Research Review
EDUCATIONAL SERIES

Asthma Management in New Zealand – Room for Improvement

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About Research Review

Research Review is an independent medical publishing organisation producing electronic publications in a wide variety of specialist areas.

Research Review publications are intended for New Zealand medical professionals.

The purpose of this educational resource is to communicate to healthcare professionals the true impact of uncontrolled asthma in New Zealand, provide some insight into the nature of asthma prescribing by New Zealand general practitioners (GPs) in relation to best practice guidelines, and to advocate urgent change.

In 2010, the Global Initiative for Asthma (GINA) announced a new campaign to reduce hospital admissions by 50% by 2015. However, this target is very unlikely to be met in New Zealand unless solutions are found to a series of problems with asthma management in this country. The available data are supported by much anecdotal evidence testifying to poor asthma control and low rates of adherence to preventer medications.

The 2003 New Zealand Patient Outcomes Management Survey (POMS) highlighted that many patients with asthma were not well controlled or were markedly out of control, and were under-treated. The state of asthma in New Zealand remains much the same in 2011. A high proportion of New Zealand asthma patients are inadequately maintained on an inhaled corticosteroid (ICS) alone, despite best practice guidelines recommending combination therapy of an ICS with a long-acting β-agonist (LABA) for long-term maintenance treatment in asthma.

The Asthma Control Test (ACT) can quickly and easily reveal the actual level of asthma control, yet many healthcare providers still do not know about this tool or they fail to use it, and they have not set up a robust asthma management assessment programme. Because asthma assessments are not performed as often as they should be, many patients and their healthcare providers do not perceive that their asthma is poorly controlled.

There is room for improvement in the management of asthma in New Zealand.

Key points:

Problems

- The burden of asthma is significant in New Zealand and worldwide
- Asthma control is difficult to assess and poor control is often unrecognised by health practitioners and patients
- This is compounded by underutilisation of clinical assessment tools and lack of involvement of allied health professionals
- Poor adherence with prescribed medications is a huge ongoing problem
- Despite advances in asthma treatments and assessment tools, management outcomes have changed very little in the last 10 years

Solutions

- Asthma control can be achieved with effective, safe, cost-effective medications
- The Asthma Control Test (ACT) is a highly effective, quick and simple well-validated assessment of asthma control and is responsive to changes in control
- Combination ICS and LABA therapy inhalers deliver maintenance and reliever therapy in a single inhaler, with long-lasting effects that reduce the risks of severe exacerbations in patients with mild, moderate or severe persistent asthma
- Added advantages of combination therapies are that they ensure that the corticosteroid is not discontinued when the LABA is added and are consistently cost-effective. They are more effective at achieving asthma control than ICS therapy alone and they improve compliance
- Various measures, including better assessment of control and increasing compliance with preventer medications, will reduce the burden of asthma
- All allied healthcare professionals need to work together in assessing asthma and counselling patients with asthma

The burden of asthma in New Zealand and worldwide

- Asthma is one of the most common chronic diseases worldwide and its prevalence is increasing, especially among children.
- Its impact is significant in New Zealand, disproportionately affecting Māori and Pacific people, as well as lower socio-economic groups.[1,2]
- Asthma is the leading cause for children's hospital admissions in New Zealand and is associated with very high financial costs, including direct medical costs (such as hospital admissions and cost of pharmaceuticals) and indirect medical costs (such as time lost from work for adult patients or family members needing to take care of sick children, and loss of healthy life due to disability and premature death).

