

# He Mate Huango: an update on Maori asthma

LIS ELLISON-LOSCHMANN<sup>\*</sup>  
NEIL PEARCE<sup>\*\*</sup>

## Abstract

In 1990, a Ministerial Review to consider asthma among Maori people was undertaken following concern over disproportionate mortality and morbidity rates from asthma in Maori compared with non-Maori. Findings from the Maori Asthma Review included: a need for a reduction in cost of health care; increased patient education; use of asthma management plans; and greater Maori participation in the planning and delivery of asthma services and asthma education. Alongside this, a significant and complex situation was highlighted regarding Maori not accessing asthma services and asthma resources, the result of which was reflected in more severe asthma and higher hospital admission rates and death rates. The Review made a number of recommendations focussed on a need for substantial improvements in asthma management and asthma education, with the significant involvement of Maori people.

This paper reviews the work and conclusions of the Maori Asthma Review and considers what developments have been made in research and policy since the Review's publication in 1991.

A literature review was undertaken examining asthma prevalence studies and asthma mortality and morbidity data among Maori since the Maori Asthma Review was completed. Health policies and relevant government health initia-

tives were examined to assess the policy outcomes resulting from the findings and recommendations of the Review.

The findings indicate that asthma prevalence remains similar between Maori and non-Maori children but asthma severity is greater in Maori children. Both prevalence and severity of asthma are greater in Maori than in non-Maori adults. Funding of health services in New Zealand have undergone dramatic changes since the introduction of the health reforms in 1993. These changes have affected the development and implementation of asthma services to Maori at both local and national levels. Effective planning and development of asthma services will continue to be hindered by a lack of dedicated and ongoing funding which is necessary to ensure long term planning and implementation of asthma services to Maori can take place.

## Introduction

The purpose of this paper is to review the work and conclusions of He Mate Huango: Maori Asthma Review<sup>1</sup> and to consider what developments have been made in research and policy on asthma in Maori since that time. Recent data regarding asthma prevalence and asthma morbidity among

Maori is presented along with discussion on one of the critical areas raised by the Review, that of access to asthma services and education resources. While asthma remains a major cause of both acute and long-term morbidity in Maori people, issues concerning

access to services must be addressed if improvement in this critical area of Maori health is to be made.

The Maori Asthma Review was undertaken in 1990 because of concerns brought to the attention of the then, Minister of Maori Affairs, the Hon Koro Wetere, over a range of asthma health issues. It was noted that there was an excessive number of deaths from asthma among Maori people and that many required hospital treatment, even though current evidence at the time, suggested asthma was no more common in Maori than Pakeha. There were problems in the management of asthma in Maori, major difficulties in getting expert help when it was required, and a serious lack of readily available, clear information about asthma.<sup>(1)</sup>

**The purpose of this paper is to review the work and conclusions of He Mate Huango: Maori Asthma Review and to consider what developments have been made in research and policy on asthma in Maori since that time.**

<sup>\*</sup>Department of Public Health, Wellington School of Medicine, P.O.Box 7343, Wellington, New Zealand. Ph 64-4-3800 614, Fax. 64-4-3800 600 <sup>\*\*</sup>Centre for Public Health Research, Massey University, Wellington, New Zealand. Private Bag 756, Wellington.

**Table 1. Studies of asthma prevalence in New Zealand children and young adults**

Study	Measure of asthma prevalence	Maori prevalence		Non-Maori prevalence	
		%	N	%	N
Stanhope et al. (1979)	Asthma or wheeze	27	478	24	237
Mitchell (1983)	Asthma questionnaire	12	90	14	686
Harrison et al. (1986)	BHR and past/present symptoms: BHR test and questionnaire	11	503	14	1062
Pattemore et al. (1989)	Wheeze in last year	22	509	16	1084
	BHR	13		20	
Barry et al (1991)	Wheeze in last year	19	290	17	583
Shaw et al (1991)	Wheeze in last year	31	338	23	145
	BHR	14		15	
Robson et al (1993)	Wheeze in last year(video)	38	375	36	1170
	Wheeze in last year(written)	29		30	
Shaw et al (1994)	Wheeze in last year	21	428	22	247
D'Souza (1997)	Wheeze in last year (6-7 yrs)	28	3750	24	12193
	Wheeze in last year video (13-14 yrs)	22	3940	18	12392
	written	31		32	

The Review team comprised six members. They were Professor Eru Pomare (Professor of Medicine, Wellington School of Medicine), Mr Hohua Tutengaehe (Kaumatua, Christchurch); Mrs Makere Hight (Asthma Education Officer, Auckland); Mrs Irihapeti Ramsden (Nursing Advisor, Wellington); and Dr Neil Pearce (Epidemiologist, Wellington). Secretarial and administrative assistance to the Review team was provided by Ms Vera Ormsby from the Maori Health Unit, Department of Health.

The team was asked to advise the Minister of Maori Affairs on all aspects of asthma affecting Maori people. In particular, the Review team should prepare something practical for Maori people on asthma management and be able to highlight problems and make suggestions about access to health care. A literature review on current knowledge (for the time) of prevalence and causes of asthma, management of asthma and access to health care was conducted as background information to the review process itself. Calls for both oral and written submissions were made by the Review team. Various hui were held throughout New Zealand and organized so as to hear views from both urban and rural Maori and those who were geographically isolated. More visits were planned for the North Island because of the greater number of Maori living there. Maori people were the major participants at the hui with most being either asthma sufferers themselves or having a family member with asthma.

Thus, the nature of the Review enabled some very important information regarding Maori experience of asthma, asthma services, asthma management and asthma information/education issues to be highlighted. Cost of health care was seen as a primary issue and strong support was expressed for reducing costs of GP visits. A clear need for increased patient education and information emerged along with requests for the introduction and use of simple asthma management plans. Strong calls for Maori asthma educators and for more innovative approaches to asthma services were voiced. Significant concerns became apparent during the Review regarding Maori asthma sufferers who were hesitant in seeking medical help unless in an emergency situation. There were a combination of reasons for this relating to perceived attitudes of health workers and power issues associated with people's past interactions and experiences with the health care system.<sup>1</sup>

The Maori Asthma Review team followed up on these issues with a number of recommendations. These included the need for more effective involvement of Maori in the planning and delivery of asthma care; a need for improved access to health care; that Maori be involved in all aspects of the education process relating to asthma and asthma management; that appropriate information and education material about asthma be made available; and that cultural safety education be included in the training of health workers.<sup>1</sup>

