

# Don't write off paediatric asthma action plans just yet

See linked article by Tan *et al.* on pg 188

**\*Tracey Marshall<sup>1</sup>, Peter van Asperen<sup>2</sup>,  
Hiran Selvadurai<sup>3</sup>, Paul Robinson<sup>4</sup>**

<sup>1</sup> Clinical Nurse Consultant Asthma Education, Department of Respiratory Medicine, The Children's Hospital at Westmead, Sydney Children's Hospitals Network, Westmead NSW, Australia

<sup>2</sup> Senior Staff Respiratory Physician, Department of Respiratory Medicine, The Children's Hospital at Westmead; Macintosh Professor of Paediatric Respiratory Medicine, Discipline of Paediatrics & Child Health, Sydney Medical School, University of Sydney, Sydney NSW, Australia

<sup>3</sup> Department Head, Department of Respiratory Medicine, The Children's Hospital at Westmead; Clinical Associate Professor, Discipline of Paediatrics & Child Health, Sydney Medical School, University of Sydney, Australia

<sup>4</sup> Staff Respiratory Physician, Department of Respiratory Medicine, The Children's Hospital at Westmead; Clinical Lecturer, Discipline of Paediatrics & Child Health, Sydney Medical School, University of Sydney, Australia

\*Correspondence: Ms Tracey Marshall, Clinical Nurse Consultant, Department of Respiratory Medicine, The Children's Hospital at Westmead, Sydney Children's Hospitals Network, Locked Bag 4001, Westmead NSW 2145, Australia  
Tel: +61 (02) 9845 2293 Fax: +61 (02) 9845 2111  
E-mail: tracey.marshall@health.nsw.gov.au

Children with asthma can experience poor control of their disease, resulting in decreased quality of life, recurrent asthma exacerbations, and hospital presentations. Health-related outcomes can be improved with comprehensive asthma management, and an important component of asthma self-management is the Asthma Action Plan (AAP). Of particular significance in paediatrics is the fact that the primary caregivers have an important role in overseeing their child's asthma management.<sup>1</sup>

Current international guidelines recommend that asthma management includes education about asthma medication and use of inhalation delivery devices, prevention of symptoms, management of acute episodes, self-management monitoring and control of asthma, with regular review and the provision of the AAP to help the patient and/or caregiver recognise and manage acute asthma episodes.<sup>2,3</sup> Despite existing evidence on the benefit of having an AAP there are still many questions that remain about the individual patient's confidence and understanding, and the effects of subsequent education, in their utilisation of their AAP.<sup>4</sup> Some but not all of these questions are addressed in the study by Tan *et al.*<sup>5</sup> published in this issue of the *PRCJ*. The authors conducted a questionnaire survey which aimed to explore the reasons for the reported increase in caregivers' confidence to provide care to their child during an acute asthma episode associated with having a Written AAP (WAAP). They

report that compared to caregivers who did not possess a WAAP, those with a WAAP demonstrated better understanding and recognition of the symptoms of an acute episode and had a better understanding of medications including being more confident with medication use and less concerned about possible side effects of asthma medications. However, no difference was noted between caregivers (with or without a WAAP) in their likelihood to stop medications without consulting their physician, seek acute care consultation, and their confidence in self-management of their children's asthma at home.<sup>5</sup>

How does continuing to use the AAP as part of overall asthma management expand the opportunities for further improvements in asthma self-management? Fostering and then further developing an ongoing relationship with children, adolescents and caregivers to enhance their understanding of asthma management knowledge and confidence is vital to self-management. For example, a simple discussion on the role of the AAP and what this means for asthma management at home and/or school can assist with identifying barriers that may compromise adherence to asthma medications.<sup>4</sup> A tailored approach with specialist care from medical and nursing staff has been shown to lead to better asthma control, lung function and adherence to asthma management.<sup>6,7</sup>

However, changing health-related activities and behaviours can be an ongoing challenge for caregivers and clinicians.<sup>8</sup> One of the challenges for clinicians is the potential confusion over which type of AAP to use. Over the years the AAP has evolved, not only in design but also in the way in which it is described. In the literature the AAP is referred to as an 'asthma medication plan', 'living with asthma plan', 'treatment plan', 'asthma control plan', 'WAAP', or 'written self-management plan'<sup>9</sup> – and therefore it is important that the type of plan used in a community and/or hospital setting is consistent with the organisation's asthma management guidelines, whether these guidelines are local, national, or international. But while possession of an AAP can play an important role in meeting this challenge, the instructions we provide need to be in layman's language with minimal medical terminology; they need to have clearly defined actions that educate how to identify and monitor for signs and symptoms of asthma, and be clear and concise on how to use asthma medications and devices for acute and interval management as well as when and how to seek further medical advice.<sup>3,10</sup>

Tan *et al.*<sup>5</sup> found that caregivers with a WAAP were more likely to understand bronchoconstriction, feel capable and safe to manage their child's asthma, have increased confidence to change doses of medications during an asthma episode, perceive inhaled asthma medications to be safe, and understand the use of controller medication. Their study also highlights that the provision rates of AAPs to caregivers remains suboptimal (only 56% in this cohort) and needs to improve. Their results show that gaps in caregiver knowledge, understanding and confidence in asthma management can be reduced with provision of a carefully designed AAP, combined with education targeting the recognition of asthma-related symptoms,

treatment adjustment, and thresholds to seek medical attention. The findings of Tan *et al.*<sup>5</sup> also support the findings of previous studies describing increased confidence in asthma management with AAP provision. But an important question remains, namely: does improved confidence translate into better clinical outcomes for children with asthma? Even though this was not the main purpose of this study<sup>5</sup> it would have strengthened the study's conclusions if the reported benefits of having a WAAP could have been shown to be linked to improved clinical outcomes for the child. We hope that future studies will try and address this aspect.

