plan.
- There is greater support for the plan from women GPs and those who report frequent use.
- Greatest dissonance between the evidence and the components receiving greatest support was with:
  - insufficient support for written plans, and reviewing the patient regularly even when well (for which there is good evidence of benefit), and
  - excessive support for avoiding trigger factors, (for which there is poor evidence of benefit).


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