Since the Review was completed, further relevant studies have been published. This paper is therefore intended as an update of the Maori Asthma Review<sup>1</sup> and an examination of what policy outcomes have arisen from the Review's findings and recommendations

## Asthma prevalence by ethnicity

Asthma prevalence has been increasing in New Zealand and other countries over the past few decades.<sup>2,3</sup> There have been difficulties in both national and international comparisons of prevalence data due to the lack of a standardised approach,<sup>4</sup> and more recently developed prevalence surveys, undertaken throughout the 1990's, were designed to overcome this problem.<sup>5</sup> A few New Zealand studies begun during the early eighties, and repeated over time, allowed some assessment of time trends in asthma prevalence.<sup>2,6-7</sup> These studies identified an increasing trend in asthma prevalence in New Zealand consistent with findings from similar studies undertaken overseas during the same time period.<sup>8-9</sup> To date, there have been very few studies of asthma focussed specifically on Maori, with some studies hampered not only by difficulties in standardisation of methods, but also by definitions of ethnicity, where New Zealand Maori and Pacific Islanders were combined under the category of 'Polynesians'.<sup>1</sup> The majority of asthma studies carried out both prior to and since the Maori Asthma Review, have been amongst school-age children and overall, study results have indicated asthma prevalence to be very similar between Maori and non-Maori.

Table 1 summarizes the nine main New Zealand population-based studies of asthma prevalence in children and young adults by ethnicity from 1979-1997.

A few asthma prevalence studies, had been carried out in New Zealand prior to the Maori Asthma Review, and the findings were relevant for inclusion in the Review. One study found a similar prevalence of asthma between Maori, Pacific Islander and European school children using the question, "has this child suffered from asthma" to determine the presence or absence of asthma.<sup>2</sup> A subsequent study measured the prevalence of asthma symptoms and bronchial reactivity in children using a combination of symptoms and bronchial hyperresponsiveness (BHR) to define asthma. When symptoms were used as the sole measure of asthma, Maori consistently had the highest prevalence. However, Europeans had the highest prevalence of BHR.<sup>10</sup>

Another study found no difference in asthma prevalence, defined by seven criteria, between 12 year old European and non-European (predominantly Maori) school children.<sup>11</sup> Among a population of 12-19 year olds the prevalence of

'current wheeze' among Maori was higher than that reported by non-Maori, but this difference disappeared when allowance was made for current smoking. A similar prevalence between Maori and non-Maori was seen for BHR.<sup>6</sup>

Prevalence studies undertaken following the Review have reported similar findings to those earlier studies. During the pilot study for the International Study of Asthma and Allergies in Childhood (ISAAC), using both written and video questionnaires, there was virtually no differences found between Maori and non-Maori in the prevalence of asthma symptoms or in the frequency of asthma attacks.<sup>12</sup> A later study examined risk factors for asthma prevalence in Kawerau children aged 8-13 years. There was no difference in the proportions of Maori and non-Maori children with current wheeze or with diagnosed asthma. Maori children were, however, more likely to have been admitted to hospital with asthma.<sup>13</sup>

**... past accuracy of mortality data for Maori has been questionable, with indications of significant under-reporting of Maori ethnicity.**

Phase 1 of the New Zealand arm of the ISAAC study examined the prevalence of asthma amongst two age groups of Maori and non-

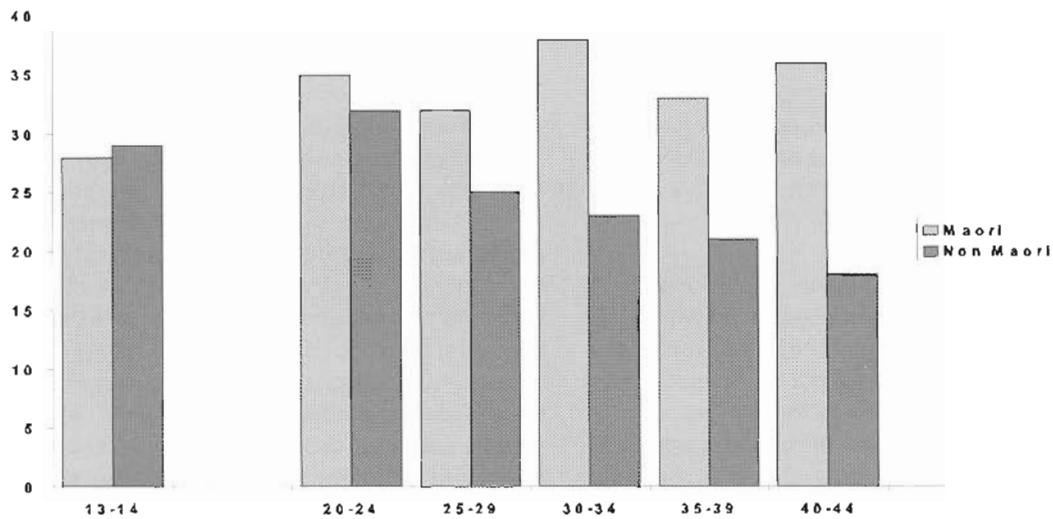
Maori children, 6-7 years, and 13-14 years.<sup>14</sup> In the 13-14 years age group, asthma prevalence was similar in Maori and non-Maori, but a greater prevalence was seen, (although not statistically significant) for Maori and European, compared with Pacific Islanders, when using the video questionnaire.<sup>14</sup> In the 6-7 years age group, a higher prevalence for all reported asthma symptoms, between Maori and Europeans was found, although the differences were small. The same pattern was observed in the older age group of children, for the video, but not for the written, sequences.

One study examining the self-reported prevalence of asthma symptoms in a random population of New Zealand adults aged 20-44 years was undertaken as part of The European Community Respiratory Health Survey (ECRHS). Maori were more frequently symptomatic (35.2%) than European (24.8%) but were no more likely to report an attack of asthma (Maori 9.0%, European 7.7%) or to be currently receiving treatment (Maori 10.0%, European 8.6%).

Asthma symptoms tended to decline with age in non-Maori, but increase with age in Maori.<sup>16</sup> (See Figure 1.)

