

## Why have asthma action plans failed the consumer test?

*Action plans are not a “quick fix”, but only part of a care package requiring doctors’ time and commitment*

PROVIDING AN INDIVIDUALISED written asthma “action plan” is a particularly high-profile part of Step 6 of the Australian Asthma Management Plan: “Educate and review regularly”. The idea of a written action plan is that the patient is given a set of rules by which to alter therapy, dependent on either peak expiratory flow monitoring or symptom levels. The implication is that an appropriate, early response to deterioration will prevent dangerous exacerbations and will generally improve health-related quality of life. Written action plans for asthma are perceived to be so important that they became one of the two Australian Council on Healthcare Standards Performance Indicators for quality assessment of acute respiratory medicine in Australian hospitals.

However, the evidence — whether from research or from clinical practice — that written action plans, in themselves, are effective is equivocal. There are now a number of Cochrane

Collaboration Airway Group systematic reviews that examine this area, but the outcomes are inconsistent. Gibson et al analysed up to 36 studies comparing self-management, education plus regular practitioner review against usual care.<sup>1,2</sup> They found that active intervention significantly reduced hospitalisation, emergency room visits, unscheduled visits to the GP, days off work or school, nocturnal attacks of asthma, and quality of life, but that lung function was not altered. Self-management programs that involved a written action plan were more effective than those that did not, but regular doctor review seemed to be most important. Indeed, a review by Toelle et al failed to find consistent evidence that written plans, of themselves, have any effect on asthma control.<sup>3</sup> Powell and Gibson found that optimising asthma control through adjustment of inhaled corticosteroid dose could be as well achieved by written guidelines for the patient as by seeing their doctor to adjust the dose.<sup>4</sup> Somewhat paradoxically, there was evidence that removing regular doctor visits from a management plan was deleterious. Verbal and written instructions to patients seemed equally valuable: the intensity of education seemed to be more important than the format of the advice.

But is the proof of the pudding in the eating? If so, ownership of written action plans seems to be falling in Australia although it was never particularly popular in the asthma community. A community sample in South Australia showed a fall from 42.3% in self-reported ownership of written plans in 1995 to 22.2% in 2001, as reported in this issue of the *Journal* (page 483).<sup>5</sup> Furthermore, a large epidemiological study conducted recently in Melbourne also indicated a fall in written action plan use, albeit from an even lower base: in 1999 just 13.3% of Victorians with self-reported asthma had ever been given such a plan, compared

with 19.9% in 1993.<sup>6</sup> The current situation and available facts therefore raise more questions than they answer.<sup>7</sup> Why is uptake of written action plans so disappointing? If written action plans work, why are they not more popular? What is their main purpose — is it to prevent exacerbations or to control day-to-day levels of disease activity?

Studies have shown that written action plans are viewed positively by patients, but in practice, they modify their plans according to their own perceptions and experience of asthma.<sup>8</sup> It is important that doctors realise this and give patients time to explore such issues and then incorporate them into an agreed plan. Indeed, the role of doctors is very important — their degree of empathy with patients and the amount of time they give to management issues have significant outcome effects in asthma.<sup>9</sup> Presumably this “doctor effect” will extend to the uptake and usefulness of asthma action plans. What seems certain is

---

*... ownership of written action plans seems to be falling in Australia ...*

---

that action plans cannot be used as a substitute for regular detailed review and comprehensive education of patients with asthma. Developing long-term relationships with their doctors, accompanied by being involved in discussion and decision making is important.<sup>9,10</sup> Data suggest it is the “process” not the written action plan *per se* that is currently at fault.

Complicating the delivery of asthma care is the poor training of doctors in creating or delivering care packages involving negotiated action plans. Indeed, the main reason for patients not having a written asthma action plan is that they are not given one by their doctor!<sup>8</sup> Longitudinal studies are needed to evaluate the effects of enhancing physicians’ “participatory decision making” style<sup>9</sup> on outcomes of patients with asthma, especially in general practice, where most such patients are managed. This is particularly so in light of the year-old Commonwealth Government-funded national initiative for asthma management in the community, in which a 3+ visit plan in general practice<sup>11</sup> provides a framework for optimising treatment and education. This plan includes a written action plan for patients with moderate-to-severe asthma. This needs to be rigorously assessed in routine clinical practice, as even the best ideas and most worthy initiatives from professional “enthusiasts” can be confounded through lack of sufficient time and commitment. Evidence shows that patients will not cooperate with any intervention that is less than fully backed by the time and authentic personal commitment of their doctors. Yet, in a pressurised fee-for-service system, it can be difficult to sustain interest and enthusiasm in the long term.

In conclusion, the uptake of asthma action plans in Australia is disappointing, especially as we know they can be useful as part of the right package. Perhaps the

management of chronic diseases like asthma needs different sorts of practitioners in a different professional and funding milieu. Yet another challenge for our beleaguered healthcare system?

**E Haydn Walters**

Professor of Medicine

**Julia A E Walters**

Research Fellow, Cochrane Airway Group

**Richard Wood-Baker**

Senior Lecturer

Discipline of Medicine, University of Tasmania, Hobart, TAS

*Competing interests:* None identified.