- In 2004, the prevalence of clinical asthma exceeded ≥10% in many countries worldwide –e.g., 15.1% in New Zealand, 14.7% in Australia, 14.1% in Canada and 10.9% in the USA.[3] In 2011, New Zealand is recorded as having the second highest prevalence of asthma in the world (after the UK).
- Recent patient surveys of asthma management practices in New Zealand[4,5] and worldwide (the Asthma Insights and Reality in Europe [AIRE] survey;[6] the Asthma Insights and Reality in Asia-Pacific [AIRIAP] survey;[7] and surveys conducted in Canada[8,9] and the US[10]) show that asthma is poorly controlled around the world. This is despite effective available medications and widely disseminated guidelines that are intended to improve the identification and management of asthma by providing evidence-based recommendations on which practice can be based.[11-14]
- According to the Global Initiative for Asthma guidelines (GINA), one of the goals of asthma management is no or minimal need for emergency room visits or hospitalisation.[14] However, worldwide surveys of asthma management reveal high numbers of patients hospitalised overnight for asthma over the previous 12 months, making emergency department visits for asthma over the previous 12 months, and unscheduled asthma-related emergency visits to a doctor's office, clinic or somewhere else.[6-10] Those surveys also reveal that about 1 in 2 children and 1 in 3 adults with asthma had missed at least 1 day of school or work in the past 12 months because of acute asthma. This high burden of disease was not because the asthma was difficult to treat: analyses revealed that the rates of ICS uptake were low for each disease category at the time of the surveys (ranging from 11% to 30% for mild asthma and from 9% to 26% for both moderate and severe asthma).

International Guidelines - Update

The GINA guidelines are intended to help achieve and maintain asthma control.[15] Overall asthma control is defined by GINA as:

- Current control: relief of symptoms, minimal rescue reliever use, maintaining activity and lung function,
- Reduction of future risk: preventing exacerbations, loss of lung function over time, and limiting medication side effects.

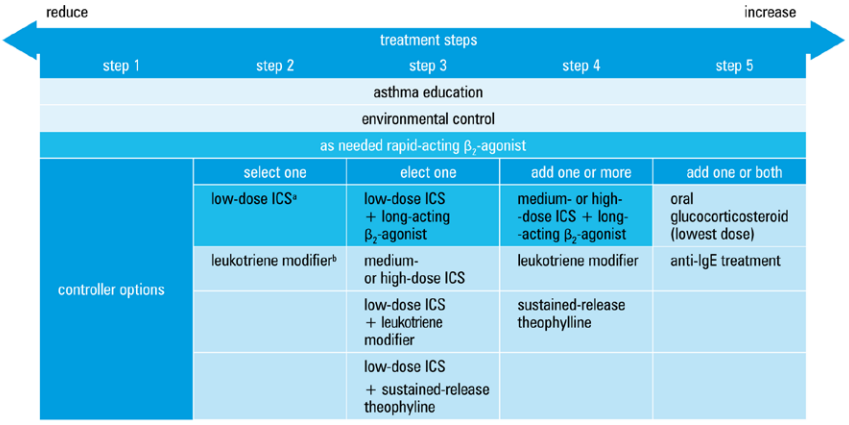
GINA 5-step treatment guidelines

The GINA guidelines divide patients (adults and children aged >5 years) into five treatment categories, based on levels of asthma control. Recommended treatment action is then based on the patient's level of control, as shown in Figure 1.

- GINA Step 1 specifies a rapid-acting inhaled β_2-agonist, as needed – once or twice a week at most.
- GINA Step 2 includes low doses of ICS once or twice daily to achieve good asthma control; these anti-inflammatory medications are currently the most effective preventive therapy available for asthma.
- GINA Step 3 recommends a low-dose ICS with an inhaled LABA, either in a combination inhaler device or as separate components, when low-dose ICS fails to provide enough asthma control. For children, the guidelines recommend increasing the dose to a medium-dose inhaled glucocorticosteroid.
- GINA Step 4 advises that adults and children aged >5 years with difficult-to-control asthma should be treated with a combination of medium- or high-dose ICS with a LABA (children aged ≤5 years can receive high-dose ICS plus add-on therapy if needed). Adding oral corticosteroids to other controller medications may be effective but can cause severe side effects and should be considered only if asthma remains severely uncontrolled on Step 4 medications.

For patients with allergic asthma (GINA Step 5), subcutaneous injections of a monoclonal anti-immunoglobulin (IgE) antibody every 2 to 4 weeks has been shown to improve control of allergic asthma when other options have failed.

Figure 1. Stepwise approach to asthma therapy as recommended by the GINA guidelines



Abbreviations: ICS – inhaled corticosteroid, IgE – immunoglobulin E

[a] inhaled ICS, [b] receptor antagonist or synthesis inhibitors. Currently, leukotriene modifiers and anti-IgE treatments are not funded by PHARMAC.