A later, expanded study, examined geographical variation in the prevalence of asthma symptoms in New Zealand. An overall asthma prevalence of 22.1% in Maori compared with 14.3% in non-Maori was reported. The study also notes a relationship between asthma prevalence and age with their findings indicating a decline from 31.9% in 20-24 year olds to 21.8% in 40-44 year olds, however, no further data or discussion of this issue is presented.<sup>17</sup>

**Figure 1. Asthma prevalence by age in Maori and non-Maori New Zealanders.**  
(Adapted from Crane et al, 1994; Robson et al, 1993)<sup>4</sup>



Similar findings were reported in the 1996/97 Health Survey amongst 687 people aged between 15 and 44 years who fulfilled the criteria for probable asthma. The survey reported that the rate of probable asthma decreased significantly with age for both non-Maori men and women ( $p < 0.01$ ). The highest asthma prevalence rate was among Maori women, one in five of whom had probable asthma (20.0%; 95%CI 15.9-24.1) followed by Pakeha women (18.7%; 95%CI 16.0-21.4). Around one in six Maori men had probable asthma (16.4%; 95%CI 10.3-22.5).<sup>18</sup>

Thus, information available at the time of the Maori Asthma Review suggested that asthma prevalence was similar in Maori and non-Maori children, or that any differences were small. Findings from more recent studies indicate that this continues to be the case. However, it is possible that asthma may be more persistent into adulthood or that late onset asthma could occur more often in Maori people. Asthma symptoms appear to be more common amongst adult Maori and to increase with age, in contrast to what occurs in non-Maori adults. More studies of adult asthma are necessary to clarify these issues.

## Asthma severity by ethnicity

### Mortality

Until recently, long term mortality trends in New Zealand and other Western countries indicated a gradual rise in the number of deaths from asthma since the 1940s. These deaths could not be adequately explained by changes in diagnostic fashion or by an increased prevalence of asthma.<sup>19</sup> In addition to this gradual increase, New Zealand experienced two asthma epidemics, the first occurring in the 1960s, and a second, more severe epidemic, in the late 1970s. These epidemics were most likely due to changes in

the management of asthma and introduction of a different treatment regime.<sup>19-21</sup> More recently, into the 1990s, asthma mortality has declined slightly in some western countries, although it is still not clear whether this indicates a more general trend.<sup>22</sup>

Asthma mortality analyses are usually confined to the age group 5 to 34 years because of the difficulty of identifying asthma deaths, as distinct from other obstructive respiratory diseases, outside of this age range.<sup>19-20</sup> Because of inconsistency in the recording of ethnicity information and lack of a national standard numerator and denominator measure, past accuracy of mortality data for Maori has been questionable, with indications of significant under-reporting of Maori ethnicity.<sup>23-24</sup> The importance of standardisation in the classification of ethnicity was recognised by the Maori Asthma Review team.<sup>1</sup>

Bearing this information in mind, there were some findings from asthma mortality studies reported in the Review. One study undertaken in Auckland during the asthma mortality epidemic of 1976-1989, found an age standardised annual death rate in 1981-82 of 3.3 per 100 000 amongst Caucasians, 8.4 per 100 000 amongst Maori, and 12.7 per 100 000 in Pacific people.<sup>25</sup> A two year national asthma mortality study, undertaken in 1981-1983, found death rates for Maori to be considerably higher (18.9 per 100 000) than in Europeans (3.4 per 100 000) with Pacific Islanders in an intermediary position (9.4 per 100 000).<sup>26</sup> For the years 1970-1991 there was an overall reduction in the death rate from asthma amongst Maori although the rates still exceeded those of non-Maori.<sup>24</sup>

## Morbidity

Studies over the last twenty years have consistently reported findings of a similar asthma prevalence between Maori and non-Maori children. At the same time, studies included in the Review and a number undertaken since the Review was completed, indicate a disproportionately greater number of Maori children experience excess asthma morbidity and a higher hospital admission rate compared to non-Maori.<sup>14 24,27-30</sup>

Hospital data used in the Review showed paediatric asthma admission rates for Auckland Hospital between 1970-1980, to be significantly increased over that period, with an excess of admissions of Maori and Pacific Islanders.<sup>27</sup> National data to examine hospital admission rates for asthma in 1981 found the combined Maori and Pacific Islander age-race specific rates were twice as high as the European rates for the two youngest age groups (0-14 years and 15-24 years) and in the oldest age group (65+ years). In the intermediate age groups, the relative risk for Maori/Pacific Islanders was three times that for Europeans.<sup>28</sup>

Subsequent to the Maori Asthma Review, further studies have indicated that asthma remains a significant cause of admission to hospital for both Maori children and adults. National data for hospital admissions in 1992 showed asthma was the leading cause for admission of Maori in the 1-4 year age group, and third leading cause in the 5-14 year age group.<sup>24</sup> The 1992 Maori discharge rates for asthma in the 15-24 year age group, reduced by 40% from the 1984 rates. However, the Maori rates were still more than twice those for non-Maori. Maori rates for asthma in the 25-44 year age group were three times that of the non-Maori rate. Respiratory diseases in the 45-64 year and 65+ years age groups were the leading cause of admissions for Maori in 1992, with asthma accounting for 23% of those admitted in the 45-64 year age group.<sup>24</sup>

Findings from the New Zealand section of the ISAAC study indicated that in the 6-7 year age group, differences in prevalence between Maori and European were more marked for the symptoms reflecting severe asthma (severe wheezing limiting speech and waking with wheezing). This was also true for the 13-14 year age group when the video questionnaire was used as the measure. Thus, while the study found that observed prevalence differences for most asthma symptoms between Maori and European were not significant, there were a disproportionate number of Maori children reporting severe asthma symptoms.<sup>14</sup> While appearing to contradict previous asthma prevalence and ethnicity findings from studies of New Zealand children, the

author notes that earlier studies had only the power to detect very large differences in the more common asthma symptoms<sup>6,11,13,15</sup> and insufficient power to detect ethnic differences in the less common situation of severe asthma.<sup>14</sup>

Asthma prevalence studies relate to both the incidence of asthma and the average duration of the condition which can be used as a measure of asthma morbidity.<sup>4</sup> Thus, a population may have a high prevalence of asthma either because of a high exposure to genetic or environmental factors that induce asthma, or for those who have already developed the disease, an excess exposure to factors that incite, exacerbate, or prolong the asthma symptoms.<sup>31</sup> This is especially important because of the findings from the previously discussed studies that indicated only marginal differences between Maori and non-Maori children in asthma symptom prevalence, which cannot explain the excess asthma prevalence and morbidity seen in Maori adults. In particular, prevalence is greater in adult Maori over 25 years of age, than in non-Maori adults, and does not decrease with age as it does in non-Maori.<sup>16</sup> (see Figure 1). The reasons for this are unclear but one possible explanation is that asthma symptoms are being prolonged or exacerbated in Maori because of environmental exposures, such as tobacco smoke, or inappropriate management, for example, the under prescribing of corticosteroids.<sup>4</sup>