1. Gibson PG, Coughlan J, Wilson AJ, et al. Self-management education and regular practitioner review for adults with asthma. *Cochrane Database Syst Rev* 2000 (2): CD001117.

2. Gibson PG, Powell H, Coughlan J, et al. Self-management education and regular practitioner review for adults with asthma. *Cochrane Database Syst Rev* 2003 (1): CD001117.
3. Toelle BG, Ram FS. Written individualized management plans for asthma in children and adults. *Cochrane Database Syst Rev* 2002 (3): CD002171.
4. Powell H, Gibson PG. Options for self-management education for adults with asthma. *Cochrane Database Syst Rev* 2003 (1): CD004107.
5. Wilson DH, Adams RJ, Appleton SL, et al. Prevalence of asthma and asthma action plans in South Australia: population surveys from 1990 to 2001. *Med J Aust* 2003; 178: 483-485.
6. Matheson M, Wicking J, Raven J, et al. Asthma management: how effective is it in the community? *Intern Med J* 2002; 32 : 451-456.
7. Sawyer SM. Action plans, self-monitoring and adherence: changing behaviour to promote better self-management. *Med J Aust* 2002; 177 (6 Suppl): S72-S74.
8. Douglass J, Aroni R, Goeman D, et al. A qualitative study of action plans for asthma. *BMJ* 2002; 324: 1003-1005.
9. Adams RJ, Smith BJ, Ruffin RE. Impact of the physician's participatory style in asthma outcomes and patient satisfaction. *Ann Allergy Asthma Immunol* 2001; 86: 263-271.
10. Kieckhefer FM, Ratcliffe M. What parents of children with asthma tell us. *J Pediatr Health Care* 2000; 14: 122-126.
11. GP asthma initiative: the 3+ visit plan. Available at: <http://www.health.gov.au/pq/asthma/3plusgp.htm> (accessed Apr 2003). □

## The SARS epidemic: lessons for Australia

*Forewarned is forearmed*

SEVERE ACUTE RESPIRATORY SYNDROME (SARS) is now a global phenomenon, but it remains heavily clustered in mainland China, Hong Kong, Toronto, Singapore and Hanoi.<sup>5</sup> The world is fearing a global pandemic, but it is not happening as initially predicted.

Although there are some uncertainties regarding particular clusters of cases, such as the Amoy Garden Estate in Hong Kong (where about 300 people in one block of flats were affected), the primary mode of spread appears to be by infected droplets, and healthcare staff taking strict barrier precautions appear to be protected. There is some evidence that the virus is present in all body fluids, including faeces and urine, so taking precautions with waste disposal are also recommended.

The World Health Organization case definitions of “suspected” and “probable” SARS are given in the Box. The clinical course of the disease follows a 2–16-day incubation period,<sup>4,5</sup> with high fevers, chills, rigors and myalgia. In contrast to the WHO definition, respiratory symptoms are not prominent and many cases have presented with diarrhoea, abdominal pain and loss of appetite (unpublished observations). There are very few patients with abnormal findings on chest examination at presentation, but these changes develop in severe cases after admission to hospital.<sup>5</sup> Laboratory tests typically show a reduced white cell and lymphocyte count, with a mild increase in the platelet count. Usually after 2–3 days of symptoms, x-ray changes become apparent. Typically, the changes are air-space consolidation, predominantly peripheral and often unifocal initially, but progressing over days to bilateral, multifocal changes. At around 7–10 days, about 20%–30% of cases deteriorate and require admission to an intensive care unit. Of these, about half require assisted ventilation. The overall mortality rate is 3%–5%, but may be higher in elderly people.

Treatment has been largely empirical and usually has included an antiviral agent, such as ribavirin, and steroids.<sup>5</sup> High-dose steroids have been effective in reducing fever and progression of x-ray changes, with the clinical response and radiological features suggesting bronchiolitis obliterans organising pneumonia as the possible underlying pathology.<sup>5,8</sup> It is unclear whether any of these treatments alter the ultimate course of the disease. Intravenous administration of convalescent plasma has also been trialled, in the belief that antibodies may halt the progression of the disease,<sup>5</sup> despite a theoretical risk of introducing another viral load.

Currently, there are a number of possible aetiological candidates, with corona virus being the most likely;<sup>9-11</sup> however, a metapneumovirus from the paramyxovirus group<sup>12</sup> has also been suggested. Unfortunately, in our experience, field testing for the viruses has so far been unconvincing. It is unlikely that, in the short term, there will be a reliable diagnostic test or vaccine, although work is progressing at a rapid rate.

In Australia, the response to SARS has been dichotomous — varying from panic that SARS will be another pandemic to complacency that this is another region's problem. It is likely that Australia will be less affected than countries with open land borders and crowded cities with poor hygiene control. However, the outbreak in Toronto shows that any Western city may have to manage such an outbreak.<sup>3</sup> If this disease spreads in clusters rather than sweeps through communities, then the public-health response must be different.

It is clear that hospitals and healthcare workers are particularly at risk. In Hong Kong, in the first weeks of the outbreak, 25% of patients with SARS were healthcare workers.<sup>5</sup> The healthcare sector has to be particularly prepared, as this is most likely where a cluster will start.