GINA advises that the available literature on treatment of asthma in children aged ≤5 years precludes detailed treatment recommendations.

The Paediatric Society of New Zealand provides local guidelines on the diagnosis and management of asthma in children aged 1–15 years and in children aged under 5 years (www.paediatrics.org.nz). Children under 5 are unlikely to be able to perform conventional pulmonary function testing in a consistent and reliable way to give objective assessment of lung function and bronchodilator response. The Society advises that while asthma should be suspected in any child with recurrent or persistent wheeze whether audible or detected on auscultation, alternative causes of wheeze should be considered especially in young children (e.g. respiratory tract infections, cystic fibrosis, maternal smoking or other irritants). Asthma can occur in infants aged less than one year, but it is more difficult to diagnose because of the number of different causes of wheeze at this age. The guidelines advise that during acute episodes of recurrent or persistent wheeze, supportive treatment should be provided as described under management of acute wheeze. In individual cases a trial of bronchodilators may be considered with for example salbutamol metered dose inhaler and spacer. Regular daily ICS treatment may be indicated for the small group of infants considered to have persistent asthma.

These treatment recommendations are supported by international guidelines on the management of asthma issued by the British Thoracic Society (BTS) and the Scottish Intercollegiate Guideline Network (SIGN), as well as the New Zealand Guidelines Group.[16,17]

Assessing asthma control

Problem – it is difficult to assess asthma control, meaning that poor control is often unrecognised by both patient and health care professional

Solution – the Asthma Control Test (ACT) is a quick and simple well-validated assessment of asthma control with a result that is objective, easily understood by the health care professional and patient, and changes over time as asthma control changes

Commentary by Professor Shaun Holt

Many patients have poor asthma control, but often they and their doctors think that they are actually well-controlled and are happy with the level of control. One explanation for this is that patients have a natural tendency to tell their doctor what they think they want to hear. But perhaps more importantly, it is likely that patients with asthma rarely, if ever, have few or no symptoms, and so they do not know what good asthma control feels like and they have nothing to compare their current symptom level with. Clinicians are well aware of this fact if, for example, they have added a LABA to a patient's treatment – many patients in this scenario report that they never knew what it was like to experience few or no symptoms and that only after the addition of the LABA could they appreciate that previously their asthma was not actually well-controlled.

This lack of recognition of poor asthma control highlights another issue, that the way patients and health care professionals currently assess asthma control is often not detecting these high levels of poor control, and so we need better ways to assess asthma control.[18]

What exactly is asthma control? It depends who you talk to; patients, parents, doctors and regulatory authorities have very different ideas:

Patients - no symptoms that interfere with normal lifestyle, no exacerbations, normal quality of life, and in particular, no cough

Carers (parents) - able to get to school, no night cough

GPs - no unscheduled visits, few exacerbations, no admissions, maintenance of PEF

Respiratory physicians - no night symptoms, maintenance of lung function (FEV_1), few exacerbations, no admissions

Regulatory authorities - improvement in morning PEF & FEV_1, improvement in symptom scores and quality of life, enhanced cost-effectiveness analyses

A variety of questions are used to assess asthma control, such as the presence of night-time cough and frequency of reliever use, as well as peak flow measurements and most doctors have their favourite 3 or 4 questions that they routinely ask in order to assess asthma control. Not surprisingly, this varied approach to assessing asthma means that poor control is often not detected, even by respiratory specialists. And this is important – if control is not accurately assessed, how can we effectively alter a patient's management to obtain the best level of asthma control possible?

Asthma lacks a single, simple, objective measure of the disease manifestation, which can be monitored over time and with treatment changes. For hypertension we measure blood pressure, for hypercholesterolaemia we measure blood lipids and for patients with diabetes we measure HbA1c levels. No such measure is commonly used for asthma, but the recently validated ACT tool can solve this problem.