Passive exposure to tobacco smoke has not been ruled out as a potential contributor to the increased hospital admissions seen in Maori children although the effects are unlikely

**... a disproportionately greater number of Maori children experience excess asthma morbidity and a higher hospital admission rate compared to non-Maori.**

to adequately explain of themselves, the level of greater asthma severity which is reflected in admission rates.<sup>13</sup> Available evidence since the Maori Asthma Review points toward an increased risk of asthma and particularly, a

heightening severity in children who already have asthma, who are exposed to environmental tobacco smoke.<sup>4</sup> The one New Zealand study of adult asthma prevalence suggests that the increased frequency of symptoms amongst adult Maori may in part be a reflection of greater non-allergenic bronchial symptoms related to increased exposure to tobacco, both actively and passively, for Maori compared with non-Maori.<sup>16</sup> Smoking is associated with an increased risk of wheezing and higher rates of smoking amongst Maori may explain, in part, their higher rates of reported wheezing, compared to non-Maori.<sup>32</sup>

Strong support at the time of and since the Maori Asthma Review, has also been given to the hypothesis that differential management of asthma and inadequate access to appropriate health care and asthma education are contributing to the high asthma morbidity rate amongst Maori.<sup>1 4 10 13,16 29 33</sup> This is further discussed in the following section.

In summary, although asthma prevalence is similar in Maori and non-Maori children, asthma appears to be more severe in Maori, hospital admission rates are higher, and, while there has been an overall reduction in the mortality rate from asthma in the last twenty years, numbers of deaths for Maori still exceed those of non-Maori. Passive exposure to tobacco smoke can only partially account for the greater asthma severity seen in Maori children. Amongst adult Maori, environmental effects from tobacco may be a contributing factor to the development of increasingly severe wheezing into adulthood. In addition to this, there is strong evidence to suggest that asthma may be more severe in Maori due to inadequate access to appropriate health care and asthma education. Issues relating to service access constituted a significant part of the findings from the Maori Asthma Review.<sup>(1)</sup> Some in-depth examination of these issues is needed to understand their potential importance in contributing to the excess asthma morbidity seen in Maori people.

## Access to asthma services and education resources

There is a growing body of literature to support the impact of access issues, across a number of health services, where disease etiology and/or change in admission criteria cannot account for the continued health disparities. In particular, Maori have been found to experience excess mortality from diseases that ought not to be fatal. In the 1980s, Smith and Pearce<sup>34</sup> found that 30-40% of excess Maori deaths were due to diseases (including asthma) for which effective health care was available and concluded that these problems reflected a serious failing in the health services.<sup>24</sup> The Maori Asthma Review recognised the need for strategies to address both practical asthma management as well as ways to work towards resolving issues concerning access to asthma health services for Maori people.

The Review identified some broad categories under which issues of access needed to be addressed. It appeared that the complex interaction of these categories had implications for Maori being less likely to access primary health care services for ongoing asthma management and preventative care.<sup>1</sup> One study found that Maori were less likely to have an action plan and less likely to use a peak flow meter. Relative to the severity of their asthma, Maori lost more time from work or school and needed hospital services more.<sup>20</sup> A further study in Auckland found that 33% of Polynesian children (Maori and Pacific Island combined) were not receiving any asthma drugs in the 24 hours prior to a hospital admission compared with 14% of Europeans. It also found that fewer Maori children were taking preventative medications compared with European children (13% vs 25%). The study

concluded that rates of acute, severe asthma, resulting in higher admission rates for Maori and Pacific Islanders, were primarily due to differences in medical management.<sup>33</sup> Issues such as compliance and utilisation of services have been shown to be contributing factors, but the major influence was that of the prescribing patterns of medical practitioners.<sup>10,33</sup>

Similar conclusions have been reached in subsequent studies following the Review which propose that differences in asthma morbidity, in Maori and non-Maori, are most likely related to differences in access to, and delivery of, asthma care.<sup>12 13 16</sup> An intervention trial of the efficacy of an asthma self-management plan was carried out in partnership with a rural, largely Maori community.<sup>35-38</sup> Study participants found the plan simple and easy to follow and the provision of marae-based clinics was met with a very positive response. The results showed improvements in asthma morbidity and lung function with an increase in peak flow rates by 12% ( $p < 0.001$ ) and reduction in night waking from 30% to 17% ( $p < 0.001$ )<sup>35</sup>

At one and two year follow-ups, rates of improvement continued, with increased GP visits for emergency and non-emergency consultations and a reduction number of people woken at night by asthma. In a community experiencing major health problems from asthma, the self-management plan was found to be an effective and acceptable system for self-managing asthma and maintainable at a two year period.<sup>36-37</sup> Six years on, the programme participants continued to experience reduced morbidity from their asthma, however, the benefits were less than those observed at two years.<sup>39</sup> The findings suggest that a significant contributing factor to asthma morbidity in this community, has been the under-recognition and under-treatment of asthma. Alongside that, the study found that continued reinforcement of self-managing skills, as part of regular asthma care and ongoing education, is essential, if a self-management programme is to have continued benefits.<sup>39</sup>

A concurrent six-year follow up amongst the same study population was undertaken to assess the extent of other long term benefits of the programme, particularly in terms of cultural development, health service access and lifestyle.<sup>38</sup> The long term positive outcomes were most directly attributable to a process of collaboration implemented in the setting up of the original study, which recognised partnership at an organisational and local level to be critical. In conjunction with this, the delivery of services consistent with the community's cultural processes, was an essential contributing factor to the success of the programme.<sup>38</sup>

It has been increasingly recognised that the key person in the long term management of asthma is the informed patient.