There are several other interesting areas that remain poorly explored in the literature. Once the child has left the community and/or hospital setting, how do caregivers utilise the AAP with respect to medication adherence and decision-making for treatment and medical review during asthma episodes? How do clinicians utilize AAPs with the intended user? This aspect is of particular relevance in paediatric asthma, since AAP development should focus on optimising the caregiver's understanding of their child's asthma management. The increasing role of IT-based communication should not be ignored, and presents exciting opportunities to improve these aspects. In the interim, it is vital that health professionals continue to provide AAPs containing clear and concise information – in conjunction with appropriate education – to assist children with asthma and their caregivers in developing self-management skills.<sup>11</sup>

**Conflicts of interest** The authors declare that they have no conflicts of interest in relation to this article.

Commissioned article; not externally peer-reviewed; accepted 30th April 2013; online 24th May 2013

© 2013 Primary Care Respiratory Society UK. All rights reserved

<http://dx.doi.org/10.4104/pcrj.2013.00049>  
*Prim Care Respir J* 2013; **22**(2): 144-145

## References

- Ducharme FM, Zemek, RL, Chalut D, *et al.* Written action plan in pediatric emergency room improves asthma prescribing, adherence and control. *Am J Respir Crit Care Med* 2011; **183**:195-203. <http://dx.doi.org/10.1164/rccm.201001-0115OC>
- ISSAC, Global Report Asthma 2011, [www.globalasthmareport.org](http://www.globalasthmareport.org)
- Rank M, Volcheck G, James T, Ashokakumar M, Kaiser G. Formulating an effective and efficient written asthma action plan. *Mayo Clinic Proceedings* 2008; **83**:11. <http://dx.doi.org/10.4065/83.11.1263>
- Castro M, Kraft M. Clinical Asthma, Chapter 52 Development, implementation and evaluation of an asthma management plan, 2008, Mosby, Philadelphia
- Tan N, Chen Z, Soo W, Ngoh A, Tai B. A questionnaire survey on the effects of written asthma action plan on caregivers' management of children with asthma. *Prim Care Respir J* 2013; **22**(2):188-94. <http://dx.doi.org/10.4104/pcrj.2013.00040>
- Cicutto L, Madeley C, MacPherson A. Perspectives of end user of asthma action plans. *Am J Respir Crit Care Med* 2010; **181**:A4302.
- Klok T, Kaptien A, Duiverman E, Brand P. High inhaled corticosteroids adherence in childhood asthma: the role of medication beliefs. *Eur Respir J* 2012; **40**:1149-55. <http://dx.doi.org/10.1183/09031936.00191511>
- Reddel H. Action needed on asthma plans. *Prim Care Respir J* 2011; **20**(2):116-17. <http://dx.doi.org/10.4104/pcrj.2011.00051>
- Ring N, Pinnock H, Wilson C, *et al.* Understanding what asthma plans mean: a linguistic analysis of terminology used in published texts. *Prim Care Respir J* 2011; **20**(2):170-7. <http://dx.doi.org/10.4104/pcrj.2011.00012>
- Yin H, Gupta R, Tomopoulos S, *et al.* Readability, suitability and characteristics of asthma action plans: examination of factors that may impair understanding. *Pediatrics* 2013; **131**:1-11. <http://dx.doi.org/10.1542/peds.2012-0612>
- Mosnaim G. Do we have evidence that pediatric written asthma action plans really work? *Ann Allergy, Asthma and Immunol* 2011; **107**:187-8. <http://dx.doi.org/10.1016/j.ana.2011.07.005>

# Evaluation of patients with symptoms of chronic lung disease in primary care

See linked article by Lamprecht *et al.* on pg 195

## \*Guy B Marks<sup>1,2</sup>

<sup>1</sup> Clinical Professor and Head, Respiratory and Environmental Epidemiology, Woolcock Institute of Medical Research, Sydney, Australia

<sup>2</sup> Senior Staff Specialist Physician, Department of Respiratory Medicine, Liverpool Hospital, Sydney, Australia

\*Correspondence: Professor Guy B Marks, PO Box M77 Missenden Road PO, NSW 2050, Australia  
Tel: +61 2 9114 0466 Fax: +61 2 9114 0412  
E-mail: [guy.marks@sydney.edu.au](mailto:guy.marks@sydney.edu.au)

In this issue of the *PCRJ*, Lamprecht and colleagues have drawn attention to the vexing problem of diagnosing COPD in primary care.<sup>1</sup> Their study highlights the problem of failing to identify and diagnose patients with COPD in this setting. However, it also

demonstrates an alternative problem: incorrectly attaching the label of COPD to patients who do not have the disease. Of course, the key to accurate diagnosis of COPD – as defined by the Global Initiative for Chronic Obstructive Lung Disease (GOLD)<sup>2</sup> – is correct performance and interpretation of spirometry. Lamprecht *et al.* show us that, although accurate diagnosis of COPD was more likely in patients who reported having performed a lung function test, it was by no means a guarantee of accurate diagnosis. This report leaves open the critical question of whether enhanced lung function testing in primary care is likely to lead to improved outcomes for patients with chronic lung disease. Do we need to develop and evaluate new strategies for appropriate targeting of therapeutic strategies for chronic lung disease in the primary care setting?

The fact that COPD is underdiagnosed in primary care, and in the community at large, is well established in several studies<sup>3,6</sup> and has become an article of faith within the respiratory community. However, this is unsurprising given that many people in the general population who meet the spirometric definition for persistent airflow obstructive