The ACT is a simple 5-question test for asthma that has been developed and validated in several studies.[19-23] The 5 questions take less than a minute to answer and can be asked by the health care professional, or preferably the patients can complete the test themselves. There is a score of 1–5 for each question, and an overall score in the range of 5–25, with low scores corresponding to a high level of symptoms and therefore poor asthma control.

Q1 In the **past four weeks**, how often did your asthma prevent you from getting as much done at work, school or home? — SCORE

All of the time	Most of the time	Some of the time	A little of the time	Not at all
1	2	3	4	5

Q2 During the **past four weeks**, how often have you had shortness of breath?

More than once a **day**	Once a **day**	3 to 6 times a *week*	Once or twice a *week*	Not at all
1	2	3	4	5

Q3 During the **past four weeks**, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?

4 or more times a *week*	2 to 3 nights a *week*	1 night a *week*	Less than 1 night a *week*	Not at all
1	2	3	4	5

Q4 During the **past four weeks**, how often have you used your reliever medication (such as your blue inhaler *or* rescue inhaler)?

3 or more times a **day**	1 or 2 times a **day**	2 or 3 times a *week*	Once a *week* or less	Not at all
1	2	3	4	5

Q5 How would you rate your asthma control during the **past four weeks**?

Not controlled	Poorly controlled	Somewhat controlled	Well controlled	Completely controlled
1	2	3	4	5

A version for children is also available and this has been validated for children aged 4–11 years.[20] The questions are different, and some are completed by the child and some by the parent/caregiver, but the overall score range and interpretations are the same as in the adult version.

Is your child's (4-12yrs) asthma under control?

Asthma Control Test™

The first step to achieving control over your child's asthma is to know where they're at right now.

This test is a way of assessing your child's present level of asthma control.[1,2] It will provide a score that may help your health care professional determine if your child's asthma treatment plan is working or if it might be time for a change.

Take five minutes now and do this simple 3 step test with your child.

STEP 1
Let your child answer these questions. You may help, but let your child select the response.

Q1 How is your asthma today? — SCORE

0 Very Bad	1 Bad	2 Good	3 Very Good

Q2 How much of a problem is your asthma when you run, exercise or play sports?

0 It's a big problem, I can't do what I want to	1 It's a problem and I don't like it	2 It's a little problem but it's ok	3 It's not a problem

Q3 Do you cough because of your asthma?

0 Yes, all of the time	1 Yes, most of the time	2 Yes, some of the time	3 No, none of the time

Q4 Do you wake up at night because of your asthma?

0 Yes, all of the time	1 Yes, most of the time	2 Yes, some of the time	3 No, none of the time

STEP 1 SUBTOTAL

Continue the test over

STEP 2
Complete these questions on your own

Q5 During the **last 4 weeks**, how many days did your child have any daytime asthma symptoms? — SCORE

Not at all	1-3 days	4-10 days	11-18 days	19-24 days	Everyday
5	4	3	2	1	0

Q6 During the **last 4 weeks**, how many days did your child wheeze during the day because of asthma?

Not at all	1-3 days	4-10 days	11-18 days	19-24 days	Everyday
5	4	3	2	1	0

Q7 During the **last 4 weeks**, how many days did your child wake up during the night because of asthma?

Not at all	1-3 days	4-10 days	11-18 days	19-24 days	Everyday
5	4	3	2	1	0

STEP 2 SUBTOTAL

STEP 3
Add step 2 subtotal to step 1 subtotal (from the front) to get the final score

STEP 1 SUBTOTAL + **STEP 2 SUBTOTAL** = **TOTAL**

What does your child's Asthma Control Test™ result mean?

Your child's test result is an assessment of their level of asthma control.[1]

SCORE: 20 or more — **Your child's asthma appears to be controlled.[2]**

Even so, it can change over time so it's important to retest your child regularly. Continue to talk to your health care professional about their asthma control.

SCORE: 19 or less — **Your child's asthma may be uncontrolled or only partly controlled.[2]**

Make an appointment to discuss your child's asthma score with their health care professional.*

References: 1. Liu A et al. *J Allergy Clin Immunol.* 2007;119:817-825
2. Koolen BB et al. *Eur Respir J.* 2011;38:561-566.