**... there is strong evidence to suggest that asthma may be more severe in Maori due to inadequate access to appropriate health care and asthma education.**

with stronger emphasis being placed on self-management of asthma and asthma education involving consumer participation.<sup>1</sup> However, the findings from the Maori Asthma Review revealed that there was a huge gap in terms of Maori people's practical knowledge of their asthma condition and how to best manage both acute and chronic symptoms.<sup>1</sup> Many Maori interviewed by the Review team wanted to take know more about asthma and what they could do for themselves, but experienced difficulties in the approach used by health professionals. This ranged from inappropriate use of terminology, to inadequate time allowed for asthma education. A consistent theme which emerged was that Maori people would prefer their education and service delivery to come from Maori, and that decision making powers should move to the community in which the services were being provided.<sup>1</sup>

The issues of attitudes and whakama raised by people taking part in the Review largely related to a complex range of interactions which had occurred for Maori over their lifetime.<sup>1</sup> In the context of health, Maori response to these interactions may be wide ranging. Some would challenge the health system/workers to make improvements to the services they offered or question the health worker's basis for taking particular views, decisions or actions. Others would choose to have minimal contact with services unless absolutely necessary.<sup>1</sup> It is the more common second response, that may have had an important impact, historically, on Maori asthma mortality and morbidity rates. It is also a likely significant factor contributing to current hospital admission rates, the severity and prolongation of asthma in adult Maori life. The conscious or unconscious attitudes of health care workers have contributed to a reluctance by Maori to seek appropriate medical care when it was required.<sup>1</sup> This situation is not specifically linked to asthma alone but is reflected in many health areas where disparities between Maori and non-Maori exist. This is not only tragic in terms of statistically poorer measured health outcomes, but also because among many Maori, there remains a strong element of self-blame for ill health and an acceptance of low health status as the norm.<sup>1</sup>

Cost and location of health services were two other major factors related to access identified in the Review. Costs included travel to the doctor's surgery, doctor's fees and prescription charges. These costs might be further exacerbated for those living in isolated rural communities. There was also strong support expressed in the Review for low cost health clinics (such as union health clinics), but only as a "second best" option to the provision of free primary health care. Nearly ten years after the Review, these continue to be significant issues for people with asthma. The introduction of free consultations for under six year olds in 1997<sup>40</sup> has had some limited benefits although the prescription costs for

medications remain an issue and obviously, there remain significant numbers of Maori people with asthma who fall outside of the age parameter to qualify for the free consultation service. Similarly, in a 1998 study of 401 low-income households around New Zealand, 56% of participants had not visited a doctor in the previous year because of cost and 17% identified asthma as a condition which had gone untreated as a result of this.<sup>41</sup>

Ministry of Health (MOH) guidelines to regional health authorities for 1996/7 promote equity in terms of waiting times, geographical accessibility and affordability as a policy goal for health services.<sup>42</sup> Inequities in access to and utilisation of health services, particularly at the primary health care level, could be a major factor contributing to limited gains in health status. A study of access and utilisation of primary health care amongst Maori and low income New Zealanders, using data collected during 1994-95, found cost to be a significant barrier in both population groups together with poor access to public transport and isolated populations in rural settings. The study concluded that despite known poor health status, and therefore expected higher rates of utilisation, Maori and low-income populations were seriously underserved with primary medical care and related services, compared with the average New Zealander.<sup>43</sup>

Socioeconomic factors such as income, employment, housing and education have all been shown to be strongly related to health status.<sup>24</sup> Socioeconomic status can also be viewed as a potentially modifiable environmental factor, in relation to asthma, which could impact on the severity or prolongation of symptoms. Using the

**A consistent theme which emerged was that Maori people would prefer their education and service delivery to come from Maori ...**

specific socioeconomic concept of deprivation, two complementary surveys carried out between 1991-1993, found significantly higher rates of asthma prevalence among adults in the most deprived areas of New Zealand. After adjusting for area-defined deprivation, the prevalence rates were still 1.41 (95%CI 1.29, 1.54) times higher amongst Maori compared with non-Maori.<sup>44</sup>

Thus, since the Review, there are a number of factors that have continued to significantly effect Maori people accessing appropriate asthma health services and education resources. Direct and indirect costs of health care continue to be major constraints on the use of primary health care services. There are huge implications when access and utilisation of services are poor. In the short term, immediate health concerns are not addressed resulting in either complete or partial recovery with possible long term debilitating effects. Overall fiscal cost of health is greatly increased, as health disparities persist and limited gains are made in improving health status. There is also significant human cost in terms of spirit and self-esteem where low health status is seen as normal

and, as has been suggested, becomes internalised as a form of self-blame.

Where Maori have been actively involved in the planning, establishment and maintenance of community led asthma self-management programmes, improved access to health services and reduced asthma morbidity was seen.<sup>36-37</sup> At the same time, there is evidence that important cultural outcomes may result, in terms of building confidence, increasing the sense of control over one's health and the strengthening of relationships with family and community members.<sup>38</sup> Alternative sites for community services, such as marae, may be appropriate and should be considered in consultation with the community.

The Review team found that there was a complex interplay of factors contributing to Maori accessing health services. At a number of levels and in varying situations, Maori had experienced difficulties in the communication approach and conscious or unconscious attitudes displayed by people in positions of power, including health professionals.

These accumulated issues relating to power and control had the potential to affect ongoing or future interactions with health services, to a point where a crisis might occur before medical help was sought. This was true not only for Maori seeking asthma health services but occurred over a wide range of health areas. The need for more asthma education, delivered in a way that was understood and useful to those receiving it, emerged as an important issue for Maori involved in the Review.

## What has happened regarding the Maori Asthma Review Recommendations?

Once completed, the impact of the Maori Asthma Review was initially 'lost' in some respects due to the major restructuring of the health services that followed with the introduction of the health reforms in 1993. Maori greeted the reforms with mixed reactions at the time given the government emphasis being very much on competition in order to increase profitability and economic effectiveness of health services.

For those Maori working at a policy making level, it was felt that the reforms had real potential as a framework for movement towards an overall philosophy of Maori development. It was believed that factors such as education, housing and employment, which had been previously been shown both in New Zealand and overseas to be important co-determinants of health status,<sup>24</sup> could be well incorporated into the proposed structure of the reforms. The division of health purchaser and health provider roles meant that the opportunity for Maori provider services in a range of health areas was

increased. It was envisaged that services would be better utilised and accessed by more Maori, and that a greater determination by Maori of their health status might be possible given the increased emphasis on primary care and investment in health services rather than institutions.<sup>45</sup> Asthma was highlighted as a public health issue by the then newly established, Public Health Commission (PHC)<sup>46</sup> and named as a new PHC policy initiative of relevance to the government health gain priority areas of both Maori health and child health for the 1994/95 year.<sup>47</sup>

From a consumer point of view, the reforms fostered a more positive association with health services and health professionals for some Maori and inspired a certain level of confidence related to seeing more Maori in the service provider role. However, there have also been serious limitations for many potential providers due to poor primary health data, lack of expertise and inadequate infrastructures.<sup>48</sup> With

the first coalition government in 1997 some modification of the reforms were made in line with a changing ideology which now focussed on 'collaboration' rather than 'competition' between health service providers.