TAPS NA5268-11DE

*Please note that normal doctor fees will apply.

GlaxoSmithKline

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Studies have shown that the ACT score effectively discriminates between patients who differ in asthma control, is responsive to changes in control, and can discriminate between groups of patients in different lung function ranges. The ACT score is highly effective as a screen for uncontrolled asthma and can correctly predict GINA-defined partly controlled or uncontrolled asthma in over 90% of cases.

A score of 20–25 means that a patient's asthma is controlled. A score of 15–19 means that it may be possible to increase the level of asthma control and a full review of the treatment plan, including education on inhaler technique and the importance of adherence with treatment, is warranted. A score of 14 or less indicates that asthma is poorly or not controlled and that an urgent review of and changes to the patient's management are needed. By using the ACT score as part of their routine assessment of patients with asthma, busy health care professionals will be able to easily identify patients whose asthma control can be improved, enabling changes to their management to be made and thereby improve outcomes.

COMMENT FROM PHILIP RUSHMER:

- New Zealanders are being undertreated for their asthma
- Integrated healthcare
- Practice nurses have/should have more involvement in asthma management and chronic disease in general
- Pharmacists are a key element – they see the script
- Nurses generate repeat scripts, GPs usually don't

Problem – adherence with asthma preventer medication is often very poor

Solution – there are a number of under-utilised methods that can increase adherence

Poor adherence with prescribed medications is a major problem for a number of chronic diseases and the issue has been described as "the other big drug problem". For example, in the USA, 33%–69% of medication-related admissions are due to poor adherence and the problem is estimated to cost its health system $100 billion/year.[24] With respect to asthma, nonadherence to preventer medications is said to be the main reason for treatment failure.[25] One of the world's leading researchers has commented that the goal of asthma management "*...is to get some inhaled corticosteroid into your patient*". 100% adherence is unrealistic and probably not necessary, but the goal is a level of adherence, perhaps taking 80% or 90% of the prescribed doses, in order to achieve a good level of asthma control. Although more effective treatments would be welcomed, it is likely that the far simpler measure of increasing adherence with current medications would have a larger impact in terms of reducing asthma symptoms.

Adherence with inhaler medication is difficult to assess. Prescription data is useful but has its limitations and the best information comes from the use of hidden compliance assessments devices in the inhalers themselves. A New Zealand study conducted in this way found that, when adherence was defined as taking 90% of the prescribed doses, only 20% of well-motivated patients on a clinical trial were compliant.[26] This same study also found that, as might be expected, patients markedly underreport their level of nonadherence when asked directly.

Asthma management is traditionally a step-wise progression, with the medication level being increased to match an increasing level of symptoms.[27] However, this assumes that the patient is adherent to the medication, otherwise symptoms and treatment cannot be matched with certainty.

Poor adherence is defined as 'primary' when the patient does not get the prescription fulfilled or does not attend the clinic and 'secondary' when the prescription is not taken as directed.[28] In addition, poor adherence can be intentional if the patient chooses not to use it as prescribed, or unintentional if they do not understand the instructions or cannot use as prescribed because for example they keep forgetting.[28] This distinction is important, as strategies to increase adherence are more likely to succeed if they address the reasons for the poor adherence. Strategies include:

intentional poor adherence

- education - teach the patient about the need for regular preventer medication and the benefits of using the prescribed treatments; address worries about side effects
- simplification - make the patient's asthma management as simple as possible by, for example, reducing the number of prescribed inhalers and simplifying instructions; prescribe less frequent doses if possible
- ACT score - can use a low ACT score to demonstrate that asthma control is poor and motivate greater adherence to treatment

unintentional poor adherence

- reminders - text messaging systems; inhaler casings that beep to remind patient to take a dose
- associate inhaler use with another twice-daily activity e.g. brushing teeth
- education - make sure patient understands which inhalers they should take, how to take them, and how to change this when symptoms increase

Although it is tempting to seek improved medications when outcomes are poor, the "elephant in the room" is often poor adherence. No matter how effective the medication, it will not work if the patient does not take it. This important aspect of the management of chronic diseases is often overlooked and identification of this issue and simple strategies to address it could lead to a significant improvement in asthma control in many patients. The one strategy that is most likely to improve adherence with long-term asthma treatment is the use of combination inhalers containing an ICS and a LABA, as these reduce the number of inhalers that patients have to take. In addition, the short-term improvements in symptoms and lung function which the patient attributes directly to these combination inhalers are likely to further enhance treatment adherence. This increased adherence leads to improved asthma outcomes by ensuring that the patient takes regular ICS, thereby reducing the inflammation in the airways that characterises asthma. Coupled with the long-acting bronchodilator effects of the LABA, these combination inhalers lead to markedly improved asthma symptoms, as demonstrated in many clinical studies.

New study evidence:

An audiovisual reminder function improves adherence with inhaled corticosteroid therapy in asthma[26]

This New Zealand study demonstrated a significant improvement in adherence with ICS when medication was supplied with an audiovisual reminder function. Notably, the study also showed that fewer than 20% of patients in the control group achieved 90% adherence with twice-daily ICS, despite the fact that all study participants had volunteered to take part in this study.

A text message programme designed to modify patients' illness and treatment beliefs improves self-reported adherence to asthma preventer medication[29]

A targeted text message programme improved adherence to asthma preventer inhalers in young adults with asthma.

This New Zealand study screened 216 patients (aged 16–45 years) on asthma preventer medication, all of whom were recruited from pamphlets dispensed with asthma preventer medication and e-mails sent to members of a targeted marketing website (www.smilecity.co.nz). A total of 147 patients were eligible and sent in the consent form and baseline questionnaire assessing illness perceptions. They were randomised to receive individually tailored text messages based on their illness and medication beliefs over 18 weeks (n=73) or no text messages (control usual care group; n=74). Adherence rates were assessed by phone calls to participants at 6, 12, and 18 weeks as well as at 6 and 9 months.

At baseline, the groups did not differ significantly in illness perceptions. However, by 18 weeks, the intervention group had increased their belief in the long-term nature of their asthma, had increased perceived control over their asthma, and increased perceived necessity of preventer medication. The intervention group also significantly improved adherence over the follow-up period compared to the control group by 10%. Notably, the proportion of patients taking >80% of prescribed inhaler doses was 25.9% in the intervention group compared to 10.6% in the control group.

COMMENT FROM ANN WHEAT:

- The problem and challenge is getting people to take their preventer medication
- People fear steroids – they hear the word steroid and freak
- Nobody is taking the time – more time needs to be spent either with the GP or practice nurse
- Little things add up – check technique, consistent messages
- When using MDIs with or without spacers, inhaler technique is imperative for maximum advantage from the devices. See your nurse, doctor, or asthma educator and have technique checked regularly every visit.

Problem – asthma outcomes have not changed much in NZ over the last decade

Solution – a package of measures, including better assessment of control and increasing adherence with preventer medications, will reduce the burden

Around 1 in 6 New Zealanders has asthma.[30] The prevalence of asthma, along with other allergic disorders such as eczema, allergic rhinitis and food allergy, has increased over recent decades and New Zealand has the joint highest levels of these allergic disorders in the world.[31,32] The economic burden was estimated to be around NZ$825 million a year in New Zealand in 2001, the vast majority of this being indirect costs (NZ$700 million) such as those associated with time off school and work due to exacerbations.[30]

Around half of the costs are incurred by the 10% of patients with the most severe asthma, and the cost of care for a person with asthma has been estimated to be 100 times greater if a patient's asthma is poorly controlled.[33] In terms of years lost to disability (YLD), asthma ranks first in males, third in females and third overall.[34]

Three studies over the last decade have determined the extent of the burden of asthma in New Zealand.[35-37] Ten years ago the POMS (Patient Outcomes Management Survey) was undertaken in 29 general practices throughout New Zealand.[35] It found that substantial proportions of adults and children with asthma had asthma that was not well-controlled or was markedly out of control, and that the majority of these subjects were under-treated. Just 7% were well-controlled, 71% had asthma that was not well-controlled and 19% were classified as having asthma that was markedly out of control. However, a surprise finding was that despite this level of poor control, 80% of patients were satisfied with their level of asthma control and 76% thought that their asthma was well-controlled.