A single health services purchaser/funding body, the Health Funding Authority (HFA), was established to replace the previous four independent health authorities that had operated since the implementation of the health reforms. In the year 2000, under a second coalition government, asthma is one of eight Maori health gain priority areas and asthma in children is also a priority child health service.<sup>49</sup>

What has this actually meant in terms of the recommendations made in the Maori Asthma Review? Thirty-eight specific recommendations were made and the Maori Asthma Review team identified eight key areas through which the recommendations could be addressed. The key areas were that:

- A major improvement in Maori asthma would only occur through more effective involvement of Maori people in the planning and delivery of asthma care.
- Improved access to health care was vital if Maori asthma statistics were to improve.
- Education about all aspects of asthma and its management was vital for optimal treatment success. Maori people have expressed a strong desire to be involved in all aspects of the education process.
- Information and education material about asthma needs to be available and appropriate if management is to be optimised. Many Maori people favour oral and visual materials.
- Pakeha health workers need to be aware of and sensitive to cultural factors which adversely affect Maori asthma management.
- Research is important if the causes of asthma are to be

**There is also significant human cost in terms of spirit and self-esteem where low health status is seen as normal ....**

found and existing/new programmes are to be properly evaluated. Standardisation of classification for research and data-gathering purposes should be undertaken and Maori should be fully involved in these processes.

- Tobacco smoke is bad for asthma. The high prevalence of smoking among Maori must be reduced.
- An action plan for the management of asthma should be made available to the Maori community and be user-friendly.

One of the key recommendations from the Review was that a Maori Committee be established to work in conjunction with the Asthma and Respiratory Foundation of New Zealand (ARFNZ) and that a system comprising a national co-ordinator, Maori asthma resource people and asthma support volunteers be established to build up a Maori asthma education workforce. It was envisaged that the Maori Committee would become involved nationally in terms of having input into local and regional asthma policy and planning initiatives and generally take a leadership role in all aspects of asthma education and service provision in Maori communities.<sup>1</sup>

The Maori Committee was established following the Review and currently comprises eight members from various health backgrounds including Maori health community workers, asthma educators, doctors and nursing educationalists. A national Maori asthma co-ordinator was in place up until 1997 but could not be sustained due to a lack of committed funding/resources and a disproportionately large workload for one person. The Maori Committee is presently negotiating funding through the HFA to look at the development and implementation of a national strategy for asthma services and education resources to Maori that would follow closely on the recommendations from the Maori Asthma Review.<sup>1</sup>

One of the recognised advantages of the recommendations outlined in the Review was that they collectively contributed to the development of an asthma education workforce and facilitated a planned and co-ordinated approach to asthma services for Maori at both local and national levels. Unfortunately, this approach did not fit well within a health reforms structure which came into being following the Review's completion. That structure meant that services to Maori were essentially fragmented with providers doing their best to adapt in terms of focussing on health areas that are currently being funded. This has supported an inefficient "Catch-22" situation in some areas with available funding deciding the workload of the provider and providers responding to funding availability. In the year 2000, the Maori Committee believe that a national strategy approach is still possible, but again, without sustained and dedicated financial

support, the strategy will not be effective and the chances of successful implementation will be nil.

A National Asthma Working Group has been established to contribute input to a three year asthma initiative being undertaken by the HFA. The HFA in conjunction with the National Asthma Working Group are developing a set of New Zealand best practice guidelines for asthma in an attempt to ensure that national standards for asthma management and asthma services are in place (personal comm). The guidelines should ensure that ongoing competency in the education and management of asthma patients is a requirement for medical practitioners in line with recommendations that came out of the Review. Some caution should also be

**Continued research in this area is critical given that so little, still, has been done specifically looking at asthma in Maori.**

applied here however, if a balance is to be maintained between medical and community models of best practice. In this context, community guidelines may be useful, for example, provision for Maori community work-

ers to attend asthma update programmes, ongoing training and input/access to asthma educational materials. There has been continued focus on the medical aspects of asthma when one of the keys to health management within the Maori community is having Maori health workers who have access to those with illness. A Maori nurse at Starship or in a GP practice is only at one end of the health continuum. In community settings, it may be the community workers, whom people know and have a previous relationship with, who are best placed to promote and deliver asthma education.

While there is now increased choice for consumers in terms of the number of independent Maori providers, the range is still limited and realistically cannot meet the diversity of Maori health needs. Thus, continued effort is necessary to ensure access issues are addressed across all mainstream health services. Recommendations from the Review relating to improved access to health care addressed a number of issues including cost of GP asthma visits and asthma prescriptions and improved choice of asthma clinic locations with emphasis on Maori managed services. Cost of GP visits and medications remains a significant barrier to service utilisation, with low income families continuing to avoid GP visits because of fees and prescription costs even while many would be subsidized on community service cards.

The Maori Asthma Review team identified a need for further research into asthma among Maori people and that this should be a priority, with appropriate levels of funding. Continued research in this area is critical given that so little, still, has been done specifically looking at asthma in Maori. One of the significant disappointments following the Review must be that successful community programmes<sup>37</sup> have only recently received funding to extend their asthma services, even

while the evidence of the long term effectiveness of the service has been documented a number of times in the last seven years.<sup>35-38</sup> If maximum benefit is to be obtained from such research then alongside funding and resources, adequate provision must be built in to enable the further development and continuation of services which are proving to be effective. A comprehensive short and long term plan for research of asthma among Maori is being developed as part of the national strategy for asthma services and education resources to Maori being undertaken by the Maori Committee of the ARFNZ.

Further collaboration between health funding bodies and researchers should be explored and developed. It is currently an HFA purchasing requirement that services provide quarterly reports detailing numbers of individuals with asthma, their level of asthma severity and numbers of people enrolled who are using a self-management plan. Statistics on asthma education sessions undertaken by the service are also kept.<sup>49</sup> Thus, evaluation on the usage and effectiveness of the asthma services should also be possible. Standardisation of ethnicity classification (and using self-identification where possible) for research and data gathering purposes was another one of the recommendations made by the Review.<sup>1</sup> Classification of ethnicity is now a requirement for all health and disability services purchasers and providers so future ethnicity data available through the HFA and the Ministry of Health should be in a consistent format to assist in the monitoring of trends of asthma amongst Maori, which has not been possible previously.