Six years later, in 2007, the NZ INSPIRE study reported that over half of the patients surveyed had asthma that was uncontrolled or not well controlled according to the Asthma Control Questionnaire (ACQ) and 76% of patients were using their reliever on most days.[36] Similarly to the POMS study, although 76% of patients were using their reliever on most days, 81% thought that their asthma was well-controlled and 77% were satisfied with their level of control.

Finally, in 2011, another approach to determining the level of morbidity in asthma patients was undertaken in the form of an audit of asthma control using the ACT score.[37] This was undertaken in 3 general practices with the aim being to assess the level of control in patients with asthma and to determine if the results of the ACT score corresponded to the doctor's previous assessment of their patient's asthma control. Each participating practice, which had not previously used the ACT score, audited approximately 50 consecutive adult patients with asthma. The mean ACT score was 18.9, corresponding to somewhat controlled asthma. 53% had well or completely controlled asthma, 28% had somewhat controlled asthma and 19% had poorly or uncontrolled asthma. ACT scores were slightly lower in Māori, smokers, patients taking more treatment and patients who had had a severe exacerbation, but no important differences were seen with respect to gender or age. Of particular interest was the finding that 18% of patients had an ACT score indicating asthma that was better controlled than appreciated, 36% had an ACT score indicating asthma less well controlled than appreciated, and 45% had an ACT score indicating asthma control that was as expected. In other words, in around half of patients, the ACT score was different to that anticipated by the doctor, being worse than expected in around 2/3 of cases and better than expected in around 1/3 of cases.

These 3 studies employed different methods and patient populations, and therefore the results cannot be directly compared. However, overall, the message from these studies is that asthma control is poor and that this is not recognised by patients and their doctors and there does not appear to have been any major improvements in the last decade.

COMMENT FROM TANE TAYLOR

- Need measurement of changes in clinicians' behaviour
- GPs and practice nurses need to sit in on each other's sessions
- ACT should be a habit
- Too many assumptions made about the care pathway
- RNZCGP/NZMA – asthma needs to be part of exams, undergrad programmes
- Auditing current practices – breaking down the patient pathway

GPs are working hard; adding more work to an already busy schedule is neither attainable nor acceptable. We need simple smart tools such as ACT, we need easy-to-use rapid-loop auditing tools such as Doctor Info, we need facilitators to guide us through the process but more importantly we as health professionals need to face up and accept that our current practice is not good enough. The data is compelling, the evidence is robust; we have a burning platform on which we need to change our behaviour. We need to work smarter not harder.

We have to develop better working partnerships with our nursing colleagues but more importantly with our patients.

COMMENT FROM RICHARD HULME

- ACT is under-utilised
- Patients often rate their asthma as being better than it is
- Improvements in respiratory long-term conditions management can reduce the burden on the whole health system and are the low hanging fruit
- Risk stratify your patients to optimise their management
- An ACT screening tool is available or can be created for most general practice PMSs
- Practice teams have to want to improve the quality of their work. Daily feedback on practice performance against goals is a pre-requisite.

302 adult patients with asthma had an ACT score recorded in the period 1 March to 30 November 2011. Demographics were mean age 44 years; 41% male; European 8%, Māori 24%, Pacific 40%, Indian 17%, Asian 8%, Other ethnicity 3%; current smokers 29%, ex-smokers 23% and never-smokers 47%.

Approximately one-third of asthmatics rated their asthma as well-controlled or completely controlled in the previous 4 weeks and had an ACT score <20.

Approximately 60% of asthmatics had an ACT score <20.

Five percent of patients who were current smokers or ex-smokers, with an ACT score <11 and a PEFR <250 L/min, probably had COPD and needed spirometry.

Beware the patient reporting their asthma is well-controlled and presenting for a repeat script of their asthma medicines. If their ACT score is <20, consider checking their inhaler technique, adherence to preventers, optimising their asthma management according to the GINA guidelines, checking their smoking status and their crisis plans.