In considering issues regarding attitudes of health workers and their effects on Maori accessing health services, the Review team recommended that a programme of cultural safety be included in the training of health workers. It is important to emphasize that the attitudes perceived by Maori from, in this context, health professionals, are the result of a highly complex colonial, social and political history which has contributed to the evolution of particular Maori stereotypes.<sup>1</sup> These stereotypes are deeply embedded in the wider society of which health services are just one part. They are hard to recognize and avoid. Cultural safety is concerned with identification and explanation of such constructs in terms of their powerful positioning of people in society.<sup>50</sup> Since its introduction, the concept of cultural safety has continued to be refined. Its primary focus remains on improving the health status of all people in New Zealand through the relationship between Maori and the Crown based on the Treaty of Waitangi. Cultural safety education was initially impelled by the revelation of the poor health status of Maori people in the mid-1980s and the clear demand by Maori for improvement in health services. In 1992 the Nursing Council of New Zealand made cultural

safety a requirement for nursing and midwifery education courses.<sup>51</sup>

The introduction of cultural safety in nursing and midwifery education programmes has been a critical advance for health services. Nurses continue to be the largest in number of health professionals working consistently, on a day-to-day basis, across a wide range of areas and in a number of different settings. Consequently, their contact with people and influence on health practices is substantial. Nurses are providing asthma services and education to people and have the potential to contribute to and effect change amongst populations where access to services remains difficult. Avoidance of primary care services until expensive secondary or tertiary intervention is required, is a protective action by

people not feeling safe, for a range of reasons, to access services,<sup>51</sup> as has been shown to be the case for many Maori not using asthma services. The logical extension of cultural safety education is that it becomes a core compo-

nent of all training programmes for health professionals including medical practitioners.<sup>52</sup>

**The logical extension of cultural safety education is that it becomes a core component of all training programmes for health professionals including medical practitioners.**

## Conclusions

The Maori Asthma Review is an important health document that has not been equaled since in terms of the comprehensive approach taken to examining asthma among Maori people. Despite the scarcity of data available at the time, the Review identified access to health services, at a range of levels, to be a major determinant of asthma morbidity amongst Maori. In light of research done since the Review, particularly in relation to asthma prevalence amongst Maori adults, it would appear that access issues continue to be significant. While the exact relationship between access issues and asthma prevalence and severity is difficult to establish, available evidence shows that overall asthma morbidity as reflected in hospital admission rates, remains disproportionately greater in Maori people. In a significant number of cases, lack of management, cost of medications and attitudes of health professionals at a primary care level are all contributing factors to Maori requiring greater intervention at a secondary or tertiary level. There remains also the fundamental problem that has occurred with the health reforms and most recently, the introduction of District Health Boards, that of coping with successive governments and the continual introduction of new policies which lack a sustained approach to health and no guaranteed funding sources to allow the full potential and development of services for Maori to take place.

The current position of the HFA as the major funding body for Maori health service providers is about to change and will

be incorporated into a new funding system under the direction of the Ministry of Health. This vulnerability to government change and a lack of incentive for long-term policy and planning development in this and other health areas has important implications. An absence of planning has been reflected in asthma services in a range of ways including asthma health care being placed into the hands of the independent health providers but without strong focussed community support. At the same time, in some areas, Maori community workers have developed skills in the area of asthma education to a very high standard but are without appropriate funding or follow-on training. The gaps in significant aspects of asthma service provision and asthma education continue to be evident.

The role of the Maori Committee of the ARFNZ will be critical for the establishment and development of a national strategy for Maori asthma services and education, as it was prescribed nearly ten years ago, by the Maori Asthma Review team. It is hoped that with sufficient commitment from the government, the prescription may yet be filled.

## Acknowledgements

Lis Ellison-Loschmann and Neil Pearce are funded by the Health Research Council of New Zealand. The authors wish to thank the Maori Asthma Committee of the Asthma and Respiratory Foundation of New Zealand for their continued support and particularly acknowledge the contributions of Irihapeti Ramsden and Makere Hight in the writing of this paper.

## References

- Pomare E, Tutengaehe H, Ramsden I, et al. *He Mate Huango: Maori Asthma Review* Wellington: Huia Publications 1992.
- Mitchell EA. Increasing prevalence of asthma in children. *NZ Med J* 1983; 96: 463-4.
- Burr ML. Is asthma increasing? *J Epidemiol Community Health* 1987; 41: 185-9.
- Pearce N, Beasley R, Burgess C, Crane J. *Asthma Epidemiology: Principles and Methods*. New York: Oxford University Press. 1998.
- Asher M, Keil U, Anderson HR. International study of asthma and allergies in childhood (ISAAC): rationale and methods. *Eur Respir J* 1995; 8: 483-91.
- Shaw RA, Crane J, O'Donnell TV. Asthma symptoms, bronchial hyperresponsiveness and atopy in a Maori and European adolescent population. *NZ Med J* 1991; 104: 175-9.
- Kljakovic M. The change in prevalence of wheeze in seven year old children over 19 years. *NZ Med J* 1991; 104: 378-80.
- Burr ML, Bulland BK, King S, Vaughan-Williams E. Change in asthma prevalence two surveys 15 years apart. *Arch Dis Child* 1989; 64: 1452-6.
- Burney PG, Chinn S, Rona RJ. Has the prevalence of asthma increased in children? Evidence from the national study of health and growth 1973-86. *Br Med J* 1990; 300: 1306-10.
- Pattemore PK, Asher MI, Harrison A, et al. Ethnic differences in prevalence of asthma symptoms and bronchial hyperresponsiveness in New Zealand schoolchildren. *Thorax* 1989; 44: 168-76.
- Barry DMJ, Burr ML, Limb ES. Prevalence of asthma among 12 year old children in New Zealand and South Wales: a comparative survey. *Thorax* 1991; 46: 405-9.
- Robson B, Woodman K, Burgess C, et al. Prevalence of asthma symptoms among adolescents in the Wellington region, by area and ethnicity. *NZ Med J* 1993; 106: 239-41.
- Shaw RA, Woodman K, Crane J, et al. Risk factors for asthma symptoms in Kawerau children. *NZ Med J* 1994; 107: 387-91.
- D'Souza WJ. *The self-reported prevalence of asthma symptoms in New Zealand schoolchildren by age, gender, region and ethnicity*. University of Otago: Master of Public Health Thesis. 1997.
- Stanhope JM, Rees RO, Mangan AJ. Asthma and wheezing in New Zealand adolescents. *NZ Med J* 1979; 90: 279-82.
- Crane J, Lewis S, Slater T, et al. The self reported prevalence of asthma symptoms amongst adult New Zealanders. *NZ Med J* 1994; 107: 417-21.
- Lewis S, Hales S, Slater T, et al. Geographical variation in the prevalence of asthma symptoms in New Zealand. *NZ Med J* 1997; 110: 286-9.
- Ministry of Health. *Taking the Pulse. The 1996/97 New Zealand Health Survey* Wellington: Ministry of Health. 1999: pp. 111-120.
- Beasley R, Smith K, Pearce N, et al. Trends in asthma mortality in New Zealand, 1908-1986. *Med J Aust* 1990; 152: 570-3.
- Jackson RT, Beaglehole R, Rea HH, Sutherland DC. Mortality from asthma: a new epidemic in New Zealand. *Br Med J* 1982; 285: 771-4.
- Pearce N, Beasley R, Crane J, et al. End of the New Zealand asthma mortality epidemic. *Lancet* 1995; 345: 41-4.
- Pearce NE, Beasley R, Crane J, Burgess C. Epidemiology of asthma mortality. In: Busse W, Holgate S. *Asthma and rhinitis*. 2<sup>nd</sup> Ed. Oxford: Blackwell Scientific, in press.
- Graham P, Jackson R, Beaglehole R, de Boer G. The validity of Maori mortality statistics. *NZ Med J* 1989; 102: 124-6.
- Pomare E, Keefe-Ormsby V, Ormsby C, et al. *Maori Standards of Health III. A study of the years 1970-1991* Wellington: Eru Pomare Maori Health Research Centre. 1995.
- Sutherland DC, Beaglehole R, Fenwick J, et al. Death from asthma in Auckland: circumstances and validation of causes. *NZ Med J* 1984; 97: 845-8.
- Sears MR, Rea HH, Beaglehole R, et al. Asthma mortality in New Zealand: a two year national study. *NZ Med J* 1985; 98: 271-5.
- Mitchell EA, Cutler DR. Paediatric admissions to Auckland Hospital for asthma from 1970-1980. *NZ Med J* 1984; 97: 67-70.

28. Mitchell EA, Borman B. Demographic characteristics of asthma admissions to hospitals. *NZ Med J* 1986; 99: 576-9
29. Garrett JE, Mulder J, Wong-Toi H. Reasons for racial differences in A&E attendance rates for asthma. *NZ Med J* 1989; 102: 121-4.
30. Pomare E, Tutengaehe H, Ramsden I, et al. Asthma in Maori people. *NZ Med J* 1992; 105: 469-70
31. Dolovich J, Hargreave FE. The asthma syndrome: inciters, inducers and host characteristics. *Thorax* 1981; 36: 641-4.
32. D'Souza W, Lewis S, Cheng S, et al. The prevalence of asthma symptoms, bronchial hyperresponsiveness and atopy in New Zealand adults. *NZ Med J* 1999; 112: 198-202.
33. Mitchell EA. Racial inequalities in childhood asthma. *Soc Sci Med* 1991; 32: 831-6
34. Smith AH, Pearce NE. Determinants of differences in mortality between New Zealand Maoris and non-Maoris aged 15-64. *NZ Med J* 1984; 97: 101-8.
35. Beasley R, D'Souza W, Te Karu H, Fox C, Harper M, Robson B, Howden-Chapman P et al. Trial of an asthma action plan in the Maori community of the Wairarapa. *NZ Med J* 1993; 106: 336-8.
36. D'Souza W, Crane J, Burgess C, et al. Community-based asthma care: trial of a "credit card" asthma self-management plan. *Eur Respir J* 1994; 7: 1260-5.
37. D'Souza W, Te Karu H, Fox C, et al. Long-term reduction in asthma morbidity following an asthma self-management programme. *Eur Respir J* 1998; 11: 611-6.
38. Ratima M, Fox C, Fox B, et al. Long-term benefits for Maori of an asthma self-management program in a Maori community which takes a partnership approach. *Aust NZ J Public Health* 1999; 23: 601-5
39. D'Souza W, Slater T, Fox C, et al. Asthma morbidity 6 yrs after an effective asthma self-management programme in a Maori community. *Eur Respir J* 2000; 15: 464-9.
40. Newton-Howes G, Patel H, Frizzell C, et al. Free visits for under sixes - has it made a difference? *NZ Fam Physician* 1998; 25: 60-61.
41. Waldegrave C, King P, Stuart S. *The monetary constraints and consumer behaviour in New Zealand low income households*. Wellington: The Family Centre Social Policy Research Unit: 1999
42. Ministry of Health. *Policy Guidelines for Regional Health Authorities 1996/97*. Wellington: Ministry of Health. 1996.
43. Malcolm L. Inequities in access to utilisation of primary medical care services for Maori and low income New Zealanders. *NZ Med J* 1996; 109: 356-8
44. Salmond C, Crampton P, Lewis S, Pearce N. Asthma prevalence and deprivation: a small area analysis. *J Epidemiol Community Health* 1999; 53: 476-80
45. Parata, H, Dune, M. *Maori Health Review*. Wellington: Department of Health. 1993.
46. Public Health Commission. *A Strategic Direction to Improve and Protect the Public Health. The Public Health Commission's Advice to the Minister of Health 1993-1994*. Wellington: Public Health Commission. 1994
47. Ministry of Health. *Policy Guidelines for Maori Health 1994/95*. Wellington: Ministry of Health. 1994
48. Durie M. Whaiaora. *Maori Health Development 2nd Ed*. New Zealand: Oxford University Press. 1998.
49. Foley J, Parore-Katene M. *Disease Management Project - Asthma*. Wellington: Health Funding Authority. 1999.
50. Ramsden I. *Cultural Safety/Kawa Whakaruruhau Ten Years On: A personal overview*. Nursing Praxis in NZ. In press.
51. Ramsden I. *Kawa Whakaruruhau. Cultural safety in nursing education in Aotearoa (New Zealand)*. Nursing Praxis in NZ 1993; 8: 4-10.
52. Kearns R A. A place for cultural safety beyond nursing education? *NZ Med J* 1997; 110: 23-24.

## HE WHAKATAUAKI

Ruia taitea, kia toitu, ko taikaka.

*Discard the unnecessary (outer shell) and  
cultivate the best in life.*