The ACT score gives a good indication of the asthmatic patient's interval history and is a simple risk assessment tool. Suboptimal asthma control may be missed if relying on an opportunistic PEFR measurement and the patient reporting that their asthma has been well controlled.

Undertreatment

It is possible for the majority of patients to achieve and maintain control of asthma with physician-driven medication changes at regular clinical assessments. In a 3-year-long Swedish study, patients' medication was increased and decreased to achieve sustained asthma control, based on the goals of treatment outlined in asthma treatment guidelines:[38]

- Asthma control was more likely to occur with inhaled salmeterol/fluticasone propionate combination (SFC) than with salmeterol (SAL) or fluticasone propionate (FP) as monotherapy.
- When patients' treatments were titrated to levels ensuring good control, 73% of the subjects required SFC to maintain control of their asthma, compared with 21% receiving FP and 5% receiving SAL.

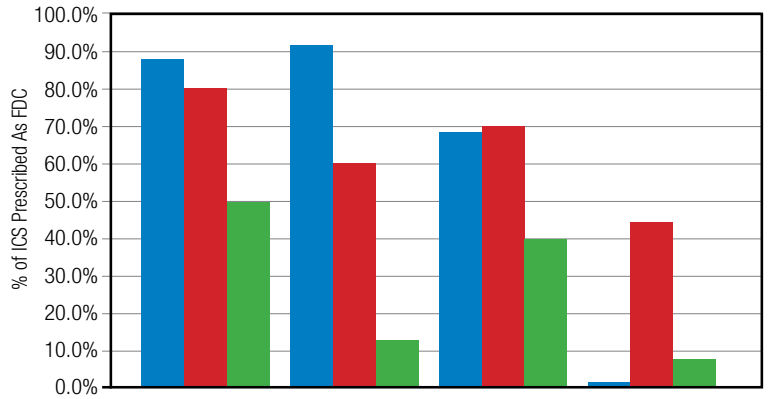
- Compared with patients in the SFC group, those initially randomised to FP monotherapy were nearly 3 times as likely to require increased treatment (OR 2.66), while those on SAL alone were 9 times more likely (OR 9.38).
- Moreover, time until 25% of patients first required an increase in study medication was 6 months for patients initially treated with SAL compared to 12 months for FP and 21 months for SFC.
- Patients treated with SFC experienced fewer exacerbations and achieved greater improvements in airway hyperresponsiveness compared to those treated with FP or SAL alone.

Other data also support the benefits of aiming for guideline-defined asthma control in clinical practice. In an additional analysis of the Gaining Optimal Asthma ControL (GOAL) study, over 52 weeks, aiming for Total Control of asthma by stepping up treatment and then sustaining that level of treatment resulted in patients in both treatment groups (SFC or FP alone) achieving substantial benefits in a range of individual asthma outcomes (mean morning PEF, symptom scores, symptom-free days, night awakenings, rescue-free days, and annualised rate of severe exacerbations).[39] Improvements were greatest with SFC versus FP alone.

IMS Prescribing Behaviour

Compared with Australia, the UK and The Netherlands, New Zealand has much lower prescribing rates overall for ICS/LABA as a fixed-dose combination, and extremely low rates of high-dose ICS/LABA combination therapy. These rates are detailed in the following chart, using IMS data (New Zealand combined PI HI PSI Index) for the 2009 calendar year.

Percentage ICS prescribed as a fixed-dose combination inhaler



	Australia	United Kingdom	Netherlands	New Zealand
High Dose FDC	87.5%	91.2%	69.5%	0.3%
Medium Dose FDC	79.5%	60.3%	70.8%	44.4%
Low Dose FDC	50.1%	13.9%	40.3%	6.1%

Source: IMS Data (NZ Combined PI HI PSI Index) for the 2009 calendar year (December MAT)

Take-Home Message

- ICS/LABA combination therapy is underutilised in New Zealand compared with Australia, the UK and The Netherlands.
- From 1 February 2012 the requirement for patients to be on separate ICS and LABA inhalers for at least three months prior to being eligible for funded combination inhalers HAS BEEN REMOVED. It is hoped that, as a result, prescribing rates will increase and improve asthma control.

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